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FROM CONSENSUS TO IMPLEMENTATION

Poster Abstracts



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5 Option B+ as Part of Test and Treat Strategy for Pregnant and Lactating Women – Lessons Learned After 1 Year of Implementation in Malawi

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Introduction: Option B+ is a modification of the WHO-recommended Option B in which HIV-infected pregnant and lactating women receive triple ART for life instead of stopping after cessation of breast feeding. This is a novel approach that has not been implemented anywhere else, and it is important that Malawi shares challenges and lessons learned to guide resource-limited countries that would like to transition from Options A/B to Option B+.

Description: To enable implementation of Option B+, Malawi integrated ART/PMTCT into the MNCH (maternal, newborn and child health) services; all the PMTCT sites in MNCH facilities thus became ART sites. Integration of ART/PMTCT services into the MNCH services was achieved by training current and new providers in the new integrated ART/PMTCT guidelines, decentralizing ART initiation to the health center level and task shifting to allow nurses and medical assistants to initiate and monitor ART.

Lessons Learned: Between July 2011 and June 2013, Malawi has almost doubled its quarterly ART initiations from around 18,000 to 30,000 per quarter, mostly HIV-infected pregnant and lactating women under Option B+. There are 672 sites providing ART/PMTCT services (previously 307), and over 4,600 providers trained in integrated ART/PMTCT services. Survival analysis showed that 79% of women on Option B+ were retained alive at 12 months.

Recommendations:

- Integration of ART/PMTCT services into MNCH services is essential for Option B+.
- ART initiation and follow-up for pregnant women should be conducted within the MNCH services until after delivery to reduce loss to follow up.
- Exposed infants should be enrolled in exposed infant follow-up in maternity/post-natal before discharge to reduce loss to follow up (LTFU) and capture maternity and labor data.
- Most of the LTFU never came back after the ART initiation visit and hence may never have started ART; interventions are required to address uptake as well as retention.

8 Would You Use PrEP? Results from a National Survey among MSM in Italy

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Background: To assess current knowledge and intended future use of pre-exposure prophylaxis (PrEP) among men who have sex with men (MSM) in Italy and investigate how PrEP use could affect the sexual behaviour of MSM.

Methods: Self-administered web-based survey of 503 MSM conducted in the February 2013 to March 2013 timeframe.

Results: Most of respondents were sexually active, but more than half of them (53, 48%) had never heard about PrEP. PrEP is acceptable for 64 (41%) of the respondents; 48 (51%) would use it only with medical control and 15 (90%) without; PrEP is even more interesting for those who did not hear about it (67 [66%] versus 60 [0%] among those who knew about PrEP, p = 0.019). Among those who would not use PrEP or do not know whether they would use it (17 [69%] and 17 [89%, respectively]), more than one half is concerned about its reliability (29 [5%] do not think it is reliable and 26 [26%] do not know how reliable it is), with people already informed about PrEP more likely to think it is not reliable (35 [56%] versus 21 [84%, p = 0.007]. 45 (25%) of those who would not take PrEP think it should be available for other people; 33 (52%) think it should not be available because it would lead to lower condom use. Among those who would use PrEP, 53 (70%) would prefer an intermittent strategy; 59 (57%) would have sex with the same frequency they have now; and 29 (1%) would change condom use while the others would continue to "always," "almost always," or "never or almost never" use condoms (37 [35%), 17 [90%, and 11 [42%, respectively).

Conclusions: More information is needed and more effective and easy-to-use methods for PrEP are needed to meet MSM needs. For many respondents, PrEP seems to be an acceptable prevention method and they would not use condoms less frequently.

12 ADHARA Sevilla: “For an HIV-Free Generation” - Implementation of a Community-Based Campaign for the Promotion of TasP Strategies in Southern Spain

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Introduction: According to the latest figures provided by the Andalusian centre of HIV epidemiology, there are approximately 1,671 undiagnosed HIV-positive persons living in the metropolitan area of Sevilla, Spain (population 1,519,639). Adhara is a community-based center which works in coordination with the three major hospitals in the metropolitan area and the public health services in HIV early detection, linkage to care, and retention of former and newly diagnosed persons.

Description: “Por una generación sin VIH,” or “For an HIV-Free Generation,” is a community-based campaign, created by Adhara, which is mainly focused on promoting HIV testing and social acceptance of HIV tests in the population of the province of Sevilla, Spain. The campaign consists of a web page (www.porunagenracionsinvh.com), media impact, networking with community-based organizations, and public health policy makers, educational interventions, and collaboration with professional colleagues. It seeks two main objectives: (1) to promote a change in the social perception of HIV, contributing to reduce the stigma and discrimination associated to it, and introducing HIV testing into good health practices among practitioners and population; and (2) to increase the number of people taking the test in early stages of the disease, link them to care, and reduce community viral load. This campaign is contextualized in the frame of European and national initiatives promoting early diagnosis and TasP strategies.

Lessons Learned: The campaign was launched February 14, 2013, and since then it has received support from three major institutions, 28 community organizations, 4 pharmaceutical companies, 1,850 web visits (33 visits/day), and 19 media impacts. From January 2012 to July 2012, 319 tests were performed in our community center, with 12 positive results (11 male and 1 female). In the same period of 2013, 496 tests were performed (177 more tests), implying an increase of 55.5% in the number of total tests. There has been also an increase in the number of positive results, 29 (26 male 3 female).

The ratio of positive results in the period January 2012 to July 2012 was 3.8%, and in the same period in 2013, under the umbrella of “por una generación sin VIH” campaign, the ratio increased to 5.8%. 100% of positive results were linked to care. Although the small numbers do not allow us to say that there has been an increase in the prevalence observed in 2013, we can state that the increase of the number of tests is not followed of a decrease in the number of positive results.

Recommendations: As a growing campaign, we hope to be able to provide more exhaustive figures on how HIV testing, linkage to care, and ARV therapy can diminish the number of new transmissions in the upcoming months. We will continue with implementation, to contrast data, to increase the number of people taking the rapid test, to increase the number of people linked to care, to raise awareness in the population, and to decrease stigma and discrimination.

15 A UK-Based National Survey of HIV Nurses’ Knowledge, Attitudes, and Practices towards TasP

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Background: HIV specialist nurses play a key role in HIV service delivery. Therefore, from both patient and public health perspectives, it is essential that nurses have the competencies required to address the potentially complex issues that TasP may raise for patients and other members of the healthcare team. This study aimed to establish a baseline for knowledge, attitudes, and practices of HIV nurses in the UK in relation to TasP.

Methods: The study adopted a 2-part mixed methods design: (1) an online survey sent in April 2013 to all members of the UK-based National HIV Nurses Association (NHIVNA) and, (2) in-depth interviews (analysis of the qualitative data is ongoing, therefore this abstract presents survey findings only). Survey data were analysed using descriptive statistics.

Results: The overall response rate was 33% (81/244) representing nurses from across the UK. 64% were senior nurses (Bands 7-8), and 54% had >10 years of experience in HIV care. 53% worked in large clinics with >500 patients.

- 66% were familiar with the BHIVA/EAGA position statements on TasP and 78% thought that TasP would have a significant impact on their future practice;
- 65% felt “unsure” or “disagreed” with the statement that they possessed up-to-date knowledge on TasP, and only 38% “agreed/strongly agreed” that they felt sufficiently skilled to discuss TasP in depth with patients;
- 77% did not feel well informed about funding or guidelines for access to TasP in their area, and only 27% reported formal TasP policies or protocols in their workplace; and
- 82% wanted more information on TasP.

Conclusions: While there is a clear national consensus on TasP, the responses of senior nurses working in HIV care suggest a significant need for additional education and for greater clarity at local level regarding TasP implementation and funding.

16 Implementation of ARV-Based Prevention in a HIV Combination Prevention Program in Perù: Perspectives of Potential Users

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Background: Pre-exposure prophylaxis (PrEP) and early treatment for prevention (ETfP) are new options for HIV prevention, based on the use of antiretrovirals that can improve prevention options. Although ARV-based prevention is not intended to replace condoms and could be synergistic in a combination prevention program, there are still doubts about its effectiveness. This study identified barriers and facilitators in potential users of ARV-based prevention in key populations in Peru.

Methods: We conducted a qualitative study in Lima and Callao with potential users and stakeholders. Here we report on 8 in-depth interviews and 4 focus groups with potential users (men who have sex with men [MSM] and transgender women [TGW]).

Results: Knowledge of ETfP is almost absent in these populations, reflecting limited public discussion in Peru. Knowledge of PrEP comes mainly from the iPreX clinical trial. TGW have the least knowledge about PrEP. Many participants have doubts about their daily adherence, especially having consumed alcohol; on side effects, on effectiveness (they worry that it is only 45%), and the generation of resistance. Plans for combining it with condoms are more consistent in adults than in younger people and would be implemented mainly with the steady partner. PrEP should be distributed confidentially by the Ministry of Health, to avoid that users are mistaken as people living with HIV. Three actors with specific roles should be involved in the delivery: well-trained physicians, other health providers, and peer counselors.

Conclusions: While ETfP is almost unknown, variable but limited knowledge about PrEP can be identified among potential users, together with doubts and myths, with differences between MSM and TGW. Many sustain that 45% effectiveness (not interpreted as adherence-related) is disappointing. On the other hand, there is willingness to try the method. Findings demonstrate the need for relevant, timely, and straightforward information channels on ARV-based prevention targeting these key populations.

17 TasP Issues in a Gender-Specific Combination HIV Prevention Pilot for Youth in Kenya

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Background: Youth are a high-risk group in sub-Saharan Africa (SSA). HIV prevention, including HIV testing and counseling (HTC), is essential for linkage to care, initiation of antiretroviral therapy (ART), and for delivering evidence-based primary prevention, including PrEP. Our study examined effective combination HIV prevention intervention packages for female and male youth in Kenya, including treatment as prevention (TasP) elements, in preparation for a field pilot.

Methods: A systematic review of the literature selected HIV prevention interventions effective for SSA youth. Twelve focus groups were conducted in Nyanza, Kenya. We estimated potential impact of female- and male-specific intervention packages using an age-sex-risk stratified compartmental mathematical model that varied intervention components in the package, coverage levels, and HTC uptake. The final combination package to be piloted in Nyanza includes offering HTC and ART at CD4 counts ≤ 350 cells/mm³ for all youth; voluntary medical male circumcision (VMMC) and condoms for males; and PrEP, conditional cash transfer for school attendance, contraceptives, and PMTCT for females.

Results: Focus groups (n = 112) indicated acceptability of the combination package but little awareness of PrEP. Mathematical modeling predicts reduced HIV incidence over 10 years among youth by 31% if annual testing for youth increases to 90% (from current 12%) with newly HIV-diagnosed youth increasing condom use by 30% and initiating ART at a CD4 count of ≤ 350 cells/mm³. The combination package would decrease incidence by 47% among youth. Additional modeling showed starting ART upon HIV-positive diagnosis (not current Kenyan policy) would be even more effective. Inclusion of PrEP, targeted to high-risk females 18-24, will include SMS messaging to support adherence, and will assess key barriers and facilitators to real-world PrEP use by SSA female youth during high-risk periods.

Conclusions: Effective HIV prevention for youth that includes TasP elements may reduce incidence when delivered in combination and require efficient linkage to care and adherence support.

19 High-Risk US Women and PrEP: Attitudes and Concerns among Sex Workers, Transgender Women, and Women Using Illegal Drugs

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Introduction: The US Women and PrEP Working Group, a national ad hoc advocacy coalition, is calling for government action to address issues that shape PrEP's introduction and effective use domestically. We are particularly concerned about what access to PrEP (now FDA approved) will mean to women at highest risk of HIV, including sex workers, transgender women, and women using drugs.

Description: In the absence of formal research on this, the Working Group conducted Community Dialogues and informally surveyed nearly 100 women in these populations in six U.S. cities and online. While not scientifically rigorous, their responses point to common themes among women at risk, including levels of interest and awareness, shared concerns, and pragmatic issues that PrEP might rise in their own lives.

Lessons Learned: Most were unaware of PrEP as an HIV prevention option. After receiving information, they identified cost, access, and side effects as dominant concerns. Some expressed interest in trying PrEP. Others had reservations about the level of protection provided, low adherence, whether it would make condom negotiation more difficult, and whether partners or business managers might coerce women into taking PrEP. Questions about potential drug interactions with contraceptives, hormones taken by transgender women, and/or recreational drugs were also raised.

Recommendations: The history of female condom uptake in the US demonstrates that introduction of a new prevention tool must include both extensive provider education and active provider and community involvement to be successful. Research to inform PrEP introduction among women is needed, including well-designed demonstration projects that include women and qualitative research specifically on women's needs. This informal survey process showed that introduction strategies designed for men who have sex with men, which has been the primary population focus to date, cannot be expected to meet the needs of many of the US women who might benefit from PrEP.

22 Low Perceptions of HIV Risk among Toronto MSM Seeking Anonymous HIV Testing: Objective and Subjective Assessments of PrEP Eligibility

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Background: An important consideration when evaluating candidates for HIV PrEP is that objective assessments of high HIV risk be matched by patients' subjective opinions regarding their PrEP eligibility.

Methods: We administered a 33-item questionnaire regarding HIV risk and biomedical prevention strategies to MSM undergoing anonymous HIV testing. Objective high HIV risk was defined as scoring ≥ 10 on the CDC's HIV Incidence Risk Index for MSM (HIRI-MSM). Subjective PrEP eligibility was defined as reporting both moderate-to-high perceived HIV risk and willingness to use PrEP. The primary objective was to estimate the proportion of respondents with both objective high risk and subjective PrEP eligibility. Logistic regression modeling was used to explore predictors of willingness to use PrEP.

Results: Of 423 respondents, 61.1% were Caucasian and 59.7% had undergraduate education. Median (interquartile range) age was 30 (26,39) years. While 326 men (77.1%) met the objective HIV risk definition, only 54 (12.8%) met the subjective eligibility definition (210 were willing to use PrEP, but few perceived themselves at risk); 46 (10.9%) met both criteria. Those perceiving themselves at risk had modestly higher median HIRI-MSM scores (20.5, IQR = 15,25) than those who did not (18, IQR = 12,22; Wilcoxon $p = 0.0006$). Only 26.2% and 27.3% of respondents in the highest quartile and decile of HIRI-MSM scores respectively perceived themselves at moderate-to-high HIV risk. Overall, 28.6% speculated that their condom use would decrease on PrEP. Variables associated with willingness to use PrEP included non-white race (adjusted odds ratio, aOR = 2.19, 95%CI = 1.43,3.35), moderate-to-high perceived HIV risk (aOR = 3.20, 95%CI = 1.73,5.90), and reporting <100% condom use (aOR = 1.70, 95%CI = 1.10,2.62), but not HIRI-MSM score (aOR = 1.01, 95%CI = 0.98,1.03).

Conclusions: Most MSM seeking anonymous HIV testing met objective criteria for elevated HIV risk, but only a minority considered themselves at moderate-to-high HIV risk and were willing to use PrEP. Further work is needed to optimize strategies for determining PrEP eligibility.

23 Home Initiation of HIV Care Following Self-Testing: A Cluster-Randomized Trial in Blantyre, Malawi

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Background: Interventions to improve uptake of HIV testing and counselling (HTC) and rates of linkage to HIV care are urgently needed to achieve universal access to treatment.

Methods: Participants in this cluster-randomized trial were adult (≥ 16 years) residents in 14 neighborhoods in urban Blantyre (total adult population 16,660; adult HIV prevalence 18.5%). Between February 2012 and November 2012, HIV self-testing (HIVST) was offered in all clusters through trained resident volunteers who distributed kits for use at home. Clusters were randomly allocated (1:1 ratio) to standard (facility-based) HIV care alone (Arm 1) or optional home initiation of HIV care, including 2-weeks of ART for eligible participants, before entering public services (Arm 2). All participants who initiated ART during the study period (regardless of site of HTC or ART initiation) were followed for 6 months at ART clinics to assess retention in care. The proportions of the total adult population that initiated ART during self-testing availability, and were retained on ART at 6 months, were compared at the cluster level. A multivariate survival model, with adjustment for age, sex, WHO clinical stage and cluster, and with censoring of individuals who transferred-out, were lost-to-follow-up or died, was constructed to investigate individual-level factors associated with drop-out from care.

Results: There were 8,466 adults in Arm 1 and 8,194 in Arm 2. 181 adults initiated ART in Arm 2 (2.2% of adult residents) compared to 63 in Arm 1 (0.7% of adult residents; risk ratio [RR]: 2.94, 95%CI: 2.10-4.12). After 6-months, 48/8,466 participants in Arm 1 (0.6% of adult population) and 129/8,194 (1.6% of adult population) were retained in ART care (RR: 2.73, 95%CI: 1.96-3.81). In the adjusted survival model, study arm was not associated with drop out from care (adjusted hazard ratio [aHR]: 1.07, 95%CI: 0.72-1.60), but ART initiators in WHO stage 4 were significantly more likely to drop out of care than participants in WHO stage 1 (aHR: 8.11, 95%CI: 4.85-13.55).

Conclusions: Optional home initiation of HIV care during a self-testing intervention substantially increased population-level ART initiation over 6 months. Retention on ART was suboptimal in both arms. If implemented widely, HIVST and home initiation of HIV care could contribute to universal ART coverage, but proactive interventions to increase retention in care are required.

24 Accuracy of WHO Clinical Staging System for Assessing Eligibility of Individuals for ART in Sub-Saharan Africa: Systematic Review and Meta-Analysis

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Background: The WHO clinical staging system is widely used in sub-Saharan Africa to assess antiretroviral therapy (ART) eligibility of people living with HIV/AIDS. To assess the diagnostic accuracy of WHO stage 3 or 4 assessment in identifying ART eligibility defined by CD4 count thresholds (≤ 200 cells/mm 3 , ≤ 350 cells/mm 3 , and ≤ 500 cells/mm 3).

Methods: Systematic review. We included studies that compared the results of WHO clinical staging assessment with CD4 count strata in sub-Saharan Africa published between 1998 and 2013. We searched published English language literature using a comprehensive strategy. For included studies, two authors independently extracted data and assessed methodological quality using the QUADAS tool. Heterogeneity and publication bias were assessed. Summary estimates of sensitivity and specificity were derived for each CD4 count strata with hierarchical summary receiver operator characteristic plots.

Results: Fifteen studies met the inclusion criteria, including 21,138 participants from 14 countries. Most studies assessed individuals attending ART clinics before starting treatment. The diagnostic accuracy of WHO clinical 3 or 4 disease for the eligibility threshold of CD4 ≤ 200 cells/mm 3 was 60% (95%CI: 45%-73%) for sensitivity and 73% (95%CI: 60%-83%) for specificity (10 studies); for the eligibility threshold of CD4 ≤ 350 cells/mm 3 the values were 45% (95%CI: 26%-66%) for sensitivity and 85% (95%CI: 69%-93%) for specificity (6 studies). For the threshold of CD4 ≤ 500 cells/mm 3 we found one study, with sensitivity of 14% (95%CI: 13%-15%) and specificity of 95% (95%CI: 94%-96%).

Conclusions: When WHO clinical staging is used to assess eligibility for ART, a substantial proportion of patients in need of ART will be missed. These findings add further support to calls for universal "test and treat."

25 Outcomes of an HIV Intensive Preceptorship Training (IPT) Program for Family Physicians and Nurse Practitioners (NPs) Provided by the British Columbia Centre for Excellence (BC-CfE)

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Background: HIV-positive patients' health outcomes are related to the level of training and expertise of their providers. As a consequence of the expansion of HAART and the treatment as prevention initiative, the demand for healthcare providers trained in HIV management has increased in the province of British Columbia.

Methods: The BC Centre for Excellence in HIV/AIDS (BC-CfE), in collaboration with the Vancouver Coastal Health Authority, developed a three-module IPT program targeted at primary care providers. In the first module, trainees completed an online HIV diagnosis and management course followed by a review of their learning objectives. The second module consisted of a one-week clinical placement in HIV primary care and specialist clinics, an HIV ward, and an HIV clinical pharmacy. Trainees attended focused daily noon seminars. Case reviews and program evaluations were done at the end of the clinical placements. The third module consisted of a 3-month mentorship. Changes in antiretroviral therapy (ART) prescribing patterns were evaluated for up to 12 months upon completion of training.

Results: A total of 26 family physicians and nurse practitioners were trained from September 2011 to September 2012. Final evaluations were received from 21 out of 26 participants. Of those 21 participants, 11 (52.4 %) were highly satisfied, and the remaining 10 (47.6%) trainees were very satisfied or satisfied with the program. A review of the IPT trainees ART refill patterns showed that there was a 50% increase in the number of providers that requested ART (8 before and 12 after the IPT) and there was a 32% increase in the number of HIV-positive patients receiving ART from these providers (50 before and 66 after the IPT).

Conclusions: We developed and evaluated an innovative HIV training program for primary care providers. This training led to an increase in the number of HIV-positive patients receiving ART under their care.

26 Linkage to HIV Care Following Home-Based Counseling and Testing in Western Kenya

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Background: Successful implementation of HIV treatment as prevention (TasP) requires timely linkage to care of all HIV-positive individuals in a community. The objectives of this study were to estimate the first step in the cascade of care and to determine the predictors of linkage to care from the community using data from home-based counseling and testing (HBCT) conducted by AMPATH (Academic Model for Promoting Access to Healthcare) in western Kenya.

Methods: HBCT and AMPATH electronic medical records were used to identify individuals who linked to care following HBCT in one catchment area (Port Victoria). Linkage to care was defined as having had an initial HIV clinical encounter following HBCT. Survival analysis and Cox regression were used to examine the time from testing to linkage and the predictors of linkage.

Results: Among the 1804 individuals who tested positive during HBCT and had not had a clinical HIV encounter prior to testing, 59% were female, approximately 32 years of age on average, 55% were married, and 43% reported a previous HIV test. Eleven percent ($n = 199$) successfully linked to care following HBCT. The median survival time was undefined (or $>1,198$ days/3.3 years) and the median time to linkage among those who linked was 33 days. In models adjusted for sex, marital status, and socio-economic status, greater age ($HR = 1.01$, 95%CI: 1.00-1.03), living in larger households ($HR = 1.09$, 95%CI: 1.01-1.17), being age 13 years or younger ($HR = 6.08$, 95%CI: 1.36-27.1), and not having previously tested for HIV ($HR = 1.71$, 95%CI: 1.26-2.33) were all associated with increased linkage to care.

Conclusions: The proportion of those who linked to care following HBCT in this setting was low. Additional efforts are urgently needed to successfully implement linkage and retention to care programs as part of TasP strategies at the population-level.

27 HIV Testing Uptake and HIV Prevalence among Pregnant Women in a Large Home-Based HIV Counseling and Testing Program in Western Kenya

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Background: Most HIV testing and prevalence data on pregnant women are obtained from facility-based antenatal care (ANC). The objective of this analysis was to describe uptake of and factors associated with HIV testing and HIV prevalence among pregnant women in a large-scale home-based HIV counseling and testing (HBCT) program in western Kenya.

Methods: In 2007, the USAID-Academic Model Providing Access to Healthcare Partnership (AMPATH-Plus) initiated HBCT to all individuals aged ≥ 13 years and high-risk children. Included in this analysis were females aged 13-50 years, from 6 catchment areas. We used descriptive statistics and logistic regression to describe factors associated with testing uptake and HIV prevalence.

Results: There were 119,678 women eligible for analysis, mean age 27 years ($SD = 10.2$), 7,396 (6.2%) of whom were pregnant during HBCT. A higher percentage of pregnant compared to non-pregnant women had previously tested for HIV (62.2% versus 36.6%, $p < 0.001$), but fewer already knew they were HIV positive (5.9% versus 10.7%, $p < 0.001$). Overall, testing uptake was high among women (96.2%). HBCT newly identified 241 (3.3%) pregnant HIV-positive women. Combined HIV prevalence (previously known plus newly HIV positive) among pregnant women was 6.9%. Age per-five year increase (Adjusted Odds Ratio, AOR: 0.66, 95% confidence interval (CI): 0.60-0.72), being married (AOR: 0.62, 95%CI: 0.44-0.86), having only primary education 1.49 (1.06-2.11), and having never attended ANC (AOR: 3.36, 95%CI: 2.29-4.93) influenced testing uptake. Pregnant women were less likely to newly test HIV positive if they had ever previously been tested for HIV (AOR: 0.49, 95%CI: 0.35-0.68) and more likely to newly test HIV positive in HBCT if they had not attended ANC during the current pregnancy (AOR: 6.85, 95%CI: 4.49-10.44).

Conclusions: HBCT is an important strategy for identifying pregnant HIV-positive women who otherwise are not accessing ANC or other facility-based prevention of mother-to-child transmission services.

28 Engaging Communities Living with and Most Affected by HIV to Address Barriers to Effective use of ART for Treatment and Prevention

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Introduction: Communities living with and most affected by HIV should be empowered to take control and improve their own health, especially as prevention and treatment of HIV is influenced by social and structural factors. Using a social ecological approach, we explored the role of community engagement to address potential individual, social, and structural barriers to ART for treatment and prevention.

Description: A review of literature relating to community engagement in HIV prevention and treatment was conducted from January 2012 to June 2012. Search terms included community, participation, engagement, HIV prevention, HIV treatment, TasP, test and treat; 185 documents were reviewed.

Lessons Learned: While there is a long history of community engagement in HIV programming, especially in the scaling up of ART access, such work is rarely reported in peer-reviewed journals. Where reported, there is evidence that communities and civil society are involved at the individual level in supporting access to services for the individual; and their behaviour change, including adherence to treatment and reducing sexual risk. At the societal level communities are engaged in addressing stigma and discrimination; providing economic support; and linking communities to health services. Communities are also engaged with policy makers in addressing structural level factors that impact on HIV prevention and treatment including social inequities; and human rights transgressions. However, engagement by communities at all levels is hampered by lack of financial investment and political will. This has important implications for the engagement of communities in the roll out of ART for treatment and prevention.

Recommendations: Communities and civil society organizations can mitigate social and structural barriers to HIV treatment and prevention at the individual, social, and structural levels. For this to happen optimally, community engagement should be an integral component of the program, which will require political will and strategic investment.

31 Antiretroviral Therapy (ART) in Female Sex Workers: A Systematic Review of ART Access, Treatment Attrition, Adherence, Viral Suppression, and Immunological Response

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Background: The population-level effectiveness of HIV treatment as prevention (TasP) may be influenced by the antiretroviral treatment (ART) cascade in key populations, such as female sex workers (FSWs), who are at high risk of acquiring and transmitting HIV. We aimed to quantify the extent to which FSWs access, continue, and adhere to ART, and their virologic and immunologic response to treatment.

Methods: We systematically searched PubMed, Embase, and MEDLINE for studies reporting cascade outcomes on ≥ 10 FSWs.

Results: Of 2,489 studies screened, 26 were included. Studies were conducted in Africa (N = 17), North America (N = 6), and Asia (N = 3). The median proportion of HIV-positive FSWs currently on ART or ever treated was 35% overall (range: 9.5%-90.5%, N = 8), which differed according to region: 19.2% in Africa (N = 2), 21.5% in Asia (N = 2), and 57.6% in North America (N = 4). The yearly rate of ART initiation for HIV-positive FSWs ranged between 1.6%/year to 33%/year (N = 4). CD4 counts at ART initiation ranged between 127-180 cells/mm³ (N = 4). Treatment discontinuation at 12 months was 9.8% (N = 1), while the proportion of FSWs no longer on ART in 2 cross-sectional studies was between 39%-47%. Loss to follow-up at ≥ 12 months on ART ranged from 4.3%-5.9% (N = 2). The proportion of FSWs who died during the first year on ART ranged from 4.9%-6% (N = 2). Between 66.7%-100% of FSWs on ART were $\geq 90\%$ adherent (N = 6) and 72.6%-79.4% of FSWs were virally suppressed six months after ART initiation (N = 2). The median gains in CD4 count after 6 and 12 months on ART, ranged between 109-132 cells/mm³ (N = 2) and 103-177 cells/mm³ (N = 2), respectively.

Conclusions: Despite the importance of FSWs to HIV transmission, there are limited numbers of studies characterizing the ART cascade in FSWs. Available data suggest that access to ART is generally low among FSWs, while retention on ART, adherence, and viral suppression is moderate to high.

32 Candidacy for TasP and PrEP among PEP Users: An Analysis of the Italian Registry of Antiretroviral Post-Exposure Prophylaxis (IRAPEP)

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Background: HIV-uninfected individuals use post-exposure prophylaxis (PEP) in case of unanticipated sexual exposure carrying a potential risk of HIV transmission. In several situations, alternative strategies could be considered, such as treatment as prevention (TasP) in the source or pre-exposure prophylaxis (PrEP) in the exposed individual.

Methods: We conducted a retrospective analysis of the characteristics of sexual exposures (SE) receiving PEP and involved sources, reported to the Italian Registry of Antiretroviral Prophylaxis between January 1997 and December 2012.

Results: Of 1,543 SE (of 5,614; 27.5%) receiving PEP, 854 were to known HIV-positive sources. HIV viral load (VL) was available in 551 cases: 293 were undetectable, and 258 were detectable (<103 copies/mL 23.0%, 103-104 copies/mL 27.2%, >104-105 copies/mL 40.5%, and >105 copies/mL 9.7%), 214 of whom engaged in stable couples (F 45, M 116, MSM 53). Of sources with detectable VL, 131 had never been treated, 40 were on their first treatment, 48 were treatment-experienced, and eight were in structured/voluntary treatment interruptions. Twenty-four sources with detectable VL were involved in 54 exposures requiring PEP; 62 PEP treatments followed an exposure to 28 sources with undetectable VL, and 40 an exposure to 18 sources with unknown VL. Of 8 cases of HIV infection detected within 6 months from the end of PEP, 4 were exposed to an unaware HIV-infected partner, and 4 to a known HIV-positive viremic partner: six of these acknowledged subsequent unprotected exposures.

Conclusions: A not negligible number of subjects receiving PEP are exposed to viremic, untreated partners, often in multiple occasions, suggesting a potential role of TasP and PrEP in decreasing their risk of acquiring HIV infection. However, strategies to reduce the quote of HIV-infected person who are unaware of their serostatus should also be implemented.

33 Modelling the Impact and Cost-Effectiveness of Treatment as Prevention, Pre-Exposure Prophylaxis, and Condom Promotion among HIV-Serodiscordant Couples in Nigeria

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Background: In Nigeria, only 35% of those in need receive antiretroviral therapy (ART). We used mathematical modelling to estimate the impact and cost-effectiveness of TasP, PrEP, and condom promotion for discordant couples in Nigeria.

Methods: A deterministic model of HIV transmission within a cohort of discordant couples and to/from external partners was parameterized using data from Nigeria and other African settings. The impact (disability-adjusted life-years (DALYs) averted) and cost-effectiveness were estimated for offering ART at current national guidelines (CD4 <350 cells/ml) to all HIV-positive partners ("expanded ART"), or of additionally offering condom promotion, PrEP to HIV-negative individuals and/or TasP to HIV-positive individuals. Intervention scenarios were compared with a baseline of current (35%) ART coverage of those with CD4 <350 cells/ml. Full costs (in US\$2,012) of program introduction and implementation were estimated from a provider perspective, with future costs and impacts discounted.

Results: Substantial benefits came from expanded ART (4,000 DALYs averted among 1,000 discordant couples and their external partners), with additional smaller benefits of providing TasP (additional 760 DALYs averted), PrEP, or condom promotion (on top of expanded ART, an additional 360 and 200 DALYs averted, respectively). Expanding ART was the most cost-effective strategy (US\$545 per DALY compared with current ART coverage cf. TasP: US\$774/DALY, expanded ART + PrEP: US\$880/DALY, expanded ART plus condom promotion: US\$556/DALY). Using a willingness-to-pay threshold of three times the Nigerian gross domestic product (US\$1,502), our results indicated that all four interventions would be cost-effective in the long term, but both impact and cost-effectiveness were sensitive to ART and PrEP drop-out rates.

Conclusions: These results suggest that the best first intervention strategy for discordant couples in Nigeria would be to offer ART at current national guidelines to all HIV-positive individuals. Additional impact could then be achieved from condom promotion, PrEP, or TasP, which are all highly cost effective for discordant couples in Nigeria.

35 How Treatment as Prevention is Understood by HIV-Positive Young People in the UK

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Background: Treatment as Prevention (TasP) is an effective intervention to prevent the onward transmission of HIV by lowering viral loads in HIV-seropositive patients. The purpose of this needs assessment is to determine YPHIV's (HIV-positive young people) understanding of TasP.

Methods: 16 YPHIV participated in this needs assessment, which was delivered in-person or by telephone. Participation was voluntary, and information gained from this survey would impact health education programming at a United Kingdom NGO working with YPHIV. The survey contained a mixture of multiple-choice and short-answer questions, and was prefaced by a simple definition of TasP.

Results: 100% of respondents were YPHIV. 15/16 participants self-identified as Black African, and 12/16 as female. 4/16 participants were not currently on ARVs, 12/16 were taking antiretrovirals (ARVs). When asked how hypothetically likely they were to choose to take TasP, 6 responded *very likely*, 4 *likely*, 1 *unlikely*, 2 *very unlikely*, and 3 responded *unsure*. The majority of respondents identified reduction in transmission (8/16) as the primary benefit of TasP, with 5/16 citing potential for personal health improvements as a benefit.

When asked what they perceived to be negative aspects of TasP, 6/16 reported concerns with the daily "hassle" of taking medication (such as routine, lifestyle, burden), 5/16 were concerned about unnecessary ARV side effects, and 4/16 were concerned with the relative financial value of TasP.

Key learning priorities for YPHIV were: basics of TasP, positive and negative aspects of TasP, and health implications of TasP (12/16 respondents each).

Conclusions: This needs assessment highlighted YPHIV's need for information about TasP. Further research is needed to determine the acceptability of TasP amongst YPHIV.

38 Successes and Challenges of an Integrated Point-of-Care HIV Testing and Linkage Program in an Urban Cohort in the Southern United States

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Introduction: In addition to increasing serostatus awareness in medically underserved areas, integrated point-of-care (POC) rapid HIV testing and linkage programming outside of primary care settings serves as a pivotal gateway to the HIV treatment and pre-treatment cascade.

Description: Our goal was to document the implementation of a combined testing and linkage protocol and examine POC interview data (2007-2012) from 3,651 test-seeking individuals to gauge trends associated with HIV screening presentation, positive results, and subsequent linkage to care. We employed a university clinic-based testing and linkage team that consisted of trained faculty, staff, and volunteers, who administered co-located POC screening, counseling, and intake services without an appointment, and at no cost to persons who presented for testing. This program offered screening for patient partners, community outreach, referrals for HIV RNA acute testing, PrEP education, and immediate linkage to primary care and treatment services at the host clinic.

Lessons Learned: Four percent of the overall population had positive results, with non-white males accounting for half of these. Among persons with positive results, we observed differences in linkage to HIV primary care for race and gender, testing location, and motivation for screening. The overall linkage rate for this program was 86%. However, the linkage rate for POC testing that included a comprehensive intake visit and co-located primary care services for in-state residents was 97%; of these, 83% were linked to care within the recommended 90 days of positive results.

Recommendations: Enhancing programming for integrated, comprehensive HIV testing with immediate linkage services for populations outside of traditional US healthcare settings should continue as a key strategy toward minimizing gaps in the HIV treatment cascade.

39 A Review of the Ethical Discussions Pertaining to TasP: Identifying the Theoretical and Empirical 'Gaps' Required to Advance the Field

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Background: As the empirical evidence supporting the role of antiretroviral-based treatment as prevention (TasP) in reducing the incidence of HIV infection continues to grow, the ethical discussions pertaining to this intervention have remained polarized and largely unexamined. The current analysis aims to systematically examine the breadth of the ethical discussions related to TasP, and to identify theoretical and empirical 'gaps' that are needed to advance ethical deliberation related to TasP.

Methods: We identify an array of ethical discussions pertaining to TasP by searching both peer-reviewed articles (via Ovid on MEDLINE) and grey literature (based on methods outlined by the Canadian Agency for Drugs and Technologies). We employ deductive and inductive techniques from thematic analysis in order to critically interrogate these arguments.

Results: Within the ethical discussions of TasP, we identify a variety of premises and assumptions pertaining to individual- and population-level consequences that appear to be invalid given the state of the current evidence base. These include arguments related to the unintended social (e.g., potential for an increase of HIV-related stigma) and behavioural (e.g., potential for risk compensation behavior, including 'condom migration') consequences of implementing TasP. Within some arguments, characterizations of the context-specific nature of the epidemic were absent (e.g., low- versus high-income settings; low- versus high-prevalence settings), while others tended to disregard the broader social-structural influences pertaining to HIV vulnerability and the distribution of HIV within and across populations.

Conclusions: In order to advance a more sophisticated and valid set of ethical arguments within this area, additional theoretical, philosophical, and/or empirical work is required. Drawing on the emerging field of population and public health ethics, we outline a variety of interdisciplinary approaches (e.g., ethno-epidemiological methods) that may serve to advance support for or against some of the individual- and population-level concerns surfaced within the current debate.

42 Key Populations Call Attention to TasP Obstacles and Inform Advocacy for its Implementation

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Introduction: Evidence that viral suppression through early initiation of antiretroviral therapy (ART) can prevent onward sexual transmission of HIV has potential to change the trajectory of HIV epidemics worldwide. This strategy — treatment as prevention (TasP) — has been taken up by global health agencies, donors, and health ministers as a pillar of combination HIV prevention. Concurrently, there has been a groundswell of community concerns, ranging from ethics, feasibility, and acceptability of introducing TasP. But little priority had been given to these views, particularly those held by people living with HIV, from developing countries. The AIDS Vaccine Advocacy Coalition (AVAC) sought to fill this gap through an international effort of community consultations.

Description: A network of partners in various countries collected qualitative information through community consultations to capture perceptions of TasP rollout from the very populations that would benefit most from the intervention — serodiscordant couples, sex workers, gay men, transgender women, drug users, and prisoners. Partners carried out this work in Kenya, Peru, South Africa, Uganda, Ukraine, United States, Zambia, and Zimbabwe.

Lessons Learned: Results showed near universal acceptance of the idea of early initiation of ART as TasP, but a range of structural, biological, and behavioral barriers to its implementation is cited across populations. Common themes include poor access to HIV testing, the first step on the treatment continuum of care; lack of linkage to care; poor knowledge of ART — particularly regarding drug adherence and resistance and the benefits of early treatment initiation; fear of condom migration; criminalization of marginalized populations and of transmission of HIV; coercion to initiate ART; confidentiality breaches; shortage of healthcare workers; drug stock-outs and inconsistent government policies, among others.

Recommendations: Based on their findings, AVAC's partners have begun in-country advocacy to address community concerns surrounding TasP rollout to ensure funding and political will for favorable environments and properly programmed TasP implementation.

45 Getting to Zero HIV Transmissions among Brothel-Based Sex Workers in Bangladesh through Establishing Human Rights

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Background: Sex work is considered as the most hated means of livelihood in Bangladesh. There prevails deep-rooted social stigma against the sex workers (SWs) and their children. They are discriminated upon by the society in various ways. More than 100,000 Bangladeshi women are engaged in this profession, and are deprived of enjoying basic human and social rights, and are vulnerable to sexually transmitted infections (STIs), including HIV infection. Padakhep Manabik Unnayan Kendra, a national NGO, launched a program in 2009 at Daulatdia brothel, Bangladesh, with support from RCC program of the Global Fund to realize the human rights of SWs and protect them from oppression and exploitation, including through the promotion of safer sex. Over 3,000 SWs and their children live in Daulatdia brothel.

Methods: A series of awareness raising workshops on human rights of SWs including relationship between human rights and HIV/AIDS were conducted with the policy makers, local administrators, law enforcing authorities, opinion leaders, journalists, SWs, brothel management, and clients of sex workers. An organization of SWs was formed, capacitated, and linked with the networks of SWs in and outside the region to share common ideas and views regarding HIV prevention. A Human Rights Advocacy Forum was also formed to support the project activities, including safer sex.

Results: The SWs are presently enjoying improved access to social resources than ever before, including education of their children in formal school. The incidence of financial exploitation and harassment by interest groups reduced significantly. Condom use increased and the incidence of STIs declined by over 40%.

Conclusions: A large constituency was formed in favor of realizing human rights of SWs. A 'self-help group' was developed and capacitated to work for their human rights. Now the SWs became empowered to negotiate with clients for safe sex. The last national sero-surveillance indicated that there was no HIV-positive case among SWs in Daulatdia brothel.

48 Public Health and Social Issues Emerging from Universal Test and Treat (UTT) Intervention Trials

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Introduction: Universal repeat HIV testing and early antiretroviral treatment (UTT) strategies to reduce onward sexual transmission of HIV are being tested in several studies. UTT interventions are major social, as well as biomedical interventions, for individuals and target communities.

Description: Within the ANRS 12249 TasP trial (Clinicaltrials.gov: NCT01509508), quantitative and qualitative social science research is implemented at each stage to ensure a comprehensive understanding of the social determinants of the intervention uptake, as well as of the socio-economic and behavioural impacts of the intervention, at individual, household, and community levels. But these alone cannot guide a decision about taking UTT strategies to scale in public health programs.

Lessons Learned: If UTT efficacy is demonstrated, new questions will require answers before public health and operational decisions move to the next level; these fall under three broad headings:

- 1) Social and behavioural consequences of large numbers of people knowing their HIV-status and potentially beginning antiretroviral treatment early. Will the impacts on sexual behaviour, disclosure, and stigma be positive or harmful? In the short and the long term?
- 2) Normative changes at individual and community levels. What normative changes occur in communities exposed to prolonged, intense research around unspoken or socially taboo subjects? Does seeing more healthy people attending clinics alter community perceptions of disease and care? Can salient positive changes be identified and replicated?
- 3) Operational and ethical implications of transforming research interventions into routine care. Who should lead? What are the requirements for sustainability? What impacts of centralized 'state' institutions 'knowing' about individuals' HIV status and care uptake, potentially even adherence or non-adherence, especially in contexts of criminalization and marginalized or vulnerable populations?

Recommendations: UTT strategies have potentially great social consequences that need to be explored alongside the actual trials, to inform any decision when moving beyond the trials to implementation and policy.

49 Little Knowledge About but High Acceptability to Use of PrEP and PEP among MSM in Vietnam

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Background: HIV infection is rising rapidly among men who have sex with men (MSM) in Vietnam. In the urban centers of Hanoi and Ho Chi Minh City (HCMC), prevalence rates have been reported as high as 14-19%. Thus far, there is little knowledge about or use of newer HIV prevention methods, such as pre-exposure prophylaxis (PrEP) or post-exposure prophylaxis (PEP) in Vietnam.

Methods: From March 2012 to April 2012, an online survey collected information on use of health and HIV prevention services. Participants were recruited through banner ads on 10 Vietnamese language websites that cater to MSM. Results on knowledge about and use of PrEP and PEP are presented here.

Results: 1,729 MSM participated in the survey. Median age was 21 (range 16-56). Sexual orientation was 73% homosexual, 18% bisexual, 1% heterosexual, 1% transgender women, and 8% questioning/other. 65% had attended university and another 30% had attended high school. Knowledge on condoms for anal sex to prevent HIV was 97%, but only 5% knew that PrEP was effective and 6% knew about PEP. In contrast, 10% incorrectly believed that an effective HIV vaccine existed. 73% would be willing to take oral PrEP, declining to 55% if the drug had side effects. 87% would use a rectal gel to prevent HIV. Preferences were 19% for oral PrEP and 66% for a rectal gel. Compared with other MSM, gay-identified men were more likely to prefer a rectal gel over oral PrEP (68% versus 61%, p = 0.009). Only 3.7% knew where to get PEP and only 0.5% had ever taken PEP.

Conclusions: PEP after high-risk sexual exposure is currently available in Vietnam, but very few know its effective or how to access it. PrEP is not yet available in Vietnam, but would be acceptable to many MSM. A rectal gel would be preferred by most MSM, especially gay-identified men.

50 HIV-1 Drug Resistance Transmission Chains in Subtype B in Portugal

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Background: Drug resistance mutations are a major concern when dealing with HIV-1 infected patients. This issue gains new dimension, when these mutations are transmitted to drug naïve patients, since it will complicate the decision regarding first-line regimen treatment.

Methods: HIV-1 PRO and partial RT sequences from 6,500 patients from Southern Portugal were available. ML trees with 3394 subtype B sequences (2,932 treated and 1,606 drug-naïve sequences) were constructed (RAxML, GTR+gamma rate heterogeneity, 1,000 bootstraps). The tree was traversed with python scripts to identify clusters with the same drug resistance mutation.

Results: 187 cases of TDR (11.6%) were found, associated with PI (4%), NRTI (5.1%) or NNRTI (6%) resistance, mainly singletons, in line with other European studies. Transmission clusters with a particular drug resistance mutation were explored, using a bootstrap support cut-off between 70% and 90% (increment of 5%), and an evolutionary distance cut-off between 0.015 and 0.05 (increment of 0.005). Most clusters were between only 2 patients. The prevalence of mutations in the database and the number of transmission clusters with that mutation is highly correlated. No correlation could be found between the number of transmission clusters between drug-naïve patients and the number of clusters from treated to naïve patients, but the former was almost always lower. Our findings remained robust with regard to changes in bootstrap or distance cut-off, although the actual numbers changed.

Conclusions: We found 11.6% of TDR in the Portuguese drug resistance database, with more TDR clustering with treated than with naïve patients. However, considering the much lower coverage of drug-naïve (estimated 15%) versus treated (estimated 60%) patients, we cannot make conclusions of whether TDR is transmitted mainly among drug-naïve or from treated patients.

52 To PrEP or Not: Perceptions of HIV Pre-Exposure Prophylaxis (PrEP) in Philadelphia's African and Caribbean Communities

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Background: HIV pre-exposure prophylaxis (PrEP) has emerged as an important tool in the prevention of HIV globally. As we implement PrEP, it is critical to understand perceptions among key target populations, including populations in and from areas with the highest prevalence of HIV, such as Africa and the Caribbean. We seek to determine perceptions of PrEP among African and Caribbean immigrants in Philadelphia.

Methods: The African Diaspora Health Initiative is a community-based participatory HIV screening program in Philadelphia. African and Caribbean immigrants in community settings, such as churches, mosques, and community centers, are screened for hypertension, diabetes, and HIV in a series of Clinics Without Walls. An anonymous survey is administered to each participant. Included in this survey are questions about demographics, risk behaviors, HIV risk perception, acceptance of PrEP, and reasons for acceptance or refusal.

Results: Between July 2012 and May 2013, 1,324 individuals participated in HIV screening and completed the survey in 56 Clinics Without Walls. Approximately half of participants (49%) were female, and 56% were African. Median length of time in the US was 9 years. The overall acceptance rate of PrEP was 38.2%. Acceptance was lowest among Caribbean women (20.4%) and highest for African men (46.1%). Correlates of acceptance included previous HIV testing, intermittent condom use, same sex activity, having a partner in one's home country, and high HIV risk perception. The main reason for acceptance was fear of HIV, and for rejection was the lack of recognition of risk.

Conclusions: Among Philadelphia's African and Caribbean immigrants, acceptance rates of PrEP are low, differing by gender and by world region of origin. Addressing some of the reasons for rejection is essential for successful implementation of PrEP in this community. Further study is necessary to determine the impact of perceptions of PrEP on reported and actual adherence.

53 Acceptance of HIV Pre-Exposure Prophylaxis in a High-Risk US Urban Population

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Background: HIV pre-exposure prophylaxis (PrEP) has been studied in populations around the globe, but few of these studies have been conducted in US communities. As we implement PrEP in the United States, it is important that we understand how PrEP may be received. We seek to determine the acceptance of PrEP in a high-risk population undergoing HIV testing in an urban community center setting.

Methods: In the health centers operated by the Philadelphia Health Department, individuals in walk-in clinics are offered rapid HIV testing. For each individual, an anonymous survey is administered. Included are questions about demographics, HIV risk behavior, risk perception, risk estimate based on reported behaviors, acceptance of PrEP, and reasons for acceptance or refusal. Data are analyzed using SAS. The objective determination of risk used here has been found in previous study to correlate closely with HIV prevalence.

Results: Between July 2012 and May 2013, 1,973 individuals participated in the study, 1,073 of whom were determined to be at high risk for HIV. Almost half (47.2%) were women, and a majority (89.2%) were Black non-Hispanic. The overall acceptance rate of PrEP was 69.2%. Acceptance rates were numerically higher among those with a negative HIV antibody (69.5%, 95%CI 66.6-72.2) than among those testing positive (45.5%, 95 CI 16.7-76.6), and lower among those with a zero perceived risk for HIV (55% compared with 72.7%, p <0.05). There was no correlation between acceptance rates and gender, race/ethnicity, previous HIV testing, or condom use.

Conclusions: Among a largely Black non-Hispanic population in US community health centers at high risk for HIV infection, acceptance rates of PrEP were high. As we implement PrEP in the United States, this is an important target population, and it is critical to make every effort to educate about the availability of PrEP, and to ensure access to it in this setting.

55 The Role of Austerity Discourses in Influencing Attitudes towards the Use of Antiretrovirals (ARVs) for HIV Prevention amongst People with HIV in London

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Background: The translation of efficacy to real-world effectiveness is the biggest challenge for antiretroviral (ARV) for prevention roll-out. Investigations of social, environmental, and cultural factors mediating acceptability amongst people with HIV are essential. The UK National Institute of Health Research funded the author to conduct qualitative research exploring understandings of ARV for prevention amongst people with HIV (PWHIV) in London.

Methods: Six focus groups (two each with MSM, African heterosexual men, and African heterosexual women) were held in London in autumn 2012. The groups focused on ARV for prevention and allowed free-form discussion.

Results: In all groups, discussion focused on four factors that participants viewed as central to ARV for prevention roll-out:

- Perceived changes in HIV ARV procurement practices in London.
- The development of new clinical care models for stable patients.
- Increased involvement of primary care practitioners in HIV care.
- Re-organization of clinical services in London.

All of these factors were informed by 'austerity' or 'economic crisis' discourses. These discourses profoundly influenced:

- Participants' perceptions of their future health, ARV, and clinical care need, and how these needs were likely to be met in conditions of over-arching and long-term austerity.
- The feasibility and acceptability of roll-out of ARVs for prevention in London and the UK.

Conclusions: Economic analyses of ARV for prevention roll-out focus on economic modelling for implementation or on how individual poverty serves as a barrier to engaging with ARV for prevention programs. However, this research shows that state/government policies on austerity and administrative changes to socialised health care systems have a clear impact on the acceptability of ARV for prevention in resource rich settings. These considerations need to be considered in relation to ARV roll-out for prevention and clinical service planning in the UK and other resource rich settings.

57 The Lawful Structure of Sex Work and its Crossing Point with HIV: Barrier for a Sustainable Response to HIV Programming in Bangladesh

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Background: Due to the current legal frame work of sex work in Bangladesh, sustainable HIV prevention interventions among female sex workers (FSWs) is a major challenge. It is clear from experience gained so far that social marginalization and disempowerment that characterize the FSWs community are the key vulnerabilities that need to be addressed before any interventions related to HIV can be successfully adopted by them with ownership.

Methods: The first ever national congress of FSWs in Bangladesh was organized in 2011; 1,000 FSWs from around the country from 29 FSWs networks participated. They discussed legal and policy issues related to sex work and its consequences. This allowed an opportunity for shared experiences from leading national and international organizations working with FSWs for the last 20 years to have an analysis of the legal framework of sex work in Bangladesh.

Results: In any setting (hotel or street), FSWs are not in a legal position to say no and/or insist client for negotiating safe sex. According to anti-prostitution law, two or more FSWs cannot work together, which interferes with the ability to form collective resistance to violence, abuse, and unsafe sex. On the other hand, Police and Municipality law creates fear of Arrest hinders community outreach and FSW is hidden: this means it is difficult to identify, contact, and build trust and avoiding arrest prevails over safer sex. Also, police powers harass peer educators, carrying condoms seen as 'promoting', 'soliciting,' and 'carrying on' sex work. Due to criminalization of brothels, prevention programs cannot ensure 100% condom use, as frequent raids disrupt HIV services.

Conclusions: The legal and policy framework requires radical restructuring to reduce legal sanctions and social marginalization and allow capacity building work for sex workers community to build a sustainable HIV/AIDS program in partnership with other stakeholders, including government, in Bangladesh.

58 Understanding Treatment as Prevention *in Situ*: Black-African People Living in England in Serodiscordant Relationships

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Background: The concept of HIV treatment as prevention (TasP) has received significant attention in the fields of science and health promotion. However, there are little data about how individuals most likely to be involved in HIV exposure and transmission perceive and engage with the notion. As part of a wider project, we gained insight from African people who are involved in HIV-serodiscordant sexual relationships offering a valuable perspective on community understandings of TasP.

Methods: Sixty black African people (39 women and 21 men) living in England who had current or recent experience of an HIV-serodiscordant relationship were recruited for interview. The sample included 44 people with diagnosed HIV, and 16 whose most recent HIV test result was negative. In-depth qualitative, one-on-one interviews explored: experiences of coming to terms with diagnosis and disclosure, management and perceptions of HIV transmission risk, communication strategies, and awareness and experience of HIV treatment as prevention.

Results: Nearly half of all participants were uncertain about their own or their partner's viral load or CD4 count and what this meant both in terms of prognosis and transmission. The notion that HIV transmission could be managed through any means other than condoms was viewed with suspicion and uncertainty by the majority of participants. Some women were reluctant to engage with a notion of TasP because they felt it removed their ability to insist their partner utilize condoms, which were still beneficial in terms of preventing pregnancy or other sexually transmitted infections.

Conclusions: Consistent and coherent information is needed to inform those living with or at risk of contracting HIV about treatment as prevention. Interventions need to take account of established perceptions of risk management with a view towards improving the acceptability of harm reduction approaches that may incorporate TasP as one component within a varied 'HIV prevention toolbox.'

59 Professional Ambivalence: The Views of HIV Service Providers about ARVs for Prevention in Three Settings

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Background: The specific HIV service infrastructures that comprise the so-called 'treatment cascade' vary widely within and between country contexts and specific localities. Nonetheless, the success of antiretrovirals (ARVs) for prevention is considerably dependent on these services and the people who deliver them.

Methods: While undertaking diverse research projects in Australia (n = 20), Swaziland (n = 71), and the United Kingdom (n = 75), three research teams collected qualitative data via individual and focus group interviews with clinical and non-clinical HIV service providers. Interview data from each study was recorded, transcribed and thematically analysed separately. Combined, these interim findings represent considerable areas of overlap along with striking differences.

Results: Service providers tended to convey considerable ambivalence about the uses of ARVs for prevention (except for prescribing physicians in the UK sample). In each country, tensions between local knowledge, pragmatic practice and overarching biomedical approaches emerged, which can be summarized as:

- Real world challenges: including stock availability and low adherence (Swaziland) and confusing health messaging (raised in all three locations)
- Behavioural outcomes: considerable concern about a correlated rise in unprotected sex and its unintended consequences (all three locations)
- Individual versus public health gains: the role of decision making based on a patient's wellbeing and health was a key topic in all sites, with Australian providers supporting equal access to clear information (a sentiment greeted with far more ambivalence in the United Kingdom and Swaziland); simultaneously, a number of UK doctors said in specific cases their prescribing of ARVs was considerably influenced by their judgement of a patient's risk to others.

Conclusions: Far from being tacitly compliant with the move towards ARV as prevention, these findings demonstrate many practical and ethical challenges faced by front-line service providers turned implementers. Fuller incorporation of such considerations into policy and planning approaches is essential if ARVs as prevention are to be successful.

60 Clinical Efficacy versus Ethical Effectiveness of Pre-Exposure Prophylaxis: Translating Evidence into Ethics

Shafrudeen Amod (presenting)

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Introduction: Uncertainty abounds the medical and public health communities regarding the clinical context of pre-exposure prophylaxis (PrEP) and the resultant ethical dilemmas thereof. A recent clinical case poll in a peer-reviewed journal canvassed the medical fraternity from twenty-five different countries on how and when to start PrEP in potential patients. The results confirmed precisely how divisive the issue of PrEP has become.

Description: The purpose of this review is to verify the ethical controversies surrounding the responsible use of PrEP, especially under circumstances of scarcity. The challenges of implementing PrEP as a prospective add-on preventative strategy in developing world circumstances where proven preventative interventions are being underutilized will be examined.

Lessons Learned: PrEP is materializing as an essential component of an integrated HIV prevention strategy. The health care provider who recommends PrEP requires a management plan that recognizes the effects of this intervention on the patient's sexual behaviour, safety, and well-being, including the resource ramifications of this intervention on public health. The complex and discordant results from the various clinical studies underscore the importance of conducting further studies to allow a greater understanding of the ethical dimension, potential efficacy of and the adverse events associated with PrEP. The increase in the threshold for initiating antiretroviral treatment to a CD4 count of 500 cells/mm³ has further burdened countries like South Africa, where stock-outs and lack of funding already compromise treatment programs.

Recommendations: PrEP remains far from being a purely clinical decision. If the concept of PrEP is going to succeed, it will definitely require a multi-disciplinary approach from the healthcare fraternity. The dichotomy of thought will persist unless this approach is seriously considered and implemented. Controversial issues like adherence, cost, equity, cycling of PrEP, and community involvement demands no less.

61 How PHDP Contributes to the Success of Treatment as Prevention

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Introduction: Namibia's population of 2.16 million is heavily burdened with an estimated HIV prevalence of 18.2% (2012 National HIV Sentinel Survey). As of March 2011, an estimated 188,500 Namibians were receiving antiretroviral therapy (ART) in the public sector (Namibia ART adherence protocol). Critical community programming for people living with HIV (PLHIV) to improve health outcomes remains weak.

Description: Ministry of Health and Social Services (MoHSS) with local organizations implement a PLHIV-led intervention: Positive Health, Dignity and Prevention program (PHDP) delivering evidence-based cognitive and structural approaches to address health literacy, sexual risk reduction, adherence, and retention amongst Namibian adults on ART. PHDP also attempts to prevent onward HIV transmission and ensure human rights, empowerment, and link community-based services with clinic-based services. The program targets all PLHIV, with an emphasis on younger audiences more recently enrolled in ART, underrepresented male audiences, recently diagnosed, and PLHIV with identified adherence problems. Furthermore, structural interventions, such as advocacy, representation, stakeholder engagement, and media-based communication are key elements of this program. Furthermore, MoHSS established the Health Extension Workers' Program, whereby a multi-disciplinary team focuses on clinical and non-clinical needs of communities, and are currently revising the 2010 ART guidelines.

Lessons Learned: A recent PHDP assessment conducted demonstrates stronger linkages between health facilities and community services for intended populations. Of the 4,112 PLHIV reached during the past year, 2,929 were recruited from health facilities. Most participants reported knowing the status of one's partner (24%), taking ART to reduce viral load (18%), having fewer sexual partners (16%), and abstaining from sex (13%).

Recommendations: Furthermore, new knowledge obtained included knowing more about taking ART, understanding that drugs cannot be shared, that adherence was vitally important, and that there was a possibility that one could become drug resistant on treatment. However, key findings from the Namibia ART Adherence Baseline Survey Report indicate that the largest majority of patients (67%) forgot to take their medication.

62 Addressing the Gaps in the UK Cascade through Innovation in HIV Testing

Cary James (presenting)

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Introduction: Treatment cascades identify gaps in responses. The UK cascade shows approximately 24 percent of individuals with HIV remain undiagnosed. Increasing availability and uptake of HIV testing would increase effectiveness of treatment as prevention (TasP). While HIV testing is free to all, UK barriers to HIV testing include ease of access and fear of stigma.

Description: To address these barriers, the Terrence Higgins Trust implemented two pilot initiatives: a national HIV postal testing service and National HIV Testing Week (NHTW), as part of the HIV Prevention England (HPE) program. The postal testing service enabled people to order a home sampling HIV test online, which was then returned to the lab via post. NHTW was a structural initiative which was delivered through partnership working with HPE local delivery partners, sexual health clinics, and related services. The initiative encouraged a variety of events, including increased testing hours and onsite testing in community locations.

Lessons Learned: Both initiatives successfully increased access and uptake of HIV testing.

Home postal testing:

- In the first 11 weeks 3,235 tests were requested and 1,962 (61%) were returned.
- The majority 2,380/2,944 (89.6%) were men who have sex with men (MSM).
- 1.4% of tests were reactive and 85% of these were confirmed as accessing specialist HIV care.

National HIV Testing Week:

- NHTW delivered over 800 additional hours of HIV tests across the country.
- An average of 575 people per day used the online clinic finder with a peak of 2,766 on the first day of NHTW.
- More than 55 organizations working in the HIV and sexual health sectors coordinated HIV testing and related events.

Recommendations: NHTW 2013 is scheduled for 23-29 November 2013 and its success has lead to the creation of the first European HIV Testing Week, which will take place on the same dates. The Terrence Higgins Trust is currently seeking funding for an ongoing national postal sampling service.

63 A Systematic Review of HIV Pre-Exposure Prophylaxis (PrEP) among Injection Drug Users (IDUs)

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Background: Studies examining the use of pre-exposure prophylaxis (PrEP) to prevent HIV transmission among injection drug users (IDUs) have not been adequately summarized. To assess current scientific knowledge regarding the potential for PrEP to reduce HIV incidence among IDU, we reviewed the published literature on the use, efficacy, effectiveness, and implementation of PrEP for IDU.

Methods: We conducted a systematic review of published articles and abstracts that specifically addressed the use of PrEP in IDU populations. To be included in the review, a study must have conducted primary data collection and analysis, secondary analysis, or developed a mathematical model to address a question regarding the efficacy, effectiveness, or implementation of PrEP for IDUs.

Results: Our literature search yielded 183 articles and abstracts, 5 of which met the inclusion criteria. Out of these 5 results, only 2 unique studies were identified. The first was the recently completed Bangkok Tenofovir Study, which demonstrated a PrEP efficacy of 49% in preventing HIV infection among a sample of IDUs residing in Bangkok, Thailand. The second was a study examining willingness to use PrEP in a sample of Ukrainian IDUs, observing that about half of this sample was 'definitely' willing to use PrEP if available in the future. We could not find any mathematical models that specifically addressed the use of PrEP for IDUs.

Conclusions: Studies examining the use of PrEP to prevent HIV among IDUs are sparse, particularly compared to the body of literature involving other high-risk populations, such as men who have sex with men and serodiscordant heterosexual couples. More empirical research needs to be conducted, with emphasis on better understanding the generalizability of the Bangkok Tenofovir Study findings, the willingness of IDUs to use PrEP, and the effectiveness of PrEP in the presence and absence of other HIV prevention strategies.

65 Community Perspectives on using ARVs for Treatment and Prevention: A Multi-Country e-Consultation to Inform the 2013 WHO Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV Infection

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Introduction: HPTN052 showed a major impact on HIV transmission and a reduction in opportunistic infections of immediate antiretroviral therapy (ART) initiation in serodiscordant couples. However, little is known about community perceptions regarding antiretrovirals (ARVs) for treatment and prevention and pre-exposure prophylaxis (PrEP). To inform the 2013 WHO Guidelines on the Use of Antiretroviral Drugs for Treating and Preventing HIV Infection, a multi-country e-consultation was held among most affected communities to understand their perspectives.

Description: An e-survey consultation (six languages) was conducted (November 2012–December 2012) reaching 122 countries. Key questions included: Who should be offered ART regardless of CD4 cell count? What must be addressed to ensure successful ART programming? Who should be offered PrEP? What are the main access barriers? There were 1088 respondents (including 431 people living with HIV) from low- (21%), middle- (59%), and high- (20%) income countries. Of the 791 who reported gender, 38% were female.

Lessons Learned: Community respondents ($n = 452$) strongly support offering ART to people living with HIV in serodiscordant relationships (63.3%) and to women of reproductive age (42.5%) independent of CD4 count, among others. Respondents identified access, availability, and criminalization of key populations as important barriers to successful ART programming; and counseling, local availability of lab monitoring, and psychosocial and peer support as important in promoting ART adherence and retention in care. There were differences in responses by HIV status and gender.

Respondents ($n = 417$) supported offering PrEP to sex workers (64%), people unable to negotiate safer sex (62.1%), men who have sex with men (MSM) (60.2%), and potential victims of gender-based violence (60.2%). However, responses regarding key populations do not necessarily reflect their positions (e.g., 82% of MSM felt that MSM should be offered PrEP). Respondents identified stigma, discrimination, and the cost of PrEP as critical access barriers.

Recommendations: Successful ART programming requires a rights-based approach (i.e., designing ART programs that promote, protect, and fulfil the rights and meet the needs of the people to whom care is being provided).

HIV CONTROLLING THE HIV EPIDEMIC WITH ANTIRETROVIRALS

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