Abstract Book

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Abstracts
Oral Presentations
Abstract

High Rate of Prep Eligibility and Associated HIV Incidence in a Generalized Epidemic

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Background: Pre-exposure prophylaxis (PrEP) targets key populations at high risk for HIV but the population-level rates of eligibility for PrEP in generalized HIV epidemics in sub-Saharan Africa is unknown. We estimated the need for PrEP and HIV incidence in a general population community cohort in Rakai, Uganda where PrEP was not being implemented at the time.

Methods: Initial PrEP roll out targeted fishing communities in the Rakai region of Uganda. Between January 2015 and November 2018, data were collected in two consecutive surveys in 37 non-fishing, general population communities in the Rakai Community Cohort Study (RCCS), an open population cohort of consenting persons aged 15-49 years. We applied HIV risk assessment questions from the Uganda national PrEP eligibility tool to identify RCCS participants meeting eligibility. (Eligibility criteria included reporting either sexual intercourse with more than one partner of unknown HIV status in the past 12 months, non-marital sex without a condom in the past twelve months or having sex in exchange for money, goods or a service in the last 12 months). We estimated the mid-date between surveys as time of seroconversion. We used log-binomial multivariable regression to estimate adjusted prevalence ratios (aPRs) for PrEP eligibility, and modified Poisson regressions to estimate adjusted HIV incidence rate ratios (aIRRs).

Results:
The prevalence of PrEP eligibility among 8,919 HIV-negative participants was 25% (31% in males, 19% in females (p<0.001). 4.6% reported sexual intercourse with more than one partner of unknown HIV status in the past 12 months, 15.8% reported non-marital sex without a condom in the past 12 months and 10.6% reported having sex in exchange for money, goods or a service in the last 12 months. Eligibility was highest in persons aged 20-24 years (42%), never married (43%), previously married (45%), casual labourers (38%) and those in alcohol/gambling/sex work occupations (28%). PrEP eligibility was significantly associated with male gender (aPRs=1.30, 95% CI=1.20-1.41); never married (aPRs=3.64, 95%CI=3.29-4.03) and previously married (aPRs=3.64, 95%CI=3.31-4.01) compared to currently married; and ages 20-24 years compared to 15-19 (aPRs=1.68, 95%CI=1.50-1.90). Overall, HIV incidence was significantly higher in PrEP eligible vs PrEP non-eligible participants (1.02/100 pys vs 0.36/100 pys, p<0.001); and remained significantly higher in PrEP eligible vs non-eligible females (1.41/100 pys versus 0.42/100 pys; p<0.001), and in eligible vs non-eligible uncircumcised males (1.04/100pys versus 0.26/100py; p=0.015); but was not significantly different in circumcised males (0.58/100pys versus 0.28/100pys; p=0.123). After adjusting for age, education, marital status and occupation, HIV incidence was significantly higher in participants eligible for PrEP compared to those not eligible (aIRRs=2.53, 95%CI=1.54-4.16) and higher among PrEP eligible females versus non-eligible females (aIRRs=3.02, 95%CI=1.59-5.72); PrEP eligible uncircumcised men vs non-eligible uncircumcised males (aIRRs=3.77, 95%CI=1.15-12.45); There was no significant difference in HIV incidence between PrEP eligible circumcised males vs non-eligible circumcised males (aIRRs=1.34, 95%CI=0.51-3.52).

Conclusion: In this community cohort in a generalized HIV epidemic, the need for PrEP according to current guidelines was substantial and associated with high HIV incidence, suggesting the need for screening and scale-up of PrEP in populations with generalized epidemics.
Dually enacted stigma among young people and their caregivers living with HIV: challenges and opportunities to reaching 90-90-90 in Zambia

**Background:** Stigma profoundly disrupts the uptake of and sustained engagement in HIV treatment services, threatening the achievement of UNAIDS’ ambitious 90-90-90 targets. Young people and their adult caregivers are particularly vulnerable to HIV-related stigma in schools, health facilities, and other community venues. We identified factors associated with, and potential consequences of, stigma experienced by young people living with HIV (YPLHIV) and their HIV-positive caregivers in two Zambian provinces.

**Materials & Methods:** This research is part of a prospective cohort study assessing the impact of the Zambia Family (ZAMFAM) Project, an integrated service-delivery program, on HIV outcomes and household economic resiliency. From July to October 2017, randomly selected households in Central (n=264) and Eastern (n=264) Provinces completed a baseline assessment. Eligible households had a primary caregiver 18 years or older and a YPLHIV aged 5-9 or 10-17 years. The primary outcome, stigma, was operationalized using three separate multi-item indices measuring experiences with HIV-related stigma and discrimination. Households where both an HIV-positive caregiver and YPLHIV reported any experience with stigma were classified as ‘concordant,’ and households where only one respondent (either YPLHIV or caregiver) reported stigma were coded as ‘discordant.’ Households where neither the caregiver nor YPLHIV reported any experience with HIV-related stigma served as the reference group. Ordered logistic regression models were generated to identify bivariate socio-demographic, household, and clinical correlates of stigma. Covariates meeting a significance threshold of p<0.1 in bivariate analysis were introduced into a multivariable model, adjusting for YPLHIV and caregiver age, sex, and Province.

**Results:** A total of 310 (59%) of sampled YPLHIV had caregivers also living with HIV. Caregivers were predominantly female (90%) and between 35-54 years-old (71%). Over half of YPLHIV were aged 10-17 years (54%) and female (57%). Dually enacted stigma was recorded in 22 (7%) households and discordant stigma in 66 (21%) households. In multivariable analysis, the proportional adjusted odds of dually enacted stigma among YPLHIV was significantly associated with older age (Adjusted Odds Ratio [AOR]=1.01, 95% Confidence Interval [CI]: 1.01–1.16), male sex (AOR=1.41, CI: 1.03–1.64), being too sick to perform daily tasks in the past four weeks (AOR=1.89, CI: 1.25–12.10), and non-adherence to antiretroviral therapy in the past month (AOR=3.89, CI: 1.13–3.15). Caregivers reporting not eating for a whole day at least once weekly in the past month had significantly higher proportional odds of dual stigma (AOR=1.85, CI: 1.04–3.31). Caregiver HIV clinical outcomes, including ART adherence and past-year retention in care, did not emerge as significant correlates of stigma experiences.

**Conclusions:** Experiences with stigma were reported by both YPLHIV and caregivers in food-insecure, socially vulnerable households and may be associated with suboptimal HIV treatment outcomes in children. The association between YPLHIV’s age and dually enacted stigma may emerge as a result of children’s heightened awareness of discrimination and mistreatment as they progress through adolescence. In order to close gaps in the continuum of care and reach 90-90-90, novel stigma mitigation approaches addressing vulnerabilities experienced at the household level, not only among individuals, should be explored.
Implementing a National Health System Improves Viral Suppression and Retention in Routine HIV Care in Kenya

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Background: There is growing evidence that mHealth interventions, such as short message service (SMS) notifications can improve adherence to antiretroviral therapy (ART) in low resource settings. However, the existing evidence is based majorly on research interventions implemented on a relatively small scale and within controlled study environments. There is little data demonstrating the effectiveness of mHealth interventions on National HIV Programmatic scale. The objective of this review is to describe pre and post intervention trends in patient retention and viral suppression in facilities implementing Ushauri mhealth innovation.

Methods: In November 2017, the Ministry of Health, Kenya, rolled out SMS notification service named “Ushauri” on a pilot scale in 105 facilities to address suboptimal retention, adherence and viral suppression. Selection of facilities for implementation of the intervention was based on viral suppression and retention trends. Facilities that recorded poor trends were enlisted to participate in the program.

The web-based Ushauri system serves as a repository for patient data, indexes and categorizes patients based on demography, clinic appointment dates and performs message scheduling and delivery to the patients. Patients receive appointment reminders two days prior to the appointment date, and weekly educative and behaviour modification messages.

Facility data was extracted from the National Viral Load Database (Viral Suppression), and District Health Information System 2 (DHIS2) (survival and retention). Monthly data reports for 103 facilities were obtained between the periods 2015-2016 (pre-intervention) and 2017-2018 as the post intervention period. Mixed effects linear regression analysis adjusted for facility level clustering and number of patients enrolled was used to assess for a difference in suppression and retention rates before and after implementation of the SMS system. The difference (coefficient) and respective 95% confidence interval and respective p values were analysed.

Results: Since December 2017, a total of 96,216 patients have been enrolled, representing 72% of the target number. Enrolment rate varied across the facilities from 99.8% to 18.2%. Mean suppression rate was 73.38% (SD=10.91%) pre-intervention vs. 80.14% (SD=11.34%) post intervention. Mean retention rate was 73.37% (SD=10.9%) pre intervention vs. 79.72% (SD=11.67%) post-intervention. There was a statistically significant increase in the suppression rates post intervention, 6.77% (95% CI: 5.29% - 8.26%), p<0.001. Similarly, an increase of 6.33% (95% CI: 4.51% - 8.14%) in retention rate was statistically significant, p<0.001.

Conclusion: Text messaging is a promising strategy in addressing various modifiable health behaviours related to adherence to ART on a national programme scale. It also holds promise beyond the study environment in mitigating the challenge of forgetfulness, which is a factor in missed clinic appointments.
Increasing Access to Antiretroviral Therapy; Lessons Learnt from Implementing Family Centered PMTCT Option B+ Services in 13 States in Nigeria

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Background: Despite global improvements in access to antiretroviral therapy (ART), some people living with HIV in Nigeria still face challenges in accessing ART. Common barriers to prompt ART initiation include the cost of access to comprehensive ART facilities as well as the convenience of location of these comprehensive ART services. A robust network of primary health centers exists in the country but are often manned by nurses/midwives who are trained to provide PMTCT option B+ services only. The Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) project implemented by FHI360 with funding from PEPFAR through USAID sought to improve linkage to ART by building the capacity of health workers at PMTCT option B+ sites to provide comprehensive ART services to the general population in a family centered approach.

Methods: We conducted a pre and post intervention study in 380 PMTCT option B+ sites in Nigeria. We compared linkage to ART rates in the pre- and post-intervention periods; (October 2017 – March 2018) as against (April – September 2018). In April 2018, as part of the family centered approach, health care providers were trained to provide comprehensive ART services to the general population including children and spouses of HIV positive pregnant and breastfeeding women. Logistics and reporting systems were also adjusted to provide the required commodities as well as appropriate documentation. We determined differences in linkage rates for all HIV positive males/non-pregnant women and for HIV positive pregnant women across both periods using Chi-square test. Statistical significance was considered at p ≤ 0.05.

Results: A total of 3,879 (2,945 HIV positive males and non-pregnant females, 934 HIV positive pregnant women (PPW)) and 2,812 (2081 HIV positive males and non-pregnant females, 731 PPW) HIV positive clients were identified in the pre and post intervention periods respectively. Following the implementation of family centered option B+ at all 380 sites, linkage to ART rates increased from 26.9% to 70.8% (p < 0.001). Linkage to ART rates for HIV positive males and non-pregnant women increased from 3.9% (n =115) to 93.6% (n=1,947) (p<0.001), while linkage rates for HIV positive pregnant women however was 99.5% (n=929) and 99.2% (n=725), (p=0.04), in the pre and post intervention periods respectively.

Conclusion: Initiating family friendly ART services at PMTCT option B+ sites can improve linkage to ART for all HIV positive patients, without negative effects on linkage to ART for HIV positive pregnant women. Leveraging on the existing network PMTCT option B+ sites can be a useful strategy in increasing access to ART in Nigeria.
Association between contraceptive use and PrEP uptake and continuation in adolescent girls and young women in Cape Town, South Africa

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Background: Oral pre-exposure prophylaxis (PrEP) has the potential to diminish HIV acquisition and AIDS-related death among adolescent girls and young women (AGYW), a key population in the HIV epidemic. Many have called for PrEP implementation to be integrated into reproductive health services, as both contraception and PrEP offer prevention controlled by women during time periods of need. We hypothesized that contraceptive use was associated with PrEP uptake and continuation in young women accessing sexual and reproductive health services (SRHS) from a mobile clinic.

Methods: A demonstration project (POWER) was implemented to determine AGYW’s PrEP uptake and continuation. Sexual reproductive health service including HIV testing, contraception (oral, injectable and implant), and PrEP was offered to all sexually active AGYW ages 16-25 accessing the Tutu Teen Truck, an adolescent-friendly mobile clinic servicing limited-resource high disease-burden community in Cape Town, South Africa. Chi-squared analysis was performed to explore the potential association between hormonal contraceptive use in AGYW with their PrEP uptake and continuation.

Results: From June 2017 - October 2018, 1096 AGYW accessed SRHS in which PrEP was offered to all and 31% (n=341) initiated PrEP on the same day. AGYW who were using contraception were significantly more likely to initiate PrEP on the same day compared to those who declined PrEP (76% vs 66% on contraception at that visit; p=0.001). PrEP initiation was also significantly associated with contraception initiation; contraception was initiated by 44% of AGYW on the same day as PrEP initiation compared to 30% contraception starts in AGYW who declined PrEP (p=0.003). There was a trend towards higher contraception use among AGYW who ever came back for a PrEP refill compared to those who initiated PrEP but were lost to follow up (79% vs 71% contraception use; p=0.10).

Conclusion: Contraception and PrEP initiation and continuation were correlated in this group of young African women. While young women’s contraception use facilitated PrEP initiation and continuation, PrEP initiation also encouraged young women to initiate contraception use. These findings support the integration of sexual reproductive health services with the provision of PrEP for African young women.
The Role of Executive Functioning in Medical Adherence: Evidence from the HIV Associated Neuro-Cognitive Disorders Study in Zambia

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Background: Executive functions (EFs), a suite of cognitive skills including attention, planning, and behaviour control, are critical for administration of daily activities such as medication adherence and decision-making. Prior research has shown that in children with Human Immunodeficiency Virus (HIV) infection, cognitive impairment is common while adult studies have shown that EF defects lead to poor medical adherence. However, most prior studies have assessed cognition using global measures of development, without detailed examination of executive function and have not linked EF to adherence among the HIV infected children and adolescents. This study therefore investigates the executive functioning skills of children with and without HIV as well as the effect of executive functions on medical adherence among the HIV positive population in Lusaka, Zambia.

Methods: A total of 400 participants were recruited for the study consisting of 200 cART-treated subjects with perinatally acquired HIV and 200 HIV exposed uninfected (HEU) controls, all 8-17 years old. Subjects with a history of CNS infection, pregnancy, epilepsy, chronic kidney or liver disease were excluded. Executive functions were measured using subtests of the Delis-Kaplan Executive Function System (D-KEF), the NIH Toolbox, the Behavioural Rating Inventory of Executive Function (BRIEF), and a novel executive function inventory developed for use in Africa, the Brief Executive Function Inventory (BEFI). While medical adherence was assessed through self-reports and viral load. ANOVA and linear regression models were used to compare differences between groups. While hierarchical regression was used assess effects of EF on adherence among the 200 HIV infected.

Results: The results showed that Children with HIV performed significantly worse on parental ratings of executive function (mean BEFI score 2.6 vs. 1.6, p=0.01) as well as objective measures of executive function including the NIH Toolbox Flanker task (mean Flanker age-corrected standard score 81 vs. 76, p=0.005) to their sociodemographically comparable HIV exposed uninfected controls. The results also showed that executive functions are critical for medical adherence. Specifically, children who scored low on Emotional control index also exhibited poor adherence (F (1,384) =19.4p<0.001).

Conclusion: Executive functioning skills remain significantly worse in children with HIV compared to demographically similar controls, even in a relatively healthy population of cART-treated virally suppressed subjects. There also is a correlation between poor adherence to Anti retro-viral and executive function specifically failure to control emotions. There is a need for trials of interventions to improve executive function in children with HIV to enhance adherence to treatment.
Sexually transmitted infections in MSM in West Africa: incidence and associated factors (CohMSM ANRS 12324–Expertise France)


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Background: Although men who have sex with men (MSM) are at high risk of sexually transmitted infections (STIs), data on incidence of STIs in this key population is lacking in West Africa. We assessed the incidence of STIs among MSM in four West-African countries.

Methods: We performed a prospective cohort study in MSM followed up between 2015 and 2018 in Abidjan (Côte d’Ivoire), Bamako (Mali), Lomé (Togo) and Ouagadougou (Burkina Faso). Men aged 18 years or older, and reporting at least one episode of anal intercourse with another man within the previous 3 months were offered a quarterly comprehensive HIV intervention including diagnosis and treatment of STIs using the syndromic approach, HIV testing, peer-led support, condoms and lubricants. Pre-exposure prophylaxis (PrEP) for HIV was not available. Data on sociodemographic characteristics and sexual behaviours were collected at enrolment and follow-up visits. Incidence of symptomatic STIs was calculated. Factors associated with STI incidence were investigated using mixed-effect Poisson regression models.

Results: A total of 855 MSM (631 HIV-; 224 HIV+) were included in this analysis, with a total followup time of 1327.2 person-years. Baseline prevalence of symptomatic STIs was 14.7% (126/855; 95% confidence interval (CI) 12.5-17.3). It was higher among HIV-positive MSM than among HIV-negative MSM (19.2% versus 13.2%; p=0.028). Three hundred and twenty-four participants (37.9%) reported symptomatic STIs during follow-up; the incidence rate was 45.1 cases per 100 person-years (95% CI 42.5-47.7). In multivariable analyse, study sites (incidence rate ratio (IRR) for Abidjan 1.80, 95% CI 1.23-2.66; IRR for Ouagadougou 5.04, 95% CI 3.53-7.20; Ref: Lomé), level of education (IRR for high level 0.52, 95% CI 0.27-0.98), HIV status (IRR for HIV+ 0.75, 95% CI 0.59-0.96), and follow-up time (IRR 0.96, 95% CI 0.93-0.98) were associated with incident symptomatic STIs.

Conclusion: Incidence of STIs in West-African MSM was high and heterogeneous between the study sites. The decrease over time suggests that the quarterly intervention had a positive impact. These data will be useful for assessing the impact of HIV PrEP which has been implemented in the same study sites from November 2017.
Alcohol use, aggressive behaviours and mental health status are associated with all identified typologies of risky sexual behaviours among adolescent girls and young women (10-24 years) in Western Cape, South Africa

Background: Adolescent girls and young women (AGYW) are at increased risk for alcohol and other drug use (AOD), mental health problems and risky sexual behaviours globally. Lately, AGYW has been a prime group for HIV prevention interventions because of increasing HIV prevalence among this group. We report on the typologies of risky sexual behaviours, and the association between alcohol use, aggressive behaviours and mental health status among female learners in the Western Cape Province, South Africa, to inform AGYW interventions.

Methods: Between May and August 2011, a cross sectional survey was conducted among 20,227 learners from 240 public schools randomly selected through a stratified multistage sampling design to determine the prevalence of AOD use and sexual risk behaviours. Mental health status and aggressive behaviour were assessed by the Problem Oriented Screening Instrument for Teenagers (POSIT). Using the AGYW sub sample (n=11,330), we carried out factor analysis on reported sexual behaviours to determine the typologies of risky sexual behaviours and further performed univariate and multivariate logistic regression analyses to assess association between each identified typology of risky sexual behaviour with AOD use, aggressive behaviours, mental health status, and other potential factors.

Results: The majority (74%) of AGYW were aged 15-19 years old. 22.3% of AGYW reported alcohol use in the last 30 days. Most of the AGYW had a POSIT score falling in the category of medium to high risk for mental health problems (62%) and aggressive behaviours (70%) respectively. Three typologies of risky sexual behaviours were identified as follows - “Unprotected Sex” (82%, 95% CI: 80.0-83.9), “Early Sexual Debut” (43.6%, 95%CI: 40.9-46.2), “High-risk Sexual behaviour” (20.3%, 95%CI: 18.6-22.1). Self-reported high-risk sexual behaviours was associated with mental health status (p<0.001), aggressive behaviours (p=0.003) and alcohol use (p=0.029). Unprotected Sex was associated with mental health status (p<0.001), aggressive behaviours (p=0.005), and alcohol use (p=0.004). Early Sexual Debut was associated with mental health status (p<0.001), aggressive behaviours (p=0.008) and alcohol use (p=0.018).

Conclusion: Alcohol use, aggressive behaviours and mental health problems were associated with all identified typologies of risky sexual behaviours among AGYW in the Western Cape. These findings confirm the need to include alcohol use and mental health components in sexual behaviour interventions for AGYW and vice versa.
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Abstracts
Mini-Oral Presentations
Male engagement optimization in antenatal care clinics to assess need for Pre-Exposure Prophylaxis in serodiscordant couples: estimation based on preliminary data from a cluster randomized trial in Zambézia Province, Mozambique

**Background:** Pre-exposure prophylaxis (PrEP) for HIV serodiscordant couples has been available in Zambézia since February 2018. By December 2018, 1,526 HIV-negative partners had initiated PrEP in the province. A cluster randomized trial (“Men for Health+/ HoPS”) is evaluating the effectiveness of a service package for HIV-positive seroconcordant couples identified in 24 antenatal care (ANC) clinics on retention to antiretroviral treatment (ART) and prevention of vertical transmission. This analysis estimates the yield of PrEP eligibility (serodiscordance) for couples tested for HIV in antenatal consultations given varying degrees of partner involvement.

**Material and Methods:** Data from 24 ANC clinics were collected from December 2017 through December 2018. Descriptive analysis was done calculating the rates of couples’ consultation, couples’ HIV testing and serodiscordance. The theoretical ‘gain’ in identification of individuals eligible for PrEP was quantified with hypothesized increases of partner accompaniment coverage to 90% and accompanying partner testing to 100%.

**Results:** During 13 months of data collection, 36,652 first antenatal consultations were registered. Seventy-one percent of male partners accompanied their pregnant spouses (district variation between 51% and 87%), of which 93% were tested for HIV. Eighty-nine percent of couples had HIV-negative seroconcordance (range 85%-94%), 3% HIV-positive seroconcordance (range 1%-5%), and 7% serodiscordance (range 4%-10%). With a hypothesized increase from 71% to 90% of partner attendance at first ANC visit, the yield of serodiscordant couples identified at ANC could increase by 27%. Should coverage of accompanying partner testing reach 100%, there would be an additional 9% increase.

**Conclusion:** Given the high rates of couples’ HIV serodiscordance observed in ANC, optimization of male engagement should be part of a comprehensive prevention strategy, leading to maximized PrEP delivery and a reduction of HIV transmission. Intensified awareness-raising activities with community involvement is needed to increase couples’ clinic visits and partner testing. Couple-based approaches to care for HIV serodiscordant couples that includes PrEP along with adherence counseling for ART will be needed to reduce HIV seroconversion and prevent vertical transmission.
Providers’ attitudes and experiences delivering PrEP to AGYW to inform provider training and service delivery.

Materials & Methods: We surveyed providers (Kenya=290, South Africa=192, Zimbabwe=127) and conducted follow-up qualitative interviews (Kenya=40, South Africa=48, Zimbabwe=27). Participants included clinicians, nurses, counselors, pharmacists, and community-based workers at public and private facilities; 334 had experience with PrEP delivery, and 274 did not. We descriptively analyzed survey data in STATA 13 and thematically analyzed interviews in NVivo 11.

Results: Although PrEP delivery differs across countries, providers shared similar attitudes. While some survey participants agreed “It’s better to tell sexually active unmarried women (AG 49%, YW 36%) to abstain from sex rather than give her PrEP”, providers in interviews acknowledged that many girls engage in sex before 18 and could benefit from PrEP. More providers (75%) believed YW were responsible enough to take PrEP consistently compared to AG (49%), stating that delivering services to YW is easier because they are “more mature” while some AG “don’t listen.”

Providers delivering PrEP to AGYW reported that clients’ lack of PrEP knowledge and lack of disclosure were barriers to uptake, adherence, and retention. Side effects, lack of relationship power, and access barriers were also cited in Kenya. Providers thought AGYW should disclose PrEP use to parents (34% AG) and partners (52% AG, 57% YW; highest in Kenya, lowest in South Africa) to facilitate adherence but were concerned about negative reactions from parents/partners because of low PrEP awareness and HIV stigma. Providers shared strategies they used to help AGYW use PrEP successfully, including intensive adherence and relationship counseling, phone follow-ups, home visits, peer counseling, and community awareness-raising. Additional differences between countries and AG/YW will be presented.

Conclusions: Providers were generally supportive of PrEP for AGYW, with more reservations about AG. Results are informing provider training in these countries to address these reservations. Additional community sensitization about PrEP as a prevention option for AGYW—particularly targeting parents and partners—could make it easier for AGYW to use PrEP.

Continuity of PrEP use and reasons for discontinuation: A cohort study in a general Eswatini population

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Background: Aiming to reduce one of the highest HIV incidence rates in the world, Eswatini has recently decided to make oral pre-exposure prophylaxis (PrEP) available to the general population in the country at substantial risk of HIV infection. Using an open cohort of clients from six primary-health-care clinics, we studied the proportions of clients continuing PrEP and reasons for discontinuation. Clients were initiated on PrEP over a period of 12 months (Aug 2018 –July 2018), along with their continuation outcomes over next six months (till Dec 2018).

Methods: The number of PrEP clients ≥16 years initiated between August to July 2018 and continuation outcomes until December 2018 were extracted from Ministry of Health PrEP client files. In addition, a telephone survey about reasons for PrEP discontinuation was conducted with 215 clients who missed their appointment for PrEP follow-up clinic visits. 49% (106 out 215) of the clients provided a reason for their missed PrEP appointment or discontinuation. Proportions of clients continuing PrEP at one, three and six months after PrEP initiation was calculated with respect to the number of clients expected for follow-up i.e., if they had a scheduled appointment and if they were active in the previous month.

Results: A total of 399 clients (26% males; 74% females) were initiated on PrEP. Among those initiated, 221 clients (55%) remained active at one-month. The rate of PrEP discontinuation decreased over time with 153 of 221 (69%) clients still being on PrEP at month 3, and 106 of 145 (74%) clients still remaining active on PrEP at month 6. Clients whose scheduled follow up dates were beyond Dec 2018 were not considered as part of the denominator for month 6, as they would not be eligible for a visit. 33% (132 out of 399) clients...
provided a reason for PrEP discontinuation. Higher number of males stopped PrEP than females (48% males 23% females, p<0.05) stating they no longer wanted PrEP. These included clients reporting that the follow up visits were inconvenient or they did not like taking pills. Clients also stopped PrEP stating they were no longer at risk (13% males 23% females, p>0.05). These included clients with a partner whom tested HIV negative, positive partner had an undetectable VL or the client reported no longer being sexually active. Other reasons for PrEP discontinuation included persistent side effects (17% males, 18% females p>0.05), family/partner opposition (0% males, 13% females p<0.05) and relocation to an area with no access to PrEP (13% males, 11% females p<0.05).

Conclusion: A higher number of PrEP clients discontinue PrEP after 1 month as compared to 3 and 6 months. Counselling of clients, especially for males, should emphasize on the daily pill adherence regimen before they make an informed decision to be on PrEP over other HIV prevention methods. Increased PrEP education and awareness in the communities is needed to increase family and partner support, especially for females initiated on PrEP. Counselling and symptomatic treatment of side-effects could minimize the number of clients discontinuing due to side-effects.

PrEP Uptake and various referral channels in Kenya: cross-sectional analysis of a large scale program

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Background: WHO adopted the recommendation for oral pre-exposure prophylaxis (PrEP) in 2016, and Kenya, with guidance of Ministry of Health and National AIDS and STIs Control Program (NASCOP) was among the first countries to include PrEP in its national HIV prevention strategy. By December 2018, Jilinde; a large scale program offering PrEP in ten Kenyan counties, had initiated over 20,000 clients out of approximately 45,000 nationally across public private facilities and drop in centres (DICEs). To date, individuals in sero-discordant relationships, female sex workers (FSW), men who have sex with men (MSM), adolescent girls and young women (AGYW) and high risk individuals from the general population have benefitted from PrEP. PrEP; a relatively new intervention, little is known as to which referral channel contributes to highest uptake. We examined referral channels and predictors of entering PrEP via four referral channels among sites supported through Jilinde program.

Method: Jilinde commenced PrEP implementation in February 2017 by adopting three service delivery models; public and private facilities and drop in centres. Mobilization of clients for PrEP uptake happened via various referral channels such as self-referral, peer system, outreaches and inter-departmental facility referrals. Data for clients accessing PrEP from 93 sites were routinely collected using a nationally approved PrEP encounter form. Data was entered into a protected database and analysis used de-identified data. Both descriptive and multinomial regression analysis conducted; with self-referral channel as the reference channel and predictors of entry channels to PrEP initiation estimated.

Results: Between February 2017 and December 2018 and through 93 Jilinde-supported sites, 20,587 clients were initiated on PrEP. Referral for Peer referral contributed to highest PrEP uptake, 7753 (37.7%) followed by facility inter-departmental referrals, 6813 (33.1%), outreaches conducted by community health volunteers, 4265 (20.7%) and self-referral, 1756 (8.5%). Compared to self-referred clients, individual referred through peers were <25 years, AOR 1.44 (1.28-1.62), never married, AOR 1.38 (1.20-1.58), served in DICEs, AOR 3.05 (2.56-3.63) or private facilities, AOR 3.74 (2.81-4.99), and those reporting engagement in sex under influence of alcohol and drugs, AOR 1.76 (1.55-2.00) or inconsistent condom, AOR 0.62 (0.46-0.83) as risky behaviors. Those referred through outreaches were predominately female, AOR 0.70 (0.53-0.94), < 25 years, AOR 1.15 (1.02-1.31), never married, AOR 0.58 (0.50-0.67), received PrEP through DICEs, AOR 1.52 (1.28-1.81) and private facilities, AOR 2.48 (1.85-3.34), were FSW, AOR 2.12 (1.52-2.96) and reported risky sexual behaviors associated with sex work. Facility inter-departmental referrals was associated with receiving PrEP through a DICE, AOR 0.41 (0.35-0.48), being in a sero-discordant relationship, AOR 3.18 (2.31-4.38), being FSW, AOR 2.12 (1.62-2.78) or a high-risk general population.
individual, AOR 2.00(1.54-2.59). These associations were significant with a p<0.05.

Conclusion: These findings imply that different referral channels have significantly contributed to Jilinde’s initiation of over 20,000 clients within 23 months with peer networks and within facility referrals contributing the largest share of referrals. Individuals initiating PrEP through each of these channels had unique characteristics; peer and outreach channels seemed to attract individuals who were younger, female or engaged in sex work. Investing in strengthening each of these referral channels is critical in reaching a good mix of PrEP clients.

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Shifts in HIV risk outcomes among adolescent girls and young women (AGYW): Mixed effects of DREAMS interventions in Kenya

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Background: A range of socio-demographic, biological, and behavioral factors are associated with HIV incidence among AGYW. Multi-sectoral HIV prevention efforts, like DREAMS, take a comprehensive approach to address multiple vulnerabilities. We assess shifts in biological and behavioral factors related to HIV acquisition among AGYW in Kenya.

Methods: AGYW enrolled in DREAMS programs aged 15-24 were surveyed in 2016 and 2018 across two sites in Kenya (n=736). Surveys captured knowledge, attitudes, practices, and participation in DREAMS safe space (SS) interventions that provide life skills and address HIV, STI, violence prevention, and sexual and reproductive health. Bivariate and age-stratified multiple logistic regression analyses—adjusting for site, marital status, schooling, and orphanhood—examine change over time in STI experiences, sexual behaviors, partnership characteristics, violence experiences, and HIV testing among AGYW.

Results: At follow-up, mean age of respondents was 20 years and 14% had lost both parents. Over time fewer were enrolled in school (60% vs.53%), more were sexually active (60% vs. 67%) or been married (23% vs. 26%). Over 90% of adolescent girls (AG, 15-19 years) and young women (YW, 20-24 years) had participated in the SS interventions. Over time, HIV testing increased significantly among AG (AdjOR: 6.35 [3.29, 12.24]) and YW (AdjOR:1.26 [0.55, 2.89]), and AG and YW had significant reductions in sexual violence from intimate partners (AdjOR: 0.35 [0.19, 0.65], AdjOR: 0.37 [0.22, 0.60], respectively). YW also had significant reductions in sexual violence from non-partners (AdjOR:0.34 [0.23, 0.50]). There were no significant shifts in other risk factors (i.e. number of sexual partners in the last year, consistent condom use, and STI experience). Both AG and YW reported increases in transactional relationships with a main partner (AdjOR: 2.89 [1.71, 4.89], 2.54 [1.70, 3.80], respectively) and YW reported increased transactional sex with casual partners (AdjOR: 1.86 [1.01, 3.40]).

Conclusions: We show mixed effects of DREAMS program engagement on outcomes related to HIV acquisition among AGYW. Over time, there were notable reductions in experiences of sexual violence and increases in HIV testing, yet there were increases in transactional relationships and sex. There is a need to re-double efforts to reduce high-risk sexual behaviors among AGYW.

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Treatment Outcome among Patients on ART in Southern Tanzania: Does Time of ART Initiation Matter?

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**Abstract**

**Background:** Tanzania adopted test and treat recommendation by WHO aiming at achieving early ART initiation which is associated with better treatment outcome and reduces HIV transmission risk. ART Initiation on day of diagnosis is among approaches used to ensure improved linkage to treatment. However, there has been concerns that same day ART initiation will negatively affect patients’ readiness and eventually their adherence to treatment. Effect of time of ART initiation on retention rate and HIV Viral suppression rate was assessed.

**Methods:** Analysis of patient data from 5 hospitals in Iringa, Morogoro and Njombe regions was conducted. Treatment outcome of patients ≥ 15 years enrolled between April and September 2018 and initiated on ART on the same day of diagnosis were compared against those initiated under standard of care (1-14 days). Outcome of retention at 6 and 12 months and viral suppression at 12 months were measured. Data was extracted from CTC2 database and analyzed using STATA.

**Results:** Among 1,105 patients initiated on ART, 431 were initiated on same day of diagnosis while 674 were initiated in 1-14 days. Proportion of females was 72% and 63% in same day and 1-14 days group respectively. Retention at 6 months was high in same day group, 91% (95% CI 88% -94%) compared to 84% (95% CI 81% - 87%, p=0.0002) in 1-14 days group. Retention at 12 months was also high in same day group 88% (95% CI 84% - 92%) compared to 84% (95% CI 79% - 85%, p = 0.019) in 1-14 days group. There was no significant difference in viral suppression at 12 months between the two groups, 94% (95% CI 89% - 99%) for same day and 95% (95% CI 92% - 99%, p=0.709) for 1-14 days group.

**Conclusions:** Patients initiated on treatment on the same day of diagnosis had better retention at 6 and 12 months compared to those initiated under standard of care. Viral suppression was high in both groups, there was no significant difference. Scaling up same day ART initiation as part of test and treat strategy is important in eliminating treatment gap caused by delays in treatment initiation.

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**Pregnancy and infant outcomes among HIV-positive women on dolutegravir versus efavirenz-based antiretroviral therapy: week 48 analysis of the ADVANCE trial**

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**Background:** Dolutegravir holds major advantages for antiretroviral therapy (ART), in resistance profile, tolerability and cost. However, safety concerns of its use in pregnancy pose significant ethical and equity issues in low- and middle income countries, where the majority of people living with HIV are women of reproductive potential.

**Methods:** We describe pregnancy outcomes in maternal-infant pairs enrolled in the ongoing South African ADVANCE trial (NCT03122262), a 96-week, phase 3 clinical trial assessing the safety and efficacy of 1053 patients randomised to dolutegravir-tenofovir alafenamide fumarate-emtricitabine (DTG-TAF-FTC), or dolutegravir-tenofovir-emtricitabine (DTG-TDF-FTC), or efavirenz-tenofovir-emtricitabine (EFV-TDF-FTC). All women were on ART before conception, had gestational age assessment (early pregnancy ultrasound) and congenital anomaly screen during pregnancy (ultrasound at 18-24 weeks) and at birth. Women on dolutegravir were switched to alternative regimens if <8 weeks gestation. Adverse events included spontaneous abortion, elective termination, preterm birth (<37 weeks), small for gestational age (SGA; <10th percentile of weight for gestational age), stillbirth or neonatal death (<28 days from delivery), and birth defects. Infant HIV status was also assessed.

**Results:** Two thirds (43/65) of pregnancies occurred in women on a dolutegravir-based regimen. Of the 65 pregnancies, there were 28 (43.1%) live births, 8 (12.3%) spontaneous abortions, 16 (24.6%) elective terminations, and 11 (16.9%) pregnancies are ongoing. One (1.5%) neonatal death and 1 stillbirth
Abstract

(1.5%) occurred in the DTG-TAF-FTC and EFV-TDF-FTC treatment arms respectively. Median birth weights were similar across treatment arms. Overall 7.1% of infants were born prematurely and 17.2% of births were SGA. Two infants had minor birth defects (naevus flammeus and umbilical hernia) in the dolutegravir-containing arms. P values of all comparisons between trail arms were >0.10. No HIV transmissions occurred.

Conclusions: Women who initiated dolutegravir-based ART before conception did not have higher rates of adverse pregnancy outcomes. It is important to pool data on stillbirths and infant deaths across similar trials, as there is limited evidence on the safety of dolutegravir use among mother–infants.

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HIV multi-class resistance in Patients failing to first and second-line ART in Resources limited Setting, Mali

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Background: Antiretroviral treatment (ART) has been widely implemented in resources constraint setting. Second-line ART has become more and more available but the biological monitoring is still limited. In order to achieve the goal of the three 90 of UNAIDS it will be interesting to know the resistance profile of the patients failing to ART. The objective of this study is to determine the prevalence of HIV multi-class resistance viruses and their impact the virological outcome.

Methods: All patients with virological failure on first or second-line ART in our routine genotyping system were included. The pol gene was sequenced by using viroseq or in house ANRS method.

Result: We identified 342 patients with genotypes available: 273 (79.9%) and 69 (20.1%) were on first and second-line ART, respectively. The median viral load (VL) was 69,740 copies/mm3 and median CD4 was 276 cells/mm3 at failure. The main first-line regimen was TDF/3TC/EFV and second-line was AZT/3TC/LPVr. Among the 342 patients, 21 (6%) had a wild-type virus and 321 (94%) with multi-class resistant virus. The prevalence of resistance mutations was: M41L (37%), A67G/N (42%), M184V (100%), T215F/Y (68%), K219E/Q (37%) and Q151M (16%) for the nucleoside. For non-nucleoside: K103N (32%), K101E/H/P (11%), Y181C/I/V (37%) and H221Y (21%). For PI: L76V (42%), V82A/F/T/S (21%) and I84V (37%). Patients were resistant to NRTIs in 83%, NNRTIs in 94% and PIs in 42%. Among the second-line ART failures, 19% were resistant to darunavir. After 6 and 12 months of ART, 63% and 76% of patients had suppressed HIV RNA less than 40 copies/ml.

Conclusion: Our results show a high level of resistance after first and second-line ART failure in Mali. Thus, resistance genotypic testing is crucial for patient failing to ART in resources limited setting to achieve the goal of the three 90.

Can genotyping after second-line ART failure reduce the need for DRV/r-based third-line ART in Kenya?

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Background: World Health Organization Interim HIV Treatment Guidelines 2018 recommend a third-line ART regimen of DRV/r +/- DTG + 1-2 NRTIs after failing a second-line regimen containing either ATV/r or LPV/r or DTG. High cost, limited accessibility, and high pill burden are disadvantages of DRV/r-based regimens. The cost of genotypic drug resistance testing (DRT) is approximately equal to two months of DRV/r in Kenya. We evaluated the impact that DRT has on reducing need for DRV/r-
based third-line ART for patients failing PI/r-based second-line ART in Kenya.

**Methods:** Patients on PI/r-based second-line ART with viral load (VL) \( \geq \) 1,000 copies/ml are reviewed by the Regional Clinical Technical Working Groups and National HIV Clinical Support Center (NHCSC). Patients failing PI/r based second line undergo enhanced adherence sessions, with VL repeated after three months of addressing likely causes of viremia. A DRT is recommended if the repeat VL is still \( \geq \) 1,000 copies/ml, meeting the definition of treatment failure. DRT is performed on a Genetic Analyzer 3130xl and results are interpreted using the Stanford HIV database. We reviewed the DRT results of all patients failing PI/r-based second-line ART who were reviewed and DRT approved by the NHCSC between January 2016 and December 2018.

**Results:** During the review period 348 patients (78% failing LPV/r; 22% failing ATV/r) were reviewed by the NHCSC, of whom 179 (51%) met criteria for treatment failure after intervention and repeat VL (52% female; median age 37 years). Only 86 (48% of those approved for DRT) had samples sent to the testing laboratory, with 6 (7.5%) failing amplification. Of the 80 samples with successful genotyping, we found 38 (48%) susceptible to all PIs and 2 (2%) susceptible to LPV/r and DRV/r but not ATV/r. Only 11 (14%) samples showed resistance to LPV/r and ATV/r while being fully susceptible to DRV/r, with 20 (25%) having low- or potentially low-level resistance and 9 (11%) intermediate resistance to DRV/r.

**Conclusion:** Access to DRT was a challenge, with samples received for only half of patients approved for DRT. However, of the patients who accessed DRT, we found that only half required a change from their current PI/r, vastly reducing the cost of switching to DRV/r-based third-line ART.

**Self-Reported HIV-Positive Status but Subsequent HIV-Negative Test Results in Population-Based HIV Impact Assessment (PHIA) Survey Participants – 11 Sub-Saharan African Countries, 2015-2017**

**Background:** HIV testing is a critical entry point to receive HIV care and treatment services. Although rare, false-positive HIV testing results can have considerable individual and public health implications. We present data from cross-sectional, nationally representative Population-Based HIV Impact Assessment (PHIA) surveys conducted in 11 sub-Saharan African countries from 2015 to 2017 to characterize individuals who self-reported being HIV-positive but tested HIV-negative.

**Methods:** Survey participants aged ≥15 years were interviewed by trained personnel using a standard questionnaire to determine HIV testing history and self-reported HIV status. HIV rapid-diagnostic tests (RDT) were performed according to the respective national HIV testing algorithms on venous blood samples. For participants who self-reported being HIV-positive but tested HIV-negative by RDT in the house-hold, repeat RDT testing, BioRad GeeniusTM HIV-1/HIV-2 Supplemental Assay testing, and, if negative, DNA PCR testing was performed in the laboratory. Analyses for extrapolation estimates were weighted based on survey design and non-response.

**Results:** Among the 221,941 survey participants, 198 (0.089%; range by country 0.021% to 0.366%) self-reported as HIV-positive but tested HIV-negative in the laboratory. Of the 198 individuals, 134 (67.7%) were female, 89 (44.9%) were aged 15-29 years, 128 (64.6%) lived in rural settings, and 49 (24.7%) reported currently taking antiretroviral therapy (ART). Extrapolating to overall HIV-positive burden across all 11 countries, we estimate approximately 72,800 HIV-negative persons...
potentially misclassified as HIV-positive and approximately 27,800 individuals may have been inappropriately initiated on ART among people age ≥15 years.

Conclusions: Although a very small proportion of survey participants reported a false-positive HIV status, extrapolation suggests a potentially large number of HIV-uninfected persons misperceiving their HIV status or even unnecessarily being on ART. Our study underscores the importance of quality assurance in testing, unambiguous post-test counseling, and re-testing prior to ART initiation.

Addressing barriers to effective scale up of viral load uptake: the case of Viral load sample rejection rates in five counties in Kenya

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Background: The pre-analytical phase of testing is associated with majority of laboratory errors. In this regard, it’s important that the on-going scale up of viral load uptake in the country manage this stage of viral load processing. This is especially critical in big initiatives such as ours where significant errors may be compounded with high rejection rates, forming a persistent barrier to timely clinical interventions. We describe potential barriers to VL scale up in 5 counties in Kenya and offer potential interventions.

Methods: This was a retrospective cross-sectional review of the NASCOP data base viral load data for 5 counties in Rift Valley region for period October 2015 to December 2017. The intended population for this review were HIV positive patients eligible for viral load monitoring under the USAID Afya Nyota Ya Bonde program. The data base was reviewed for rates of rejection and then categorized by county, gender age, reason and regimen. The data were analyzed using STATA package and presented in proportions and frequencies.

Results: A total of 614 rejected samples were reviewed and county-distributed as follows: Nakuru 317 (51.6%), Laikipia 93(15.1%), Kajiado 91(14.8%), Baringo 47(7.6%) and Narok 66(10.7%). By gender rejection was: female 368 (59.9%) and male 192(31.2%) while and 48 (7.8%) had non-documented gender,other causes 6(1.1%). The commonest cause of rejection was missing samples 248 (40.3%), followed by improperly packaged specimen 170 (27.6%) and sample missing requisition forms at 60(9.7%). Nakuru county had the highest missing 135(21%) and improperly packaged 67(11%) samples as well as missing requisition forms 38(6%). Laikipia county had improper packaging 42(6.8%) and missing samples 38(6%). Rejections in other counties were not significantly different from Nakuru and Laikipia. Rejection by receiving laboratory was as follows: KEMRI Lab in Nairobi 472(76.8%), Walter Reed CRC laboratory 120(19.5%), AMPATH Care Lab 18 (3%) and KEMRI Alupe Lab only accounted for 4(1%).

Conclusion: Missing samples and improperly packaged samples remain the main causes for VL sample rejection at the testing laboratories. This calls for in-built trainings on the pre-analytical phase of the VL testing process as this is scaled up.

Effect of strategic Index case testing on HIV case detection in Nigeria: APIN Experience

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Background: Despite significant advances towards achieving the UNAIDS 90:90:90 target by 2020, many people living with HIV (PLHIV) remain undiagnosed. To bridge this gap, Index Case Testing (ICT) was recommended as a strategy to identify persons living with HIV and link them to treatment and Care. The objective of this study was to assess
the uptake of ICT among PLHIV and testing outcomes in a CDC funded HIV program in Nigeria.

**Methods:** This is a retrospective analysis of program data on ICT strategy between Oct 2017 and Sept 2018. Data were sourced from health medical record at 170 health facilities across 8 states in Nigeria. Newly diagnosed HIV positive patients and those previously diagnosed and enrolled on ART were identified for ICT. Trained ICT providers counselled index clients to name their sexual partners and were tested either through client self-referral or assisted by the providers. Data were analyzed using descriptive and summary statistics.

**Findings:** A total of 13,351 newly identified HIV positive and 27,613 old clients on treatment were offered ICT. Out of these 6,950 (50%) new and 27,613 (100%) previously diagnosed patients consented to ICT. Partners’ elicitation ratio for new patients and those previously diagnosed were 1:2 (6950/10,679) and 1:1.9 (27,613/35,294) respectively.

Of the 10,679 partners of newly identified PLHIV, 84% (9,011) were traced and offered HTS. 7,930 (88%) of them accepted HTS and 1,227 (15%) tested HIV positive. For partners of index patients previously diagnosed and on ART, 84% (29,708/35,294) of them were traced and offered HTS. Of the 25,090 (84%) who accepted to get tested, 1,305 were HIV positive (5% yield).

The total HIV positivity yield from ICT was 7.6% (2,532/33,020) and higher compared to the national HIV prevalence of 3.2%. 99% (2,509/2,532) of the positive clients were linked to Anti-retro viral Therapy.

**Conclusion:** The study revealed that ICT is an effective strategy to identifying more PLHIV compared to other HTS delivery methods. ICT uptake was higher among patients on treatment but HIV positivity yield is higher among partners of newly diagnosed patients than those on treatment. We strongly recommend scale up of ICT as a strategy to achieving UNAIDS 90:90:90 target and prioritization of newly diagnosed HIV patients for ICT.

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**Reaching the Unreachable:**

**Early Results from Index Testing in Zambia in the CIRKUITS Project**

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**Background:** In Zambia, men, adolescent girls and young women (AGYW), and adolescent boys and young men (ABYM) are hard-to-reach priority populations (PPs) yet contribute significantly to gaps in achieving HIV epidemic control. Novel testing strategies are needed to identify HIV-infected PP individuals in the community while maximizing positivity yield. We present data from the Community Impact to Reach Key and Underserved Populations for Treatment and Support (CIRKUITS) project on index and social network testing. CIRKUITS is a PEPFAR-funded project employing community approaches to accelerate HIV epidemic control among key and priority populations.

**Methods:** We analyzed age and sex-disaggregated program data from Zambian Ministry of Health HIV testing services and index testing registers. We included data from October to December 2018 across 41 CIRKUITS-supported facilities in Eastern, Western and Lusaka provinces. Since October 2018, CIRKUITS has trained, mentored, and deployed 124 community health workers (CHWs) and 21 community liaison officers to conduct index and social network testing, partner notification services, and PP hotspot mapping in all supported facilities.

**Results:** CIRKUITS CHWs tested 12,250 clients in the community, of whom 1,809 (15%) were HIV-positive. Among HIV-positive clients, 1,569 (87%) clients were indexed, with 2,753 contacts elicited which included sexual partners and biological children (elicitation ratio: 1:1.8). Of the 2,602 contacts followed up, 2,073 contacts presented with unknown status and were tested for HIV; of these, 668 were newly diagnosed as HIV-positive, representing 32% positivity yield. Of these, 230 (34%) were women older than 25 years, 211 (32%) were men older than 25 years, 89 (13%) were...
AGYW ages 10-24, 85 (13%) were ABYM ages 10-24, and 53 (8%) were children under the age of 10 years.

**Conclusions:** Index and social network testing are effective strategies to identify HIV-infected persons in Zambia, especially priority populations that are hard to reach such as men, AGYW, and ABYM.

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**Maximizing HIV testing yield through Index Partner Testing using Assisted Partner Notification (APN) approach: Implementation progress in Uganda**

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**Introduction:** Uganda rolled out Assisted Partner Notification (APN), a form of index client testing in January 2018 as a strategy to optimize identification of 12% undiagnosed people living with HIV (PLHA) by 2020. We present early APN implementation successes, challenges and next steps

**Methods:** The country adopted WHO APN guidelines in 2017. Data capture and reporting tools (HMIS) together with a 3 days’ health facility based APN training curriculum were developed. Capacity building through national and regional trainings was conducted in Mid-July 2017. Up to 2,450 health workers from 734 health facilities were trained and implementation started same week.

**Results:** A total of 73,846 index clients (59% females, 41% males) were eligible for APN; of these, 66% (n=45,817, 60% females, 40% males) were interviewed, enlisting 62,659 (40% females, 60% males) sexual contacts in the last 12 months. Of the enlisted sexual contacts, 81% (n=50,098, 40% females, 60% males) were notified about their potential exposure to HIV and of these 69% (n=33,663, 48% females, 52% males) were tested for HIV with 9,211 (53% females, 47% males) clients testing HIV positive hence a yield of 27% (29% in females, 24% in males. Of the newly identified HIV positive, 91% (n=8,362, 92% females and 90% males) were linked to care. Up to 39% (24,346/62,659) of elicited partners eligible for testing were not tested due to failure to reach them partly due to logistical constraints, provider APN skill gaps or failure to honour scheduled appointments by clients.

**Conclusion:** Index client testing (APN) is a novel strategy in identifying the undiagnosed PLHA. As nations strive to end the epidemic by 2030, targeted HIV testing (APN inclusive) should be embraced. Next steps shall focus on curbing losses along the cascade through APN provider’ mentorship and leveraging resources for client follow up.

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**Partner delivered HIV self-testing is highly acceptable and facilitates linkage to care for partners of HIV index and Antenatal care clients in South Africa**

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**Background:** HIV self-test kits distributed as part of the UNITAID Funded STAR Initiative are an innovative strategy to reach under tested and at high risk populations. We evaluated the uptake, yield and proportions entering into care amongst recipients of partner delivered HIV self-test kits.

**Methods:** Between April and December 2018, we offered HIV self-testing kits (OraQuick®), for partners’ use to HIV positive clients and women attending Antenatal Care (ANC) in five high volume clinics in inner city Johannesburg and five clinics in Dr Kenneth Kaunda district in Northwest province. Clients consenting to follow-up where administered
a standardised telephonic questionnaire at two, four and six weeks post kit issue to assess partner uptake, self-reported yield and linkage to care for those testing positive. We computed descriptive statistics using STATA version 14.

**Results:** Amongst the 1165 HIV index clients taking a self-test kit for their partner; 841 (72.2%) consented to telephonic follow-up and 303 (36.0%) were successfully reached by telephone. The proportion of clients reporting partner use was 97.8% (136) of the 139 partners who were offered a self-test at home. Of the partners who used the self-test kit; 96 were screen-identified HIV-infected persons (yield 70.6%) with 83 (86.5%) attending a health facility and receiving confirmatory testing. All 83 (100%) received a confirmed HIV diagnosis and 79 (95.2%) were initiated on ART. Of the 2419 ANC clients who took a self-test kit for their partner; 2135 (88.3%) consented to follow-up and 444 (20.8%) were successfully reached by telephone. Of the 497 (95.6%) partners of ANC clients offered a self-test at home; 495 (95.6%) used the test kit. Partner delivered self-test kits amongst ANC clients yielded 55 screen-identified HIV-infected persons (yield 11.6%) with 53 (96.4%) attending a health facility to receive care and 43 (84.4%) receiving HIV confirmatory testing. All 43 (100%) with confirmed HIV diagnosis were initiated on ART.

**Conclusions:** Partner delivered self-testing was highly acceptable with high proportions of partner’s entering into care. HIV index testing delivered a high yield of HIV infected persons. Increasing successful follow-up rates can provide for more conclusive evidence on utilization of kits.

**Improved case detection and management of advanced HIV disease through TB contact risk stratification and implementation of a package of interventions in a rural district of Mozambique**

**Background:** One third of people living with HIV (PLHIV) present to care with advanced HIV disease (AHD) globally. Innovative strategies are needed to increase earlier HIV diagnosis and to improve outcomes, particularly in sub-Saharan Africa.

**Methods:** An active tuberculosis (TB) case finding study was implemented in the Manhiça district, Mozambique (population ~180,000). Community workers reached all household and community contacts of every new TB case reported during the study period. Participants were tested for HIV and for TB (Xpert® MTB/RIF Ultra in induced sputum). All PLHIV identified who were ART-naive or had evidence of poor antiretroviral therapy (ART)-adherence were invited to be referred to the Manhiça Health Research Centre and screened for AHD. Patients with AHD (CD4 counts < 200 cells/mm³ or WHO stage 3 or 4), were offered a package of interventions recommended by the WHO including screening, treatment and/or prophylaxis for opportunistic infections, rapid ART initiation and adherence support.

**Results:** Between June and December 2018, 589 adult TB-index cases and 2172 of their contacts were identified. HIV serology was positive in 653 participants, including 371/589 (63%) TB-cases and 282/2172 (13%) contacts. Overall, 181/653 (28%) were either ART-naive or had documented poor ART-adherence, and 154/181 (85%) accepted being tested for AHD (125 TB-cases and 29
contacts). 88/125 (70%) TB-cases had CD4< 200 cells/mm³ and 6/29 (21%) contacts had AHD. Among the 92 patients with CD4 < 200 cells/mm³, plasma cryptococcal antigen was positive in 4.3% (4/92, 2 meningitis) and TB-lipoarabinomannan (TB-LAM), in 62% (57/92). TB-LAM was the only confirmatory TB test in 19/65 (29%) of LAM-positive cases. Secondary TB was found in 2/29 contacts (7%). 93% of asymptomatic, CrAg-negative, LAM-negative contacts (25/27) started ART during the first week, 23/25 within 48 hours. Among the remainder, ART timing was tailored to the presence of TB and cryptococcosis. Mortality was 15% in the TB group and zero among contacts.

Conclusions: This innovative community strategy to identify AHD among contacts of notified TB cases was feasible in this rural district of Mozambique. The study resulted in a prompt identification of co-infections and a safe, timely ART initiation in the vast majority of participants.

“From Ostracism to Centralism” The Evolution of Meaningful Involvement of People Living with HIV (MIPA) in Zimbabwe resulting in Improved Health Outcomes.

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Background: At the inception of the HIV and AIDS Epidemic, People Living with HIV PLHIV (PLHIV) were taken as vectors of the epidemic and were highly stigmatised. It took the Denver Conference of 1983, 1994 Paris Declaration, the UNGASS Declarations of 2001, 2012 and 2015 to transform this situation and facilitate meaningful involvement. Zimbabwe adopted the principle of MIPA initially termed GIPA after realising that people bring a unique perspectives of their personal experiences, to the development and implementation of HIV and AIDS programmes. MIPA reaffirms the protection and promotion of the rights of PLHIV to participate freely, without discrimination, in the development process. In addition to reduction of stigma and discrimination, as they challenge the myths and misconceptions about HIV and AIDS.

The country took the concept seriously and established a MIPA Forums through the MIPA desk housed at the National AIDS Council to ensure that PLHIV are at the core of the HIV Programming.

Description: MIPA Forums at districts, provincial and National levels have been used as a vehicle for PLHIV to take centre stage in HIV Programming. The Forums enable PLHIV to discuss issues affecting them e.g. availability of medicines, access to services and programmes and impacts of certain policies on PLHIV. The Forums comprise of Women, Adolescents, Religious Leaders, Key Populations and representatives who sit on national and International boards as well as Government officials to discuss access to services by PLHIV.

Lessons Learnt:
• PLHIV community now take centre stage in programming at all levels.
• PLHIV now represent themselves in boards and committees at all levels as decision makers.
• The health outcomes for PLHIV have greatly improved as indicated by 90% Viral Suppression at 12 months and 87.7% adults ART retention by December 2017.

Conclusion: Involving PLHIV through the MIPA Forums has greatly improved programming as they bring on board their lived experiences. Stigma has greatly reduced due to coordinated and empowered Amy of PLHIV and hence the need for continued capacity building of the sector.
Évaluation de l’efficacité virologique et clinique de la prise en charge thérapeutique des enfants VIH+ dans les régions Sud du Sénégal (EnPRISE2)

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Contexte: Débuté en 2018, le projet EnPRISE 2 (Prévention et prise en charge décentralisée de l’échec thérapeutique chez les enfants VIH+ au Sénégal) a pour objectif d’évaluer le niveau virologique des enfants et de renforcer l’accompagnement des structures pour améliorer leur prise en charge. Il fait suite à une enquête réalisée en 2015 à l’échelle nationale (EnPRISE 1) qui avait montré un taux d’échec virologique de 64% chez les enfants VIH+ suivis hors de Dakar. Ce constat a conduit au renforcement des circuits régionaux de charge virale, la mise en place d’un comité thérapeutique, des formations et un suivi rapproché des enfants pour renforcer les capacités des acteurs des sites décentralisés. Le projet EnPRISE 2 s’étendra en 2019 dans les régions du Centre et du Nord du pays.


Résultats: L’étude a concerné 345 enfants, dont 334 infectés par le VIH-1, 7 par le VIH-2, 2 avec un double profil (2 non précisés). Sur les 345 enfants, 339 sont traités par ARV (320 en 1e ligne et 19 en 2e ligne) dont 302 depuis plus de six mois. L’âge médian est de 9 ans. Soixante-huit pour cent (68%) des enfants ont une charge virale >1000 copies/ml. Ces taux sont très élevés chez les 0-5 ans (80%), plus importants chez les garçons que chez les filles (75% versus 60%), notamment chez les 15-18 ans (86%). Les filles ont des taux de CV >1000 copies/ml plus faibles après 18 ans (27%). A la suite de ces résultats, un comité thérapeutique composé d’experts médicaux et sociaux dans la prise en charge pédiatrique a été mis en place avec l’appui du service de pédiatrie de l’hôpital Albert Royer de Dakar. Au cours de réunions téléphonique, des discussions permettent de renforcer l’accompagnement des équipes des sites décentralisés et d’appuyer les décisions thérapeutiques. Ces comités sont suivis de formations des équipes et d’un accompagnement individuel de chaque enfant.

Conclusion: Les résultats préliminaires confirment la situation préoccupante avec 68% des enfants qui ont des CV > 1000 copies/ml. Les enfants de 0 à 5 ans et les garçons de 15 à 18 ans sont les plus touchés. Le renforcement des circuits régionaux de charge virale, la mise en place d’un comité thérapeutique, des formations et un suivi rapproché des enfants sont des réponses pragmatiques pour renforcer les capacités des acteurs des sites décentralisés. Le projet EnPRISE 2 s’étendra en 2019 dans les régions du Centre et du Nord du pays.
Mortality and virologic outcomes between two to five years of age after early initiation during infancy of antiretroviral treatment: experience of the ANRS-1240 Pediacam study (Cameroon)

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Introduction: In most of the studies, virologic response is assessed during the first 2 years of antiretroviral treatment initiated in HIV-infected infants. Instead, early initiation of antiretroviral therapy exposes infants to very long-lasting treatment. Moreover, maintaining viral suppression in children is difficult. We aimed to describe virologic response and mortality after two years of antiretroviral treatment initiated during the first year of life, and identify factors associated with success in a Sub-Saharan Country (Cameroon).

Methods: We included 149 children of the ANRS 12140-PEDIACAM study still alive after two years of antiretroviral treatment initiated during the first year of life. The study population was organized in two groups according to virologic status at two years of antiretroviral treatment initiation: 1) group 1: children with viral load <400 copies/mL; 2) group 2: children with viral load ≥400 copies/mL or whose viral load was not measured. The probability of maintaining virologic success between two and five years antiretroviral treatment in group 1 or achieving virologic success at least once in group 2, was estimated using survival models. The study of factors associated with viral load <400 copies/mL in children still alive at five years of antiretroviral treatment (versus ≥ 400 copies/mL or not measured) was performed using univariate and multivariate logistic regression.

Results: At five years of early antiretroviral treatment, viral load was suppressed in 66.4% [58.7-74.1]) of the 144 children still alive and in care, but viral load was not measured in 15.4%. Five deaths (3.3% [IC95%: 0.4-6.2]) were recorded during the study period. Among the children with viral suppression at two years of treatment initiation, the probability of maintaining viral suppression at five years of treatment was 64.0% [48.5-79.6]. Among the children with detectable or unknown viral load at 2 years of treatment initiation, the probability of achieving viral load < 400 copies/mL at least once between two and five years of treatment initiation was 76.0% [53.5-98.5]. The only factor associated with viral suppression at five years of treatment initiation was virologic success at two years of treatment initiation.

Conclusion: The probability of maintaining viral suppression between two and five years of early initiated antiretroviral treatment in HIV-infected children is unsatisfactory, stressing difficulties of parents for daily long-term adherence to treatment. Thus, it is necessary to routinely monitor viral load and resistance to antiretroviral drugs in order to optimize treatment response in Sub-Saharan African children.

Point-of-care early infant diagnostic testing at alternative entry points: a high-yield, cost-efficient strategy to increase HIV positive infant case finding

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Background: In 2017, of the over 7,000 estimated new HIV infections in infants, only 64% (4,500) were diagnosed through the prevention of mother-to-child transmission (PMTCT) program, mostly through testing at the mother-baby-care point (MBCP). Only 50% of HIV Exposed Infants (HEI) were tested by the recommended 2 months of age. This
study evaluated whether point-of-care (POC) EID could enable testing at alternative entry points to improve infant case-finding and timely ART initiation for HIV-infected infants.

**Methods:** An observational pre- and post-evaluation was conducted across 12 high-volume facilities, in which POC EID was prioritized at inpatient and nutrition wards. Records for all infants tested at any entry point across a subset of 9 sites were available at the time of analysis. Outcomes were compared for 6-months before and after implementation.

**Results:** More HIV positive infants were diagnosed during the pilot (27) than at baseline (16, all identified through MBCP). Thirteen (48.2%) HIV positive infants were identified outside of MBCP. Positivity rates at inpatient (3.3%) and nutrition (9.8%) were higher than at MBCP (0.8%). Median duration of admission was 4 days at inpatient and 8 days at nutrition. The median time for result return to caregiver was 54 (IQR:28-65) days at baseline and 0 (IQR: 0-3) days during the pilot; 0.2% (3) of centralized EID results were returned to caregivers within one week, compared to 93% (3576) using POC EID. 68% (2606) of POC results were returned on the same day as sample collection. 31% (5) of HIV positive infants initiated ART within one month of sample collection, while at endline, 70% (19) initiated within one month and 41% (11) initiated ART on the same day as sample collection. Placement of POC EID at 129 of Uganda’s 1765 eligible facilities would enable cost-effective, alternative entry point testing, leading to a projected 72% increase in HIV positive infant diagnosis.

**Conclusions:** Optimized systems are needed to identify HEI and HIV-infected infants. Complementary implementation of POC testing and expansion of EID outside of the traditional MBCP has the potential to address existing testing gaps, increasing HIV-positive infant identification, while improving access to timely results and clinical action.

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**Examining the effectiveness of differentiated service delivery models for HIV testing among female sex workers in Ghana**

**Background:** The prevalence of HIV among female sex workers (FSW) in Ghana is 6.9% which is three times higher than that of the ANC (2.4%). In Ghana, FSWs are broadly classified as Seaters (those who operate from home or brothel) and Roamers (those who find customers on the street, bars or hotels). To achieve the UNAIDS 90-90-90 targets, the first point of entry is to effectively diagnose HIV-positive FSWs through the provision of HIV testing services. Innovative models that identify HIV-positive FSWs will support national efforts in reducing new HIV infections. The traditional testing (Facility-based and Outreach) strategies implemented currently in the country is not sufficient to reach and identify most HIV positive FSW by 2020.

**Methods:** The USAID Strengthening the Care Continuum Project implemented by JSI Research and Training Institute, in collaboration with Population Council, implemented various strategies to reach different types of FSWs. Between October 2017 and June 2018, six HIV testing strategies were utilized in four priority PEPFAR regions of Ghana (Greater Accra, Western, Ashanti and Brong Ahafo): i) Targeted door-to-door testing ii) daytime testing (testing at hotspots during the day); iii) testing at events/parties; iv) facility-based testing at health centers; v) moonlight testing (testing during the night at hotspots); and vi) testing through social networks. The Project extracted individual-level data from a random sample of all those tested based on probability proportional to the size of the number of FSWs tested within each strategy. The data was analyzed using descriptive and analytical framework and the association between testing strategy and demographic characteristics and testing results.

**Results:** A total of 9,657 FSWs received HIV testing from October 2017 to June 2018, of which 1,628 were randomly sampled. FSWs were primarily reached through daytime testing (21%), social
network (20%), moonlight (20%), followed by facility-based (17%), targeted door-to-door (12%), and event/parties (10%). There was a difference in age by strategy. Older FSWs (≥31 years) were better reached through events/parties (29%), social network (31%), and targeted door-to-door (29%) compared to the other methods (<20%) (p<0.01). Daytime testing (24%) was better at reaching the youngest FSWs (≤20 years) compared to the other methods (<20%) (p<0.01). The majority of FSWs tested were roamers (85%) compared to seaters (15%). Roamers (compared to Seaters) were more likely to have tested through daytime (22% vs. 13%), moonlight (22% vs. 6%), and facility-based (19% vs. 0%) while Seaters were more likely to have been tested through targeted door-to-door (35% vs. 8%), social network (26% vs 19%), and events/parties (17% vs. 9%) (p<0.001).

The HIV positive yield was significantly different by strategy with event/parties (10%) and social network (11%) having the highest yield compared to facility-based (4%), moonlight (7%), and targeted door-to-door (5%) (p<0.05). Overall, 118 out of 122 (97%) who tested positive were linked to treatment. There were no statistically significant differences in linkage by testing strategy.

Conclusion: This study highlights the value of employing diverse HIV testing strategies to reach and test different types of FSWs. More resources should be allocated to high yielding strategies.

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Sexual and mental health of transgender persons in Nairobi, Kenya

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Background: Transgender persons (TP) are disproportionately affected by HIV, common mental & substance use disorders, violence and victimisation, however evidence is very limited from sub Saharan Africa. In the absence of a specific response, TP are encountered in research and services directed to gay, bisexual and other men who have sex with men (GBMSM).

Methods: The TRANSFORM study enrolled TP and GBMSM in Nairobi via respondent-driven sampling during 2017. Eligibility criteria: age 18+, male gender at birth/currently, Nairobi residence and consensual oral or anal intercourse with a man during the last year. Participants completed a computer-assisted survey including HIV/STI testing and treatment history, PHQ9, AUDIT and question about recent experience of discrimination and violence. Gender identity was elicited using a piloted two-step method. Participants tested for HIV and anogenital STIs (Xpert® CTNG urine and rectal). Frequency measures were weighted using the RDS-II method; measures of association were unweighted and adjusted for sociodemographic confounders.

Results: Among 618 recruits, 522 (84.5%) identified as cisgender GBMSM (cisGBMSM), 86 (13.9%) trans-feminine and 4 (0.7%) trans-masculine (6 missing). Compared to cisGBMSM, trans-feminine and trans-masculine (TP) participants were similar in age, education level, employment and country of birth. TP were more likely than cisGBMSM to be HIV positive (39.9 v 24.6%: aOR 2.0 (1.2-3.3) p=0.007), have rectal NG (23.6 v 11.8%: aOR 2.4 (1.3-4.3) p=0.005; and to have current symptoms suggestive of rectal STI: 18.6 v 7.0%: aOR 2.4 (1.2-4.9) p=0.015. Among HIV positive participants, 90-90-90 indicators were weaker for TG (63-81-82) than cisgender GBMSM (73-84-83) but differences were not statistically significant (p=0.333). 24.0% TP recorded PHQ9 scores of 10+ (moderate-severe depression, vs 16.4% cisGBMSM, aOR 1.8 (1.0-3.1 p=0.047). 14.8% TP had AUDIT scores of 9+ indicative of harmful alcohol use (vs 9.2% cisGBMSM, aOR 2.0 (1.0-3.8) p=0.044).

Conclusion: TP in Nairobi have distinctly higher burdens of STIs, depression and harmful alcohol use than cisGBMSM, and are more frequently targets of discrimination and violence. Providers should reconsider the appropriateness of existing prevention and service models that may fail to distinguish between sexual and gender diversity of users. Future research should be designed to focus specifically on the health needs of TP in this setting.
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**Analyse coût-efficacité d’une stratégie thérapeutique à base de Sofosbuvir dans le traitement de l’hépatite C en Afrique Centrale et de l’Ouest (ANRS 12311)**

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Bien que les pays à ressources limitées supportent le plus lourd fardeau de l’Hépatite C Chronique (HCC), les nouveaux traitements antiviraux à action directe (AAD) y sont très peu disponibles, notamment en raison de leurs prix élevés. Notre étude s’appuie sur les données de l’essai clinique TAC (ANRS 12311), mené au Cameroun, en Côte d’Ivoire et au Sénégal chez 120 patients HCC recevant un traitement à base de Sofosbuvir, pour évaluer dans ces 3 pays le coût-efficacité de cette stratégie thérapeutique par rapport à la situation sans traitement.

Un modèle de Markov a été développé pour simuler la progression de la maladie, avec et sans traitement, dans une cohorte de 10 000 individus atteints de HCC ayant les caractéristiques des participants de l’essai (âge moyen : 50 ans ; % de femmes : 49.0%). Les états de santé du modèle comprennent les stades de fibrose METAVIR, la cicatrice compensée et décompensée, le carcinome hépatocellulaire et le décès (lié et non lié à l’HCC). L’estimation de l’efficacité et des coûts de la stratégie de traitement est issue des données de l’essai TAC. Les probabilités de transition entre états de santé en l’absence de traitement et après le traitement ont été définies à partir d’une revue approfondie de la littérature. Les prix unitaires des ressources médicales utilisées dans la prise en charge des patients ont été obtenus à partir d’une collecte de données dans les sites d’étude.

Nous avons estimé le nombre d’années de vie ajustée sur la qualité de vie (QALY) sur la durée de vie des patients, les coûts incrémentaux ainsi que le Ratio Différentiel Coût Résultat (ICER) de la stratégie de traitement à base Sofosbuvir par rapport à la situation sans traitement. Une analyse de sensibilité probabiliste a été conduite pour prendre en compte l’incertitude.

La stratégie à base de Sofosbuvir permet de gagner en moyenne 1,8 ; 1,5 et 1,6 QALYs par patient, respectivement au Sénégal, en Côte d’Ivoire et au Cameroun, pour un coût incrémental moyen de 1104€ ; 1152€ et 1302€ par patient. Les ICERS correspondants [intervalles de confiance à 95%] s’élèvent à 631 € [459 – 1130] ; 780€ [590 – 1370] et 799€ [607 – 1372] par QALYS dans chacun de ces trois pays. Le traitement à base de Sofosbuvir est coût-efficace avec une probabilité de 100% dans les trois pays au seuil de trois fois le PIB par habitant et avec une probabilité comprise entre 93.6% (Cameroun) et 96.1% (Côte d’Ivoire) au seuil d’une fois le PIB par habitant.

Les traitements à base de Sofosbuvir sont coûts-éfficaces au seuil de trois fois le PIB par tête dans les trois pays d’étude. Les bénéfices de santé significatifs apportés sur le long terme par les AAD, pour un coût additionnel acceptable, plaident en faveur de l’élargissement de l’accès à ces traitements dans les pays à ressources limitées. La baisse des prix attendue avec l’arrivée des génériques permettra d’améliorer encore le coût-efficacité de ces traitements dans un futur proche.

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**Improved HIV testing efficiency in Zambia through enhanced real-time program surveillance**

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**Background:** To achieve UNAIDS goal of 95-95-95, a novel digital health surveillance application was implemented by EQUIP/Right to Care-Zambia to
improve HIV testing yield in three northern Zambia provinces. As Zambia progresses towards epidemic control, identifying ART-naïve people living with HIV that do not know their status is becoming an increasingly rare event. Emphasis has shifted to increasing testing yield through more efficient testing modalities and well-supervised counselling staff. Real-time analysis of data and program efficiency in reaching targeted individuals is paramount to controlling the HIV epidemic.

**Methods:** EQUIP implemented the Qode Lynx HIV testing application, an mHealth solution tailored for the Zambian context. The Lynx application provides real-time data through mobile data connections and is administered by local professional and lay counsellors on any Android compatible device with geolocation data. Variables collected include counsellor details, client demographics, HIV test and result, risk factors, screening questions for co-morbid conditions, and referrals for clients testing negative (PrEP and VMMC) or HIV-positive (ART clinic and index contacts). Data is uploaded in real-time (or when the device is connected to mobile data) and analyzed through interactive web-based dashboards by program and M&E managers.

**Results:** Since implementation in August 2018, EQUIP has captured over 19,000 HIV tests (over 1,800 positive HIV tests and ART referrals) on the Lynx application. Coverage has grown from 70 active users at 6 rural health facilities to 250 active user at 30 rural health facilities in Northern, Luapula, and Muchinga provinces of Zambia through phased implementation.

**Conclusion:** Real-time monitoring of data has allowed program managers to deliver more efficient HIV testing services. The overall yield captured in Lynx is 10% compared to 3% facility-reported yield across EQUIP-supported facilities in Zambia. EQUIP is rapidly moving ensure all supported HIV testing services are captured in Lynx to realize continued gains in efficiency.

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**Reasons for PrEP decline among clients identified at substantial risk for HIV infection in the Kingdom of Eswatini**

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**Background:** The Eswatini Ministry of Health is assessing the operationalization of Pre-Exposure Prophylaxis (PrEP) as an additional HIV prevention strategy. PrEP is offered to HIV negative individual’s ≥ 16 years of age identified at substantial risk of HIV infection. PrEP is available in six nurse-led public primary-health-care facilities as part of a demonstration study. Understanding reasons for PrEP decline among clients at risk is important for future PrEP delivery in Eswatini and beyond.

**Methods:** HIV-negative clients identified at substantial risk were offered PrEP and those who declined were asked for the reasons as part of a routine survey conducted by health care workers (HCWs). In addition, 27 in-depth interviews were conducted with clients that declined a PrEP offer. Quantitative data was analyzed in Stata using descriptive statistics and a Pearson-chi-squared test. Qualitative data were analyzed using Nvivo following the tenets of grounded theory.

**Results:** Between August 2017 and December 2018, 1241 clients (292 males, 949 females) were identified at substantial risk for HIV infection and offered PrEP. 552(44.5%) clients declined the PrEP offer, with a lower percentage of males declining PrEP vs females (34.2% vs 47.6%, p<0.001). Among clients that provided a reason for their PrEP decline (n=445) common reasons without differences between gender included: Client needing time to think about PrEP (43.8%) and client not considering him/herself at risk for HIV (33.2%). Males more frequently responded needing time to think about PrEP (54.3% vs 41.5%, p=0.035) while more females indicated the need to consult their partner (20.6% vs 8.6%, p=0.012). Few clients (10.3%) had concerns
about the (daily) pill taking; were worried about side-effects (3.8%) or indicated not having time to come for PrEP follow-up visits (2.2%) with no differences between gender. Qualitatively, clients described that the PrEP offer was made on the first day they had heard of PrEP, and did not feel there was enough time or information to make the decision to initiate immediately. Clients said PrEP information should be made available in locations other than the clinic and pointed specifically to radio and social media as avenues for promotion. Female clients described how they would have to consult with their partners and other family members before they could begin PrEP and several said PrEP would not be allowed in their home. Clients feared side-effects and felt uncomfortable with a daily pill regimen - particularly one which appeared to be so similar to antiretroviral therapy (ART) - and said they would not be able to adhere.

**Conclusion:** A high number of clients declined PrEP despite being at substantial risk for HIV. Our results highlight the need for HCWs to have sufficient time when counselling clients, to ensure clients receive personalized, detailed and accurate information that allows them to make informed decisions regarding PrEP use. We recommend that PrEP promotion is carried out in communities, so that clients and their partners have a shared understanding of PrEP before they reach the clinic. Partner counselling and clear guidance regarding adherence and side-effect support may also facilitate PrEP uptake.

Factors associated with liver injury among HIV infected children and adolescents attending a national referral pediatric HIV clinic in Uganda

**Background:** Antiretroviral therapy (ART), has drastically reduced progression of HIV and decreased rate of HIV-associated mortality. However, liver injuries have become increasingly prevalent among people living with HIV (PLHIV) in Sub-Saharan Africa. In Uganda, Liver Function Tests (LFTs) among PLHIV isn’t one of the recommended routine investigations. Few published studies have been conducted addressing liver injury among pediatric and adolescent populations. This study aims to assess factors associated with liver injury among HIV infected children and adolescents on ART attending a National referral pediatric HIV clinic in Uganda.

**Methods:** A retrospective review of 414 patients’ charts, six months and above on ART, aged 0-17 years of whom 206 (49.8%) had at least one episode of liver injury was conducted between February and May 2017. Data variables of gender, age, HIV Viral load (VL), Hepatitis B infection and ART regimen at the time of liver injury guided the abstraction from an electronic medical records database. Liver injury was characterized by any of the serum liver enzymes levels of AST, ALT and ALP outside normal reference ranges as defined by Cobas integra 400+ clinical chemistry analyzer manufacturer. Data generated was fed into Microsoft excel for cleaning and subsequently exported to Stata for analysis using logistic regression model.

**Results:** The study revealed that age was statistically associated with liver injury where children 6 - 13 years and those 14 - 17 years respectively had 74% and 77% lower odds of having liver injury compared to children 0 - 5 years (Adjusted odds ratio, aOR(95%CI); 0.26(0.15 - 0.45), p<0.01), (aOR(95%CI):0.23(0.12 - 0.44), p<0.01). Additionally, having a viral load above 75cp/ml was associated with having 2.4 times the odds of having liver injury compared to those who had <75cp/ml. ART regimen was also associated with liver injury (p<0.05); where patients on second line ART had 74% lower odds of having liver injuries compared to their counterparts on first line.

**Conclusions:** Liver injury was strongly associated with, children 0-5 years, first line ART regimens and non-suppressed viral load. We recommend that clinicians and policy makers incorporate routine LFTs monitoring for such categories.
Prevalence of cervical HPV infection among women living with HIV in Harare, Zimbabwe

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Background: Human papilloma virus (HPV) associated invasive cervical cancer is a leading female malignancy in Zimbabwe. Nationwide HPV vaccination among girls has been initiated as a public health intervention to reduce the cervical cancer burden. We describe the prevalence, subtypes and risk factors of cervical HPV infection among women living with HIV (WLHIV) receiving HIV care at Newlands Clinic in Harare.

Methods: We conducted a cross sectional study with a convenient sample of WLHIV attending cervical cancer screening invited into the study. Cervical swabs were collected from consenting participants and tested for HPV infection using the Xpert HPV assay. The assay detects 14 high-risk HPV (hrHPV) subtypes reported as HPV16, HPV18/45 and “other hrHPV”. Additional data were collected using a questionnaire and from the clinic’s electronic patient medical record. Risk factors were investigated using logistic regression.

Results: We enrolled 329 WLHIV with median age of 43 years (IQR:38–49), and median antiretroviral therapy (ART) duration of 7.8 years (IQR:4.5–10.8). 263 (80%) were on first-line ART. 272 (85.5%) had viral suppression (<20 copies/ml). HPV tests were successful for 321 (97.6%) samples. The prevalence of any hrHPV was 25% (n=80). Subtype prevalence for HPV16, HPV18/45 and “other hrHPV” was 4% (n=13), 5% (n=15), and 19% (n=61) respectively. There were no HPV16 and HPV18 co-infections. Among participants with “other hrHPV”, four were co-infected with HPV 16 and five with HPV18. Independent risk factors for any hrHPV infection were history of loop electrical excision procedure (LEEP) in the last two years (aOR:9.7, CI:3.2–29.8, p<0.01), using an intra-uterine contraceptive device (IUCD) (aOR:3.9, CI:1.5–10.3, p=0.01), early sexual debut (13–16 years against >21 years) (aOR:3.4, CI:1.3–8.8, p=0.01), and being on second-line ART (aOR:2.6, CI:1.4–5.0, p<0.01). Having undetectable HIV viral load was not protective.

Conclusion: The most prevalent hrHPV subtypes identified in our study were other than HPV16 and HPV18/45. WLHIV with recent history of LEEP, those with early sexual debut and those using IUCD birth control were highly likely to be harboring hrHPV. We recommend further research on cross-protectivity of current vaccines against other hrHPV subtypes.

Application of machine learning models in prediction of PrEP retention among High-risk persons in Uganda

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Introduction: The WHO guidelines recommend Pre-exposure prophylaxis for persons with high risk of HIV acquisition. Pre-Exposure Prophylaxis (PrEP) is a key biomedical HIV prevention strategy for individuals with substantial risk of HIV infection. In Uganda, PrEP has been implemented in a phased approach, beginning at sites with the highest key and priority population (KP/PP) and these include sex workers (SWs), transgender (TG), men having sex with men (MSM), people who inject drugs (PWIDs) and persons in prison (PP), discordant couples (DCs), adolescent girls and young women (AGYW), fisher folks (FFs), persons in prison (PIP), truckers and migrant workers (MWs). We aimed to assess the performance of machine learning models in prediction of retention among KP/PP initiated on PrEP in Uganda.

Methods: Data was extracted from an electronic web-based PrEP tracker and dashboard from 5 implementing sites in the central (urban) and mid-western (rural) regions of the country. Information in the PrEP tracker eligibility, accepted, initiated and followed-up on PrEP. Retention was defined as having at least one follow-up visit following PrEP initiation. We implemented the XGBoost algorithm in Python to predict retention. The data were split into training (70%) and test data sets (30%). Variables in the prediction model included; age,
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gender, category of KP/PP, marital status, facility entry care point (outreach, community) region (rural versus urban). We used the F score, precision, area under the receiver operating (AUC) characteristic (ROC) to determine model performance. After prediction, we established the importance of the different variables in predicting retention in PrEP.

Results: A total of 7891 KP/PP were screened for PrEP and of these 4466 (52.3%) were initiated on PrEP. Among those who initiated PrEP, 1930 (43.2%) had at least one follow-up visit post PrEP initiation and were classified as retained. The XGBoost model performed excellently in predicting who was retained on PrEP. The model precision in this data set was 0.975, F score was 0.958 and an area under receiver operating characteristic (ROC) curve of 0.982 (95% CI: 0.965–0.995). In descending order, the following variables were important in predicting PrEP retention; age < 24 years, being FSW and area of residence. Retention was generally low among KP/PP aged 18-24 years. Other demographics characteristics such as marital status and gender of less importance when predicting PrEP retention.

Conclusion: Machine learning techniques that are becoming increasingly popular, can be applied in predicting HIV outcomes and performed well in predicting retention in PrEP. Predicting which persons are likely to drop out of PrEP programs will be critical in the development of targeted interventions for retention in HIV care programs in Uganda.

Background: HIV/AIDS is one of the major diseases with multifaceted burdens; health, psychological and economical. After the introduction of the antiretroviral therapy (ART) and other treatment schedules, HIV/AIDS became a chronic disease requiring long-term management thus competing with other economic obligations of People living with HIV/AIDS (PLWH). There are limited studies assessing economic burden of accessing ART treatment vis-a-vis catastrophic health expenditure (CHE) - global definition of CHE, health expenditure > 10% of annual income. Therefore, this survey explores the CHE resulting from accessing treatment and identifying some of the predictors for CHE among PLWH in Lagos State, Nigeria.

Materials & Methods: This study was a descriptive cross-sectional, quantitative survey that was carried out among 217 consenting PLWH recruited from 10 Support groups in Lagos State, Nigeria. The data was collected using a 29-item self-administered questionnaire developed from the review of relevant literatures. The following assumptions were made in collating the income of respondents:

- Annual income of respondents in formal sector – monthly salary x 12
- Annual income of respondents that are volunteer health workers – monthly stipends x 12
- Annual income of respondents in informal sector/artisans/contract jobs – daily income x 5 x 50

The data were analyzed using SPSS v20. Chi-square at p-value < 0.05 was used to determine significance of factors associated with CHE while variables at P-value<0.2 were used for binary logistic regression to determine predictors of CHE among respondents. Exchange rate is 1 dollar = 365 Naira

Results: The mean age of the respondents was 43±8.5years with 79% of the respondents being female. 50% of the respondents were married, 97% having one or more dependents and 60% of the respondents attending monthly ARV drug pick-up at various sites. 56% of the respondents (mean annual income 1111 ± 821.4 dollars) earn below $1000 annually with 41.2%, 39.0% and 19.8% of the respondents belonging to Low, Middle and High earners respectively while only 5% of the PLWH expend $200 annually for refill of ARVs. 40% of the surveyed respondents are involved in CHE. The identified significant factors (p < 0.05) associated with CHE among respondents are: occupation (p-value = 0.039), income group (p-value = 0.0001) and ARV refill frequency (p-value = 0.0001). However,
the identified predictors for CHE are: formal occupation (aOR = 0.025, p-value = 0.006), being a middle (aOR = 0.007, p-value = 0.0001) & high earner (aOR = 0.035, p-value = 0.0001) and going for ARVs refill bi-monthly (aOR = 17.555, p-value = 0.0001) as predictors of CHE among respondents.

Conclusions: The results of this survey revealed that being – employed formally, a middle and high earner reduces the percentage of clients involved in CHE while bi-monthly ARV-refill predisposes PLWH in this survey to CHE. HIV/AIDS programs should adopt strategies that will economically empower PLWH and reduce the frequency of clients' visits for ARV refill. This will reduce the economic burden of PLWH in accessing treatment.

Abstract

Characterizing the HIV Epidemic among 15-24 Year Olds in Urban Ethiopia, 2017-18 Ephia

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Background: Young adults aged 15-24 years comprise approximately 22% of Ethiopia’s population, however, little is known about the status of HIV epidemic control among this population. We assessed progress towards achieving the UNAIDS 90-90-90 treatment targets among young adults aged 15-24 years in urban Ethiopia.

Methods: The Ethiopia Population-based HIV Impact Assessment (EPHIA) household-based survey was conducted between October 2017 and April 2018 across urban areas. HIV testing was conducted using a rapid diagnostic algorithm with confirmation of seropositive samples using a supplemental assay. HIV-1 RNA viral load was measured using the Abbott m2000 System. Viral load suppression (VLS) was defined as <1,000 HIV RNA copies/ml. We provide survey weighted estimates of HIV prevalence, VLS, and other HIV indicators for young adults aged 15-24 years.

Results: We interviewed 7,914 young adults aged 15-24 years living in urban Ethiopia, among whom 7,547 agreed to HIV testing after informed consent. The prevalence of HIV infection among young adults aged 15-24 years was 0.73% (95%CI: 0.49% - 0.97%). Among HIV-positive young adults aged 15-24 years, 51.2% (95% CI: 33.5%- 68.9%) reported prior awareness of their HIV positive status. Though it was not statistically significant, awareness among males age 15-24 was more than 10 percentage points higher than that of their female counterparts (58.3% vs. 45.8%). HIV-positive 15-24 year olds were notably less aware of their HIV positive status as compared to HIV-positive adults ages 25-49 years, in whom 72.7% (95% CI: 66.6%-78.9%) reported awareness of their HIV positive status. Among young adults aware of their HIV-positive status, 100% self-reported current antiretroviral therapy (ART) use. Among those self-reporting ART use, 78.6% (95% CI: 62.2%- 94.9%) were virally suppressed. The overall prevalence of viral load suppression (VLS) among all young adults 15-24 years was 48.2% (95% CI: 33.1-63.3%). The overall VLS rate among young adults is much lower than among adults aged 25-49, at 70.3% (95% CI: 64.7%-76.0%).

Conclusion: Low awareness of HIV status among young adults aged 15-24 year in urban Ethiopia is a critical barrier towards achieving the UNAIDS treatment goals by 2020. Once diagnosed, young adults self-reported high rates of ART use. However, the overall VLS rate among HIV-positive young adults is much lower than in older adults and highlights the need for targeted interventions.
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Abstracts
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Abstract

The Global PrEP Research Landscape: Mapping studies of oral PrEP implementation and impact

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Background: In the time since WHO first issued guidance on oral pre-exposure prophylaxis in 2012, nearly 191 projects and programs have assessed the feasibility and impact of oral PrEP for HIV prevention, focusing on issues across the product introduction framework. In 2014, AVAC began tracking PrEP programs and continues maintenance of a comprehensive database as a part of OPTIONS Consortium. Data are collected through a quarterly survey covering program demographics, geography, funding, service-delivery settings, program types, tools created, resistance testing, research questions and outcomes.

Methods: A review of completed, ongoing and planned oral PrEP projects from 2014-2018 was conducted. Projects included were limited to those that provide oral PrEP and have a clear research objective. Projects were analyzed by geography, size and population, and research questions were mapped along the product introduction framework (which includes areas such as planning and budgeting, supply chain management, PrEP delivery platforms, individual uptake, and effective use and monitoring) to analyze and identify gaps and overlaps.

Results: Overall, this review identified 112 organizations working on 191 projects in 71 countries around the globe. Programs were distributed across regions with high and low HIV prevalence, with the highest concentration of projects observed in Kenya, South Africa, Thailand, the United States, and Zimbabwe. The majority of projects examined had research questions focused on uptake, adherence, acceptability, risk behaviors, and drug safety. Few projects examined questions related to provider support, demand creation, or user preferences for service delivery. Overall, 89% of projects involved less than 1,000 individuals each and the most commonly served populations were men who have sex with men, female sex workers, and adolescent girls and young women.

Conclusions: This analysis brought to light several gaps in the research on oral PrEP, including the lack of research focused on provider support, demand creation and user preferences. Globally, PrEP projects were designed to answer many of the same questions, and in many cases the small scale of projects has limited the applicability of findings to large-scale national rollout. Overall, a more coordinated approach to designing introduction of new products is needed to address identified gaps in the research landscape and to aid in designing more effective large-scale programs.

Condom and oral PrEP use among female sex workers: Findings from a study in South Africa

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Background: Simultaneous use of oral PrEP and condoms may be a challenging behavioral aspect of PrEP. However, little data exists on the simultaneous use of PrEP and condoms in real world settings. This abstract aims to contribute to this knowledge gap.

Methods: We administered a cross-sectional survey to female sex workers (FSW) aged 18 and above at nine facilities offering PrEP, followed by in-depth interviews (IDIs). Condom use at last sex was assessed for current, past and never users of PrEP in different sexual relationships (main or casual partner, client). Condom use at last sex is a proxy for condom use over time. We summarized data using descriptive statistics.

Results: We enrolled 156 self-identified FSW (57 current, 43 past, 56 never users). In surveys, over 80% said that they used a condom the last time they had sex with a client; these proportions were similar among current (87%), past (86%), and never (86%) users. Among those with main (n=85) or casual (n=64) partners, condom use was higher with casual partners overall, and was higher for never (77% casual/54% main) and current users (70% casual/38% main) compared to past users (53% casual/24% main). Condom use was lowest with main partners, and in IDIs some FSW described that in steady relationships it was challenging to use condoms. Most current users felt it was easy to use PrEP and condoms simultaneously with main partners (90%) and clients (95%). However, in IDIs many noted that clients removed condoms and offered more money to “trick” or “tempt” participants into having sex without them, which could explain why, when asked which method worked better for them (condoms, PrEP or both), 70% of current users preferred both methods. However only 19% of past users preferred both, and 72% preferred condoms alone.

Conclusions Current users seem to be able to use condoms and PrEP simultaneously. However, low condom usage with main partners is worrisome as this may potentially see a rise in sexually transmitted infections and unwanted pregnancies for those women not on contraceptives. Therefore, simultaneous use of PrEP and condoms should be encouraged.
Abstract

Epidemiological impact and cost-effectiveness of long-acting pre-exposure prophylaxis combined with injectable contraceptives for HIV prevention in South Africa

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Background: Although pre-exposure prophylaxis (PrEP) is an efficacious HIV prevention strategy, its preventive benefit has not yet been shown among young women in sub-Saharan Africa likely due to non-adherence. Adherence may be improved with the use of injectable long-acting PrEP methods currently being developed. We hypothesize that targeting long-acting PrEP to women already using injectable contraceptives, the most frequently used contraceptive method in sub-Saharan Africa, could improve adherence to PrEP, result in a reduction of new HIV infections, and be a relatively easy-to-reach-target population. In this modelling study we assessed the epidemiological impact and cost-effectiveness of targeting long-acting PrEP to injectable contraceptive users in Limpopo, South Africa.

Methods: We developed a deterministic mathematical model calibrated to the HIV epidemic in Limpopo. Long-acting PrEP was targeted to 50% of HIV negative injectable contraceptive users in 2018 and scaled-up over 2 years. We estimated the number of HIV infections that could be averted by 2030 and the drug price of long-acting PrEP for which this intervention would be cost-effective over a time horizon of 40 years, from a third-party payer perspective. In the base-case scenario we assumed long-acting PrEP is 75% effective in preventing HIV infections and that 85% of infected individuals are on antiretroviral drug therapy (ART) by 2030. In sensitivity analyses we adjusted PrEP effectiveness and ART coverage. Costs between $519-$1119 per disability-adjusted life-year (DALY) averted were considered potentially cost-effective, and <$519 as cost-effective.

Results: Without long-acting PrEP, 220,000 (interquartile range 182,000–265,000) new infections will occur by 2030; use of long-acting PrEP could prevent 27,000 (21,000–32,000) or 11.9% (11.0%–13.0%) new HIV infections by 2030 (including 7000 (6000-8000) in men). Long-acting PrEP would prevent 40,000 (33,000-45,000) or 13,000 (9,000-18,000) at 75% and 95% ART coverage by 2030, respectively. To be considered potentially cost-effective the annual long-acting PrEP drug price should be <$528 and the ART coverage remains at most 85%. PrEP is not cost-effective at an ART coverage of 95%.

Conclusion: Targeting long-acting PrEP to injectable contraceptive users in Limpopo is only potentially cost-effective when long-acting PrEP drug prices are low and ART coverage does not exceed 85% in 2030. If low prices are not feasible, targeting long-acting PrEP only to women at high risk of HIV infection will become important.

HIV Testing Patterns and Preferences, Awareness, understanding and likely barriers to use of oral pre-exposure prophylaxis (PrEP) among gay, bisexual and other men who have sex with men (GBMSM) in Nairobi, Kenya

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Background: Kenya and South Africa were the first African countries to approve use of oral pre-exposure prophylaxis (PrEP) for key populations. High HIV prevalence and sexual risk behaviors are reported among gay men, bisexual men and other men that have sex with men (GBMSM) in Nairobi.

Methods: In-depth interviews were conducted with 30 GBMSM recruited in clinical and community settings. Eligibility: age 18+, male at birth/currently, Nairobi residence and consensual or anal intercourse with a man during the last year. Data was analysed thematically. Interviews assessed HIV testing patterns, prior awareness and experience of PrEP. Upon being given a standardised PrEP definition, interviewees gave their history of HIV testing, potential acceptability of PrEP, likely benefits and any perceived challenges to using it.

Results: 56.7% had tested within the last month while 10.7% had never taken an HIV test. Transgenders were less likely to have tested compared to sex workers and bisexual men. For the first test, preference for public and private hospitals was 38.9% & 31.3% respectively. For consequent tests, preference for MSM specific clinics increased from 10.7% - 24.6%. Only 3 GBMSM had used PEP. Awareness and understanding of PrEP was low with only quarter being able to describe what PrEP was. Many men confused PrEP with Post-Exposure Prophylaxis (PEP). Once PrEP had been described, prospective acceptability was very high and two thirds of eligible men considered future use. Primary motivations were to reduce worries about HIV acquisition and a more pleasurable sex life. Most saw PrEP as an alternative to condoms not a replacement. There were concerns about side effects of PrEP and the stigma if users were perceived to have HIV or “promiscuous”. Scepticism was expressed about potential future topical formulations but interest in long-term formulations and intermittent dosing was high.

Conclusions: Both public services and MSM specific community services are valued hence a diversity required. Prioritize testing interventions targeting transgender. Awareness and understanding of PrEP was limited and to achieve widespread use, health promotion interventions are required. PrEP uptake will be significantly influenced by desire to reduce anxiety of HIV.
"You know that you are on the safe side": Motivation, support, and daily routines influence PrEP initiation, adherence, and continuation among current users in South Africa

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**Background:** Oral pre-exposure prophylaxis (PrEP) has been delivered to people at substantial risk of HIV in South Africa since 2016, but challenges remain with uptake and adherence. To inform rollout, the National Department of Health, OPTIONS Consortium, and the Prevention Market Manager conducted implementation research at facilities serving sex workers (SW) and men who have sex with men (MSM).

**Methods:** We surveyed 94 current PrEP users (66 SW sites/28 MSM sites) and conducted 17 follow-up in-depth interviews (IDIs) (12 SW sites/5 MSM sites). We analyzed surveys in STATA 13 and conducted applied thematic analysis of IDIs in NVivo 11, exploring differences between SW/MSM sites.

**Results:** In IDIs, participants perceived HIV risk and desire to remain HIV-negative were leading reasons to initiate and continue PrEP; some at SW sites wanted HIV protection beyond condoms due to partners’ resistance and condoms bursting. Providers, partners, family, and peers positively influenced initiation by giving information and encouragement; some continued using PrEP due to intrinsic motivations to “keep my status.”

In surveys, 27% (32% SW sites/14% MSM sites) reported missing a dose in the past month; nearly half within the past three days (n=11/25, mostly SW sites). Although 97% found PrEP easy to use, 27% felt it was difficult/sometimes difficult to take on weekends (31% SW sites/18% MSM sites). Participants used reminders from friends, phone alarms, and carried pills with them to facilitate adherence and noted that adherence got easier after acclimating to pill-taking and establishing routines. A few IDI participants described stopping PrEP without consulting a provider due to losing pills, side effects, and partner opposition and restarting 5-30 days later. Some IDI participants at SW sites sought providers’ help for side effects and received advice to change pill-taking times and reassurance that side effects should diminish. Others noted a lack of burdensome side effects enabled continuation.

**Conclusions:** Support from others, HIV risk perception, and determination were key facilitators of initiation, continuation, and adherence. SW site participants seemed to experience greater adherence challenges, indicating the need for increased adherence support. Findings are informing revisions to national provider training and are being shared with facilities and implementing organizations.

**“I would invent PrEP to be like something we use every day like sugar, salt or spices. These pills are horrible.”** Qualitative accounts of PrEP discontinuation in Eswatini.

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**Background:** Retention of clients taking pre-exposure prophylaxis (PrEP) for the prevention of HIV is substantial. Evidence relating to reasons for discontinued PrEP from patients in the general population is limited, particularly from the generalised epidemics of East and Southern Africa. More information is required to better inform future programming and policy, so the benefits of PrEP can be fully realised.

**Methods:** In July 2018 we conducted qualitative research with discontinue clients from the general population enrolled via a PrEP demonstration project in Eswatini. The project was conducted in nurse-led, public-sector, primary-care clinics. 25 semi-structured interviews were conducted with purposefully selected discontinue clients. Data from daily debriefing sessions, reflexive and observational notes, and interview transcripts were analyzed using Nvivo Pro 10 software following the tenants of Grounded Theory.

**Results:** PrEP discontinue clients described ‘seasons of risk’ such as the end of pregnancy and absent partners as reasons for discontinuation. Other reasons included the inaccessibility of PrEP when working away from home or relocating to another area. For several of our female clients, partner and ‘sister wife’ disapproval and prevention of PrEP use influenced their ability to continue. Difficulties relating to adherence, managing side-effects and fears relating to the long term side-effects of PrEP also featured, but were mostly described as a secondary factor for discontinuation. 22 of the discontinue clients stated PrEP as their preferred prevention method, and that if the issues which prevented them from taking PrEP could be addressed, or the season of risk returned, they would again initiate on PrEP.

**Conclusion:** Clients accessing PrEP when they are able to anticipate a season of risk, and discontinuing when the risk period has finished, should be celebrated as a success in effective, client centered counselling. A national scale up may mitigate problems associated with accessing PrEP when working away or relocating, and the availability of PrEP in work programs should be considered. We highlight the need for extended counselling and support to assist with adherence and the management of side effects. Education for partners and families of PrEP users may also contribute to better PrEP retention and a wider acceptance of PrEP.
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Pre-Exposure Prophylaxis implementation for adolescent girls and young women in public health facilities in Cape Town, South Africa.

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Background: Pre-Exposure Prophylaxis (PrEP) is effective at preventing HIV infection, as proven in clinical trials and real-world clinical use. The World Health Organization recommends daily oral PrEP in HIV-negative persons at substantial risk. The South African Medicines Control Council has approved the use of tenofovir/emtricitabine for PrEP, with implementation by the National Department of Health (NDoH) following a phased approach for high risk groups in South Africa (SA), men who have sex with men, sex workers and university students. Given the unprecedented high HIV incidence amongst SA adolescents, with females at the epicentre of the epidemic, there is an urgent need for PrEP delivery to these young girls in order to achieve an AIDS-free generation. We describe the initial findings of the NDoH delivery of PrEP to adolescent girls and young women in healthcare facilities in Cape Town, SA.

Materials & Methods: Six primary healthcare facilities (PHF) with adolescent youth friendly services (AYFS) were selected according to sub-district prioritisation determined by high HIV burden, provision of antiretrovirals and number of quintile 1-3 schools within a 2.5km radius. Following stakeholder discussions, the formation and training of a PrEP team, demand creation, operational processes (pharmacy and laboratory), PrEP was offered to sexually active, HIV-negative female adolescents, aged 15 to 24 years, as part of a comprehensive HIV and sexual and reproductive health prevention package.

Results: PrEP delivery commenced in six PHF in the Klipfontein/Mitchells Plain sub-districts over October 2018. A total of 91 clients were initiated on PrEP from October 2018 to January 2019, across 5/6 PHF, of whom 98% (n=89) were female, with a median age of 18 (range 14-45). 24% (n=22) attended their first follow-up appointment, 62% (n=56) have not attended within 2 months of initiation, 14% (n=13) are not yet due their follow-up appointment. One clinic accounted for 79% of PrEP initiations, and one clinic did not initiate anyone as yet. Retention strategies included telephone call reminders, and community care worker outreach. The majority could not be accessed due to incorrect numbers and voicemails.

Conclusions: These early results of PrEP delivery to adolescent females within the SA NDoH service, show similar rates of initiation to that of local demonstration projects. While the NDoH have standards for the “Ideal Clinic,” different PHF implement different strategies in their daily running, according to human and other resources, explaining some of the differences seen between clinics, namely changes in staff and management, variation in AYFS model, and training gaps. This is despite weekly visits to each PHF, and monthly steering committee meetings with stakeholders. Retention rates are too early to fully ascertain but can be partially explained by changes in sexual activity, changes to health-seeking behaviour during exam and holiday periods, PrEP access elsewhere and adolescent developmental changes. Retention strategies currently follow NDoH practice, with the need to consider alternative strategies to retain adolescents in managing preventative health. Further formative work is needed to determine reasons for initiation and retention within a healthcare service setting and novel retention strategies.

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‘We can offer the services, we simply need slight empowerment’: Experiences of oral PrEP Service Providers in Kenya

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Background: Kenya started providing oral pre-exposure prophylaxis (PrEP) to populations at substantial and ongoing risk of HIV in 2016. Since then there has been local and international interest to learn from the experiences of those implementing PrEP services in Kenya. In partnership with county health officials, we conducted implementation research with service providers. The objective was to identify successes and challenges in PrEP provision in order to inform continued scale-up.

Methods: As part of a descriptive study on providers’ knowledge, attitude and practices regarding PrEP, we conducted 40 in-depth interviews (IDIs) between August and October 2018. Respondents were service providers purposively selected from 12 PrEP-provision health facilities in four of the PrEP priority counties where LVCT Health supports service provision. IDIs were used to collect data on their experiences with PrEP service delivery. The interviews were audio-recorded, transcribed verbatim, translated and coded in NVivo 11. Preliminary analysis was conducted THEMATICALLY according to the objectives of the study.

Results: Providers reported successes with client-centered PrEP service-delivery strategies. These included utilizing ongoing PrEP users to mobilizers other potential users and provide follow-up support for those on PrEP. Additionally providers reported entrusting PrEP service provision to staff who were comfortable and skilled at providing services to specific populations such as key populations and young people. Other strategies included fast-tracking PrEP clients and assigning specific days for PrEP services to minimize waiting time at facilities; and offering lab tests for free to reduce client costs. Some providers reported the need for improved skills to provide PrEP to young people and key populations, e.g., training in provision of youth friendly services and values clarification to address judgmental attitudes. Long distances to facilities offering PrEP — primarily in rural areas — and long queues at facilities were reported as barriers to PrEP uptake and use. Despite these challenges, providers believed PrEP was effective for HIV prevention, especially for discordant couples and key populations; providers reported these groups have good continuation rates because of their awareness of their HIV risk.

Conclusion: PrEP providers are implementing strategies that could address service delivery challenges affecting PrEP uptake and use in Kenya. Health managers in Kenya and other countries scaling up PrEP can utilize these findings to improve PrEP service delivery. Additionally, successful delivery of PrEP services will...
need provision of training to mitigate existing capacity gaps among providers.

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Oral PrEP service delivery considerations in Zimbabwe: Lessons learned from health care providers

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Background: Oral pre-exposure prophylaxis (PrEP) is offered to people at substantial risk of HIV infection through a small number of NGO clinics in Zimbabwe. We partnered with Ministry of Health and Child Care to conduct implementation research to identify challenges and strategies for successful PrEP delivery.

Methods: In January 2018, a quantitative survey was conducted with PrEP experienced and naïve Health Care Providers (HCPs) (n=127). Follow-up in-depth interviews (IDIs) with survey participants (n=27) were conducted. IDIs were coded in NVivo 11 and an applied thematic analysis conducted. This abstract reports IDI results based on preliminary analyses.

Findings: PrEP naïve HCPs identified potential challenges, including lack of community awareness about differences between PrEP, post-exposure prophylaxis, antiretroviral therapy and the likelihood of drug stockouts, a common occurrence with ART in public facilities. They were concerned about PrEP provision increasing their workload. By contrast, experienced PrEP providers found the workload reasonable. Experienced PrEP providers thought there were advantages to integrating PrEP into existing services, such as HIV testing, family planning, and cancer and STI screening.

Experienced PrEP HCPs described strategies they used to facilitate PrEP uptake, adherence, and high-quality services. They recommended intensive individualized PrEP counseling; transportation cost reimbursement for those who cannot afford; enhanced peer mobilizers to disseminate PrEP information and establishing relationships with organizations who could refer potential PrEP clients. HCPs reported that strengths of existing PrEP services included comprehensive training on PrEP, provision of appropriate, non-judgmental services to key populations and maintenance of client records with nurses so clients did not have to pass through reception. Drug dispensing was tailored to individual needs, such as weekly dispensing if home drug storage is problematic and three-month supply for those unable to frequent the clinic. HCPs suggested community awareness on PrEP to address PrEP awareness and stand-alone PrEP clinics to manage the workload.

Conclusions: These findings indicate that PrEP-naïve providers could learn from experienced providers, who have developed strategies for addressing key challenges in PrEP delivery to promote uptake and quality services. As PrEP delivery expands to the public sector, drug forecasting and supply chain issues should be addressed to avoid drug stockouts and instill confidence in providers. Future trainings should address some of the concerns raised.

First Year of Implementation of PrEP in Zambia: Service Delivery Roll-Out and Scale-Up

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Methods: We analyzed PrEP service delivery data including age/sex, key population type, and geographic reach as reported by IPs in the PEPFAR database. We conducted geo-mapping to overlay provision of PrEP services with population density and HIV prevalence.

Results: In 2017, PrEP was only available at two sites in two of Zambia’s ten provinces. In 2018, PrEP was offered in 162 sites across nine of ten provinces; 3,601 clients at risk of HIV infection were initiated on PrEP, including 1,271 (35%) adolescent girls and young women ages 15-24; 312 (9%) female sex workers, and 92 (3%) men who have sex with men. IPs reported high levels of interest and rapid uptake by clients, but poor retention in prevention services (27% are retained at 3 months). Service delivery mapping demonstrated provision of PrEP in areas of highest population density which correlated to areas of greatest HIV prevalence, with the exception of Western Province, where HIV prevalence is high but population density and PrEP service delivery is low.

Conclusions: PrEP is being rapidly rolled out across Zambia to populations most at risk of HIV infection, in line with supporting national policy initiatives. Most PrEP services are offered in urban and population-dense areas with high HIV prevalence, but rural areas with high rates of HIV are currently underserved. Further work is needed to ensure that PrEP is available to all populations at significant risk of HIV. Demand creation and awareness should complement PrEP service delivery roll-out to increase uptake.
Evaluation for its implementation of prevention with ARV therapy (PrEP) in men who have sex with other men (HSH) attending the OASIS centre of African Solidarity Association (AAS) in Ouagadougou, Burkina Faso

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Context: Burkina Faso is placed among the countries with a widespread epidemic, with a high concentration of the epidemic in certain target groups (fairly high prevalences). The average prevalence of HIV infection in the general population of Burkina Faso is estimated at 0.92 per cent according to UNAIDS. However, an analysis of the epidemic profile shows that the country has moved from a generalized epidemic model to a concentrated epidemic model (INP 1% ruled population and sup 5% under POPs). In contrast to the low level of HIV prevalence in the general population, the key population remains high, or 3.6% in the HSH (R2P et al. 2014).

Objective: To analyze the knowledge of the HSH frequenting AAS on the PrEP and to analyze the knowledge of the HSH frequenting AAS on the PrEP and to have the idea and then your agreement before the administration. It involved questions about knowledge of PrEP, do you know someone under PrEP, are you ready to use, do you know the pros and the downside and the last question asked if you want to do your test, if yes a screening voucher is handed

Some Results: Out of 321 people approached from January 2017 to October 2018 312 accepted to respond to the questionnaire. Among them 91% waited talked about the prep, 15% knew people under the prep, 93% waited talked about the prep for the first time on the Internet, 94% are ready to use it if it’s free, 39% are ready to use it even if it pays , 72% knew the name of the molecule used, 87% knew the pros and disadvantages of the PrEP and 91% of the participants accepted to do their HIV test and among them 7 HSH are seropositive, followed and under ARV treatment. All have done their viral charge to one year of treatment and among them 05 have an undetectable viral load and 02 a detectable viral load.

Conclusions: The PrEP can be used with AAS but adequate training of PE is crucial. In addition to this a more thorough study will clarify the information more, because this survey was an evaluation of the section to understand those that the community thinks and also have their opinion. Setting up a device will be necessary

Abstract

Evaluation of the epidemic profile shows that the epidemic is especially to key populations in our communities and identify the factors associated with or encouraging its prescription.

Uptake of HIV Pre-Exposure Prophylaxis (PrEP) in Clinical Settings in Western Nigeria: Are Healthcare Providers PrEPared for the Key Populations?

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Background: HIV pre-exposure prophylaxis (PrEP) can decrease HIV incidence among several high-risk populations. In order to successfully implement PrEP, healthcare providers will need to have knowledge about counselling, monitoring and drug adherence which are crucial to the success of the intervention. This study was carried out to determine the awareness, practice and preparedness of healthcare professionals to prescribe PrEP in clinical settings especially to key populations in our communities and identify the factors associated with or encouraging its prescription.

Methods: This cross-sectional study was carried out in randomly selected primary, secondary and tertiary level hospitals in Western Nigeria. The target population were physicians and nurses largely involved in the antiretroviral clinics in the hospitals. Data was collected by trained volunteers and supervised by appointed supervisors by a face-to-face interview. All data were statistically analysed, using Statistical Package for the Social Sciences (SPSS) and statistical test of significance was performed with Chi-Square test.

Results: A total of 256 consenting respondents participated in the study with a mean age ± SD of 38.52 ± 9.29 years. Gender distribution of the subjects indicated that 130 (51.6%) of them are males while 124 (48.4%) are females. A total of 89.8% of the respondents have heard about PrEP, with 54.3% of them aware of both oral and topical PrEP while only 4.3% have ever prescribed PrEP. The main factor associated with PrEP prescription was work experience (χ² = 20.815, df = 1, p = 0.001). Work experience has lower association with PrEP prescription (OR: 0.88, 95% CI: 0.82 – 0.95).

Conclusions: Healthcare professionals in public hospitals in Nigeria are PrEP aware and willing to prescribe, but few have actually ever done the prescription. Regular supply of drugs for pre-exposure prophylaxis purpose and addressing the potential safety issues and medication-related adverse effects will help aid the PrEP implementation effort nationwide especially with focus on the key populations of men having sex with (MSM) who are in a hostile environment in our own neighbourhood.
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Starting to Stop: Uptake and Continued Use of PrEP among Sex Workers in Five Sites in South Africa

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Background: South Africa began offering oral pre-exposure prophylaxis (PrEP) to HIV-negative sex workers (SWs) in June 2016, following WHO 2015 recommendations. The purpose of this analysis is to determine what proportion of HIV-negative SWs initiate on PrEP, and what proportion continue to use PrEP at various time points following initiation.

Methods: A retrospective review of routine program data was conducted by the Wits RHI SW project. Five SW service sites were included in the data analysis: four sites from urban/peri-urban areas in Gauteng Province and one site in Limpopo Province near the Zimbabwe border.

Data from sites’ HIV testing and PrEP registers from June 2016-September 2018 were analyzed in Excel to determine 1) the proportion of SWs who tested negative that initiated on PrEP, and 2) the proportion of PrEP users who continued or restarted PrEP at each follow-up visit from 1-25 months.

Results: Of 19,709 HIV-negative test results, there were 3,046 PrEP initiations, an uptake rate of 15%. The uptake rate among SWs steadily increased from 5% in December 2016 to 31% in September 2018.

51% of SWs who initiated PrEP did not continue after 1 month. At 10 months through to 25 months, approximately 15% were still on PrEP (continued or restarted). The trend was consistent across the sites.

Conclusions: Acceptance of PrEP increased over time with improved PrEP counselling by staff, and higher PrEP awareness within SW communities. The most significant drop off in continued use of PrEP occurs in the first month. Once a PrEP user reaches the 7 month visit, they are likely to continue use long-term. Further investigation is necessary to determine reasons for discontinuation at early stages of PrEP use. Interpretation and generalization from this analysis is limited in scope, as data are limited to sex workers in Wits RHI project sites.

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Modelling healthcare service providers knowledge and attitude toward prescribing Pre-Exposure Prophylaxis to key populations in Ghana

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Background: Knowledge and behavior are known to be hooked in a vicious cycle and the outcome of the introduction of a new health product is dependent on the knowledge and attitude of actors involved. Pre-exposure prophylaxis (PrEP) is being adopted in Ghana as a preventive strategy of HIV infection among a high-risk population. This paper explores healthcare service provider’s knowledge about PrEP and the associated willingness to prescribe PrEP to key populations (KPs) in Ghana. Under the USAID/Ghana Strengthening the Care Continuum Project, led by JSI Training Institute Inc, a formative assessment of PrEP introduction for key populations in Ghana was conducted among health care professionals in the Greater Accra and Brong Ahafo regions.

Materials and Methods: Data are drawn from a cross-sectional survey administered to 409 healthcare professionals (Doctors, Physician Assistants, Nurses, Counselors, Pharmacist, Dispensing Technicians, Case Managers, and Peer Educators) drawn from private and public health facilities in Greater Accra and Brong Ahafo regions. A multi-stage sampling procedure was employed to select health facilities by type and public and private while quota sampling was used in selecting service providers. A logistic regression model was fitted with the attitude of the provider to prescribe PrEP to KPs as the dependent outcome and knowing about PrEP, feeling about PrEP, and selected socio-demographic characteristics of providers (age, sex, type of provider and number of years in the profession) as the independent variables.

Results: Majority of the respondents were females (67.24%) with a mean age of 35.67 (± 11.03) years with ages ranging between 22 and 76 years. The distribution of respondents are as follows: Doctors/Physician Assistants (18.58%), Nurse/Counselor (47.92%), Pharmacist/Dispensing Technician (17.85%) and Case Manager/Peer Educators (15.65%). There is no statistically significant association between type of provider and ever having heard about PrEP before the survey (P=0.194). Doctors/Physician Assistants (11.8%), Nurse/Counselor (12.6%), Pharmacist, Dispensing Technicians (17.81) and Case Managers (6.3%) reported ever hearing about PrEP before the survey. Majority (84.11%) of providers indicated that PrEP should be available to KPs. However, knowing about PrEP before the survey (P=0.822) and feeling (negative or positive) about PrEP (0.057) are not statistically significantly associated with provider attitude toward PrEP for KPs. After controlling for sex, age, cadre of provider, years in the profession, knowing about PrEP, and provider feeling about PrEP, knowing about PrEP before the survey is not a predictor of provider attitude of PrEP for KPs (P=0.978). Case Managers/Peer Educators have a higher odds ratio (OR) 3.7142 (P=0.018) to make PrEP available to KP while Providers who feel positive about PrEP reported OR of 2.3509 (P=0.059) of making of making PrEP available to KPs. Also, Provider age and number of years in the profession have a direct relationship with Providers making PrEP available to KPs.

Conclusions: Knowledge about PrEP is not a significant predictor of provider attitudes to prescribing PrEP to KPs. It is therefore important to push for provider attitudinal change toward KPs and to administer PrEP as part of a holistic HIV prevention strategy in the country.
Service provider insights: Implications for national training and support for PrEP provision in South Africa

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Background: South Africa began delivering oral pre-exposure prophylaxis (PrEP) to sex workers (SW) in 2016, to men who have sex with men (MSM) in 2017, then to adolescent girls (AG) aged 15-19 and young women (YW) aged 20-24 in 2018. We conducted implementation research on service providers' insights on oral PrEP provision to inform service delivery.

Methods: We conducted cross-sectional surveys (192) and follow-up in-depth interviews (IDIs) (13) with service providers with (PrEP-experienced) and without (PrEP-naïve) experience providing PrEP at 17 facilities in 2017-2018. Participants included nurses, lay counselors, clinicians, community educators and pharmacists. Data were analysed in Stata 13 and NVivo 11.

Results: Of the 192 participants surveyed, 20% were males and 80% females, ages 18-71 with mean age of 35. Providers had service delivery experience with YW (90%), AG (58%), MSM (40%), and SW (22%). About half (54%) of participants were familiar with PrEP; among these, 47% had been trained in PrEP delivery and 34% had provided PrEP services. Nearly all PrEP-naïve providers felt that they need additional skills/experience to provide PrEP (96%), compared to 58% of experienced providers. Providers thought that barriers to PrEP use included side effects (60%: 70% naïve/41% experienced), lack of access (58%: 63% naïve/47% experienced), drug availability (43%: 48% naïve/33% experienced), and being judged (39%: 40% naïve/35% experienced). Some providers were concerned that offering PrEP to adolescent girls (43%) and young women (32%) will result in a backlash in the community. Based on preliminary analysis, challenges discussed in qualitative interviews included stigma experienced by people taking oral PrEP, skepticism from potential oral PrEP users due to lack of information, and partner resistance to oral PrEP use.

Conclusion: Our findings suggest creating dialogical spaces with both PrEP naïve and experienced service providers to address concerns such as PrEP provision to SW/ MSM/AG and YW. There is need to strengthen service provider training particularly on non-stigmatizing and non-judgmental attitudes toward populations at substantial risk of HIV, including SW, MSM and AGYW.

Translating operations research findings into rapid programmatic action: Reflections from the ACCESS study in South Africa

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Background: Responding to WHO Guidelines on oral pre-exposure prophylaxis (PrEP) in 2015, the National Department of Health (NDoH) convened a National PrEP Technical Working Group (TWG), comprising implementing partners, donors, civil society, researchers and programmers in October 2015 to inform PrEP rollout in South Africa. PrEP was launched in 2016, and the TWG remains a platform for sharing programmatic and research data to inform service delivery. Requested by NDoH, the ACCESS research study was conducted with PrEP clients and providers to inform rollout. We describe the engagement process with the TWG and lessons learned.

Methods: ACCESS study plans were shared with the TWG, followed by the study protocol and data collection tools. Prior to data collection, the NDoH facilitated site buy-in and approvals. Data was collected from September 2017-January 2018. Preliminary findings from descriptive analysis were shared with TWG in November 2017, and TWG provided input on focus areas for qualitative research. Findings and recommendations from additional quantitative analysis and final results were shared with the TWG in March 2018 and October 2018, respectively.

Results: Preliminary results suggested client challenges with side effects, their management, and client counselling on managing side effects. Within three months of receiving preliminary results, NDoH revised the national PrEP training clinical and counseling sessions to provide more emphasis on this topic. Additionally TWG stakeholders developed materials for clients on expected side effects and management. Final results suggested providers displayed adequate knowledge but were uncertain about providing PrEP to sero-discordant couples with a virally suppressed partner. NDoH is currently addressing this through training. Future research focus areas, such as an in-depth understanding of stigma for clients discontinuing and continuation support strategies were shared with the TWG. Provider attitudes about PrEP are being explored through additional research, and findings will inform providing training.

Conclusions: Often research findings only reach program implementers at publication. However, our method of engagement with NDoH and TWG proved effective by rapidly translating research findings into programmatic action. This was achieved by ensuring NDoH was a core research partner and getting input from NDoH and TWG at every step of study planning, implementation, reporting, and translation.
Abstract

Microplanning in PrEP Delivery for Key Populations. Can it work?

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Background: With an efficacy of 92% preventive capabilities against HIV when taken daily, PrEP has proved to be an indispensable addition to the HIV combined prevention among high risk populations. Despite feasibility studies showing relatively good acceptability of PrEP by sex workers in Kenya, implementation has been challenging due to sub-optimal uptake rates and high attrition among the population. This has caused a paradigm shift to exploring interventions to ensure robust sensitization, mobilization, and linkage of potential users.

Micro-planning in HIV programming refers to provision of services by a Peer Educator(PE) based on individualised and unique peer needs, as deduced from frequent interaction. The PE is able to plan around individuals and tailor sensitizing sessions in regards to their specific habits, needs, risks, and vulnerabilities. Micro-planning and peer education have been proven to be successful tools in demand creation for HIV care and treatment services. This abstract text explores what it would mean if micro-planning is incorporated as a tool to PrEP sensitization, mobilization, referral, and follow-up.

Methodology: Sex Workers Outreach Program (SWOP) utilizes a Peer Led model for demand creation of HIV prevention and care services. The model employs micro-planning, whereby every Peer Educator (PE) is attached to a hotspot(s) and serves 60-80 peers in their hotspot. The Peer Educator is responsible for demand creation for the services, referral for enrolment, and follows up the Sex Worker (SW) until they exit sex work or permanently change hotspots. The PEs record the bio-data and contact details, program contact history, their commodities needs, and replenishes whatever the peers require in a timely fashion. As such, the PE is expected to account for all of the peers in their cohorts. This allows the program officer who oversees the outreach team to monitor the specific needs of each peer using the outreach calendars.

Results: In the regions of Nairobi county covered by SWOP, there is an estimated size of 30725 Female Sex Workers (FSW) and 2443 Male Sex Workers (MSM). The Program has ever enrolled 21666 as of December 2018. On average, the program contacts 12,000 FSWs and 700 MSMs per month. The contacted number refers to the number reached with health education and commodities as a minimum package.

Recommendation: PEs forms the strongest links between programs and the SWs, as they contact them at the hotspots repeatedly. As such, they are able to target and reach potential PrEP users with sensitization messages and mobilize them for uptake. Additionally, they can easily do the follow up, consequently helping the program curb and/or address attrition. Programs offering PrEP should intensively train PEs on PrEP and build their capacity to sensitize on the same. Their built trust through familiarity will help with better acceptability, uptake, and sustainability on PrEP. Additionally, programs should install mechanisms to demystify issues timely to curb misconception induced attrition.

Vaccine development & participation in sub Saharan Africa: how willing are young people in Western Nigeria

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Background: An estimated 36.7 million people live with HIV/AIDS in 2015, with more than 3 million people living with the virus in Nigeria, ranking the country among the top three most affected. Because adults are mostly affected by this epidemic, their inclusion in HIV vaccine trials is of utmost importance in obtaining an effective and acceptable vaccine. This study is thus aimed at evaluating the factors determining adults (young persons) willingness-to-participate (WTP) as well as their entire knowledge and perception about HIV vaccine trials.

Methods: Data was obtained from 3500 young persons (18-49 years) recruited by a multi-stage sample technique. The cross-sectional study was carried out using a face-to-face interview. An informed consent was obtained through a pre-tested structured questionnaire, with questions addressing socio-demographics, HIV vaccine studies knowledge and perception, sexual behaviour and possible stigma from HIV vaccine trial participation. Data was analysed using SPSS software, with significance fixed at P<0.05.

Results: The mean age ± SD was 27.53 ± 3.46 years. 1094 (31.3%) expressed their willingness to definitely participate in the vaccine studies while 999 (28.5%) reported that they may participate especially if a very tangible incentive will be given. Unwillingness to participate was associated with safety concerns (12.0), side effects (5.0%), fear of HIV infection from vaccine (4.1%), time required for study (1.9%) and partner’s sexual intercourse refusal (1.2%). 983 (28.3%) reported people in good health, HIV negative individuals and at low risk of HIV infection, are eligible for HIV vaccine trial. There was a significant association between willingness to participate in HIV vaccine trials and age as well as gender.

Conclusions: Participation in an HIV vaccine trial in a Nigerian context is likely to be influenced by comprehensive education about the vaccine trial concept, addressing issues relating to concerns and possible risks pertaining to participation as well as incentives, as the WTP in the vaccine trial is quite low probably due to the participants’ perception and inadequate knowledge as evidenced in this research.
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Close analysis of barriers to successful female condom programming for HIV prevention in Malawi: knowledge, interest and demand for use.

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**Introduction:** Malawi as a country has made notable strides in the provision and use of family planning (FP) services and methods such that the use of modern contraceptive methods among married women of reproductive age has increased from 28% in 2004 to 42% in 2010 (CFM Macro 2011), while the use of Female Condom (FC) as a contraceptive method has increased from 1.8% in 2004 to 2.4% in 2010. Though the National Behavioral Change intervention Strategy for HIV/AIDS and Reproductive Health of 2003, identifies condom use as one of the major ways of preventing the spread of HIV, unwanted pregnancies and other sexually transmitted infections (STIs), there are barriers and unmet needs to successful FC programming which involves knowledge, interest and demand creation for its use.

**Methodology and Objective(s):** With a background that the proportion of people using FC for HIV prevention is still low in which only 37.5% of females reported using FCs in their last sexual encounter with a non-regular or non-cohabitating partner, the study wanted to explore barriers, factors affecting general peoples FC interest and demand for use as an HIV preventative measure.

Using both qualitative and quantitative methods, 11 In-depth Interviews, 13 Focus Group Discussions, a general Situational Analysis and Key Informant Interviews were conducted to collect data among 1120 sexually active adolescents and young women from 4 districts of Zomba, Balaka, Machinga and Mangochi. Literature and secondary data review was also carried out of which data was being analysed on a continuous and ongoing basis in line with the knowledge, attitude and practice as per the study design and methodology.

**Results:**
- Apart from the fact that there has been long outstanding negative attitudes, myths and misconceptions towards FC use especially among women in rural areas, 66% of women interviewed indicated that FCs are not always available within their locality.
- There are bunches of unmet needs in the promotion of FC use probably because of financing challenges that are basically affecting procurement and delivery of FC such that all channels of distribution are always not exhausted creating stock outs (87% of retail outlets, health facilities and NGOs implementing condom-related programs registered stock-out of FCs).
- FC promotion messages are inconsistent creating fragmented information, reducing knowledge, interest and demand for FC. Socially marketing of FC in rural areas for HIV prevention is not impressive.
- There is lack of long term free FC logistics and programming as compared to male condoms (inequitable distribution system).

**Conclusion, Recommendation and Policy Implication:** A strategy should be in place to integrate free FC distribution throughout the country including traditional and nontraditional distribution outlets if the use of FC is to be embraced by many. On the other hand, the availability of myths and misconceptions regarding FC use calls for the need for sensitisation campaigns, and demonstration campaigns as it is a fact that only evidence based knowledge can easily be translated into practice. Authorities must design and promote rural FC distribution systems and public sector marketing plan to provide better distribution and reducing stock outs.

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A Close Analysis Of the Levels of Demand and Acceptance for Voluntary Medical Male Circumcision (VMMC) as an HIV prevention intervention amongst Males of Different Religious and Ethnic Background.

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**Introduction:** According to the Malawi Demographic Health Survey of 2004, it was only 20.7% of men aged between 15 and 49 who were circumcised. This document also highlighted the fact that these men were mainly circumcised based on religious and cultural grounds hence almost 75% of these men were from the Yao and Lhomwe belts of Mangochi, Machinga, Balaka, Zomba, Phalombe, Chiradzulu, Mulanje and Thyolo. Before medical male circumcision (MMC) was recognised as an effective intervention for HIV prevention by the World Health Organisation (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) in 2007, levels of knowledge amongst the general population was basically low hence demand and acceptance for MMC was not impressive. There was a deep rooted perception and mind set which linked male circumcision to religion and tradition as well as culture.

It is against this background that a study was conducted in the areas of TA Namabvi and TA Mkhumba in Mangochi and Phalombe respectively, to analyse levels of demand and acceptance for non-religious and non-cultural related VMMC as an HIV prevention intervention for males.

**Methodology:** This was a mixed method study in which we used both qualitative and quantitative methods to collect data. We conducted 10 In-depth interviews, 6 Focus Group Discussions, 2 Key Informant Interviews(KIIs), literature review and a general situational analysis. KIIs were conducted with Initiation Councillors (Ngalibas) as well as parents of medically circumcised young boys. Data was being analysed on a continuous and ongoing basis. In summary, 36 medically circumcised males from mixed cultural and religious background, 6 Ngalibas and 30 parents (21M, 9F) were interviewed.

**Results:** During the study 88.9% (36/32) of medically circumcised men aged between 15 and 35 indicated that they voluntarily undergone MMC as a preventative measure for HIV, STIs as well...
as Human Papilloma Virus and not necessarily based on their religion and culture. On the other hand 100% of the Initiation Councillors interviewed (6/6) indicated that after undergoing MMC which is basically done at a Health facility by a qualified personnel, the counselling that they do provide in different initiation camps are no longer based on ethnicity and religion as a reason for MMC but rather as an HIV prevention strategy hence MMC has a general demand regardless of religion and culture.

Conclusion and Recommendation: It is evident that the Malawi Voluntary Medical Male Circumcision Communication Strategy of 2012 and other VMMC promotion interventions has increased levels of knowledge on the benefits of VMMC hence demand for the same has increased amongst males regardless of religious and cultural background.

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Hiv Prevalence and Healthcare Utilisation in Zambian Correctional Facilities

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Objective: The aim of this study was to determine the prevalence of HIV infection and healthcare utilisation in Zambian correctional facilities.

Purpose: To determine the prevalence rate of HIV infection and how inmates utilise HIV health care services.

Methods: 240 inmates from three different types of correctional facilities namely: Two maximum security facilities, one medium and minimum correction facilities respectively. 240 inmates were interviewed using The HIV Risk-Taking Behaviour Scale (HRBS) and demographic questionnaire.

Results: 92% of inmates from the three correctional facilities tested and were aware of their HIV status. 34% were HIV positive and 58% were HIV negative. 9% had not tested for HIV and as such did not know their HIV status yet. The reported testing was both before and during incarceration. Results show a high prevalence rate of 34% among inmates. Medium correctional facility had the highest prevalence rate of 29%, followed by maximum and medium 15%, 6% respectively. Results show that among the behavioural risk factors, sexual risk-behaviour (Men who have sex with Men) is highest in Medium (218) followed by Maximum security correctional facility (137) compared to drug risk behaviour 90 and 60 inmates respectively. Both medium and maximum correctional facilities scored more than half the scores for drug risk-behaviour. Thus, sexual behaviour (men having sex with men) poses a more risk challenge for inmates than drug use.

The key finding for healthcare utilisation is that minimum had better HIV health service utilisation followed by Maximum and least Medium security correctional facilities respectively.

Conclusion: Interestingly like most Zambian studies, the current study found high prevalence rate of HIV among inmates and majority were aware of their HIV status. HIV prevalence in Zambian correctional facilities has always been twice higher than the general population. HIV related risk factors were more in medium, maximum and lastly minimum correctional facilities. Two types of HIV risk factor categories identified were behavioural and mental disorders. Mental disorders HIV risk behaviour identified were; Axis- 1 mental disorders (Major Depressive Episode Current, Major Depressive Disorder Past, High Suicidality, Psychotic disorder current, Psychotic disorder lifetime and Substance dependency current) and behavioural included; sharing of shaving and tattooing instruments, men who have sex with men and drug use. From 2014 to 2018, prevalence rate has increased from 27.4% to 34%.

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Barriers to voluntary medical male circumcision uptake in Lesotho: using population-level data to identify gaps in service coverage and inform novel demand-creation approaches

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Background: In 2012, the Lesotho Ministry of Health integrated voluntary medical male circumcision (VMMC) into its core package of HIV prevention services. VMMC uptake, however, has been slow. The World Health Organization reported that from 2012 to 2018, 170,008 men had been medically circumcised in Lesotho, which is approximately 25% of the male population 15 years and older. Despite evident pitfalls in scaling VMMC coverage, there is a paucity of data characterizing barriers and facilitators of VMMC uptake in Lesotho. Using population-level data, this study aimed to document potential barriers to VMMC uptake by identifying factors associated with circumcision status.

Materials & Methods: Data are derived from the 2014 Lesotho Demographic and Health Survey, which employed a two-stage sampling design to recruit participants (N=9,402) from select households across rural and urban enumeration areas. The final sample included 2,931 men aged 15-59 years from 10 districts. Data were stratified by circumcision status (not medically circumcised, medically circumcised, and traditional circumcised only), and chi-square tests of association revealed significant differences in circumcision status by participant socio-demographics and HIV-related indicators, including HIV status, past-year STI symptomology, lifetime HIV testing, and condom use. Multivariate logistic regression models were subsequently run to measure associations between circumcision status and HIV-related factors, controlling for socio-demographic variables.

Results: Approximately half of the sample had only been traditionally circumcised (n=1,449), while fewer than one-fourth of participants (n=724) reported being medically circumcised. Among medically circumcised men, nearly one-fifth (n=126) reported also being traditionally circumcised. Chi-square tests of association revealed significant differences in self-reported HIV positivity (13.3% vs. 16.4%, p<0.001), condom use at last sex (52.1% vs. 43.1%, p<0.001), and never being tested for HIV (16.6% vs. 37.6%, p<0.001) between medically circumcised men and participants who reported traditional circumcision only. Compared to participants with no medical circumcision history,
medically circumcised participants had significantly higher odds of STI symptoms in the past 12 months (Adjusted Odds Ratio [AOR] = 2.06, 95% Confidence Interval [CI]: 1.07–3.94) but significantly lower odds of HIV positivity (AOR=0.63, CI: 0.45–0.89). Residence and education also emerged as factors significantly associated with circumcision status in multivariate analysis, with men in rural areas having significantly higher odds of not being medically circumcised (AOR=2.22, CI: 1.73–2.88). Likewise, men with secondary or higher education were significantly less likely to report not being medically circumcised (AOR=0.303, CI: 0.24–0.38).

Conclusions: Supplementing evidence from other sub-Saharan African settings, medical circumcision was associated with lower odds of HIV infection and was accessed most frequently by urban-dwelling, higher-educated men. While data have historically treated traditional and medical circumcision as mutually exclusive phenomena, findings highlight the prevalence of dual traditional-medical circumcision in the male population, highlighting opportunities to broaden target audiences for VMMC programming in settings like Lesotho, where non-medical circumcision is widely practiced. Efforts to reach VMMC-eligible men through existing demand-creation mechanisms could include service promotion by satisfied VMMC clients who are also traditionally circumcised.

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Integrating HIV Prevention Messages into Sporting Festival: A Viable platform for Reaching Adolescent and Young People

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Background: National data suggests that 40% of all reported new cases of HIV occur in young persons aged 15 to 24 years in Nigeria. In order to reach more of this group with relevant and appropriate HIV/AIDS prevention information and services, the National Agency for the Control of AIDS (NACA) collaborated with the National Sport Commission (NSC), Society for Family Health and AIDS Healthcare Foundation to create demand and mobilize athletes through distribution of IEC materials, provision of inter-personal communication (IPC) for HIV prevention services during the 19th National Sports festival (NSF) in Abuja.

Description: The National Sport Festival is a biennial multi-sport event organized by Federal Government of Nigeria through the NSC for athletes from 36 states of Nigeria and Federal Capital Territory. In 2018, a total of about 10,000 athletes, ages 15-24 years, including those with disability, were gathered from all over Nigeria to participate in 37 sporting events for a duration of 10 days. NACA, working with other stakeholders, set up colorful stands for testing, STI messages and condoms. There were private booths within the stands for testing by trained HIV counselors and testers. Appropriate referral and linkages mechanisms were also put in place for identified positive individuals.

Lessons Learnt: Out of 4,700 athletes were reached with IEC materials (HIV facts, STI, HIV Self-Testing and PMTCT messages), IPC messages, and 50,400 condoms were distributed. However only 467 athletes were tested, with 6 individuals testing positive. With HIV testing being one of the tests conducted as part of the medical assessment for the festival, most of the individuals approached reported to have tested in the last 3 months prior to the event.

Conclusion: National Sporting Festival presented a unique platform to mobilize, create demand and reach young people with HIV/AIDS prevention information and services in Nigeria.

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Six-year follow-up observation of HIV transmission among serodifferent couples in Abidjan from 2012 to 2017, Côte d’Ivoire

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Background: Human immunodeficiency virus (HIV) infection remains a global pandemic. The primary driver of HIV incidence is sexual transmission between serodifferent individuals. However, the demonstrated effectiveness of antiretroviral therapy (ART) to prevent HIV transmission, known as prevention as treatment and of pre-exposure prophylaxis, few data in our context in Abidjan are available.

Objective: The aim of the present study was to estimate the rate of within-couple HIV transmission followed-up in the Infectious Disease Department (IDD) at Treichville Academic Hospital (Côte d’Ivoire)

Material and Methods: The prospective, observational study was conducted between January 2012 and December 2017 at IDD and enrolled 117 HIV serodifferent couples (HIV-positive partner taking suppressive ART). A annual follow-up included viral load control of the HIV infected partner, condom use, and the spouse’s HIV test control every six months were performed. Our primary endpoint was the Risk of within-couple HIV transmission to the HIV-negative partner.

Results: A total of 117 couples were enrolled during our study period, of whom 102 were followed up. In our index population, the median age was 41 years [IQR 35-46 years]. One-third of the couples (35.90%) had been in a relationship for more than 5 years. Among those who always had sex, 51.28% did not use condom. Almost half of the patients (48.72%) were already on antiretroviral therapy at baseline with a median duration of 4.70 years [IQR 1.83-7.06]. At follow-up, the median CD4 count was 397(278-580) cells/mm3. The median plasma viral load was 0.1 log10 copies/ml with more than half of the patients (58.82%) having less than 50 copies/ml. However, 18% had a plasma viral load greater than 1000 copies/ml. Our couples were followed up for a median duration of 4.19 years [2.86-5.21]. During follow-up, one out of 102 discordant couples was found to have
seroconverted during the follow-up (incidence rate, 0.243 per 100 couple-years; 95% confidence interval, 0.232-0.248).

Conclusion: Among serodifferent couples in which the HIV-positive partner was using suppressive ART, only one documented case of within-couple HIV transmission (upper 95% confidence limit, 0.243/100 couple-years of follow-up). Additional longer-term follow-up is necessary to provide more precise estimates of risk in our context particular identifying the main risk factor.

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Consistency of condom use among young men and women at high risk of HIV infection in Kisumu, Kenya

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Correct and consistent condom use significantly reduces the risk of HIV transmission but has not been universally adopted by at-risk youth, particularly among key populations in resource-limited settings. Alternative and complementary approaches to HIV prevention, such as pre-exposure prophylaxis (PrEP), may be needed in populations where condom uptake is low.

We evaluated consistency of condom use in an HIV-uninfected population that was eligible for PrEP in Kisumu, Kenya, in order to inform more effective approaches towards HIV prevention. From January 2017 to February 2018, HIV-uninfected men and women aged 18-35 years who reported ≥2 sexual partners in the preceding 3 months were enrolled into an ongoing HIV incidence cohort study. HIV testing and counselling was performed every 3 months for up to 2 years.

Condom use and other HIV risk behavior were assessed by questionnaire every 6 months. Male condom use was defined by answering ‘always’ as the frequency of condom use with various partner types. Self-reported condom use was compared across demographic categories and between enrollment and the 6-month visit time points. Of 579 participants, 43.7% were female and 99.3% were literate, with a median age of 24 (interquartile range 21-28 years). Consistency of condom use ‘always’ response at enrollment,6-month visit and at both visits was as follows: Primary partner [44.3% (43/98), 18.3% (47/257), 9.9% (22/222)], Secondary partner [51.0% (292/573), 56.3% (262/465), 49.4% (228/462)], Exchange sex partner [51.2% (208/406), 60.4% (216/357), 48.8% (120/246)], Partner younger by 10 years [54.1% (144/266), 63% (97/154), 55.5% (76/137)] and Partner younger than 18 years [42.5% (54/127), 50% (21/42), 48% (12/25)]. Sometimes response at both visits was as follows; secondary partner 62.6% (289/462) and exchange sex partner 61.8% (152/246). Never responses were fewer at 6-month visit across all partner types.

Condom use increased after enrollment in the study, but there is still a gap. Efforts are needed to further promote condom use and should be supplemented by other prevention approaches, such as PrEP.
Antigenic promiscuity of MHC-E-Restricted CD8+ T cells underlie the broadly targeted RhCMV-induced SIV response

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Background: RhCMV68-1 vaccine vectors expressing SIV antigens induce broadly-targeted effector-memory T cells unconventionally MHC restricted by MHC-II or MHC-E molecules. MHC-E-restricted T cells are thought to be essential for the stringent control of SIV viral replication seen in over half of RhCMV68-1 vaccinated rhesus macaques (RM). The monomorphic nature of MHC-E within primates makes these T cells an attractive universal therapeutic agent. To better understand the basis of this unconventional antigen recognition and the mechanism by which it might contribute to SIV control, we sought to clone and characterize the T cell receptors responsible for these responses.

Methods: Whole transcriptome sequencing was used to identify the CDR3 amino acid sequence and V(D)J usage in multiple RhCMV68-1/Gag vaccinated RM. Paired TCR chains were inserted into a retroviral plasmid and transfected into a RD114 pseudotyped viral vector producer line. Allogeneic CD8+ T Cells from RhCMV/Gag-naïve RM were then activated in vitro and transduced.

Results: Gag-specific MHC-E-restricted TCR clonotype hierarchies were determined for 4 RhCMV68-1 vaccinated RM over a 2-year time frame, focusing on two universal epitope (supertope) responses, Gag69 and Gag120. We confirmed that allogeneic CD8+ T cells transduced with these exogenous TCRs secreted effector cytokines upon encountering antigen in the context of MHC-E. We found the certain MHC-E-TCRs were not restricted to recognizing a single epitope but were capable of multiple distinct and separate peptides from across the vaccine insert. MHC-E TCR transductants recognized SIV infected CD4+ T cells derived from autologous or allogeneic sources, demonstrating the presence of MHC-E-bound minimal optimal epitopes on the surface of infected cells.

Conclusions: We demonstrate that MHC-E-restricted T cell specificity is derived from its cognate TCR, that these TCRs mediate recognition of SIV-infected target cells and that some MHC-E-restricted T cells possess a previously undescribed ability to recognize multiple diverse antigens.

Rilpivirin induced mutations in the human immunodeficiency virus type 1 reverse transcriptase (HIV-1 RT) decrease susceptibility of drug binding

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Background: The Human Immunodeficiency Virus type 1 (HIV-1) causes acquired Immunodeficiency Syndrome (AIDS) in HIV-1 infected individuals. Rilpivirine, a diarylpyrimidine derivative and a non-nucleoside reverse transcriptase inhibitor (NNRTI) is used for the treatment of HIV-1 infections. The internal conformational flexibility of rilpivirine and the plasticity of its interacting binding site give it a very high potency and an unlikely generation of resistance compared to other NNRTI’s. Though, Rilpivirine, in combination with dolutegravir, was approved as part of the first complete treatment regimen with only two drugs for the treatment of adults with HIV-1, it was observed that rilpivirin treatment could also generate drug resistant mutants in HIV-1RT. However, the exact mechanism of rilpivirin induced drug resistance is not well known.

Materials and Methods: In order to explore the mechanism(s) behind rilpivirin induced drug resistance in HIV-1 RT, the clinically isolated drug resistant mutants i.e. E138K and M184V were generated in both the p51 and p66 subunits of HIV-RT using site directed mutagenesis and PCR. The mutants were confirmed, cloned and expressed and the corresponding proteins were purified and characterized using transient kinetics methods as well as gel shift assay.

Results: The results indicated that the mutant proteins did not shown any effect on the binding of the enzyme with DNA i.e. the binary complex formation step. However, it affected significantly the binding of nucleotides i.e. the ternary complex formation step. The analysis of properties of different mutants using bioinformatics tools, it was found that E138K either in p51 or both subunits (p51/p66) of enzyme was mainly responsible for reducing affinity of binding of rilpivirine with the mutant HIV-1RT.

Conclusions: Its pharmacokinetic properties include higher potency, longer half-life and low toxicity. Using the aforesaid mutants in different subunits of RT, our studies on the mechanism(s) associated to the emergence of drug resistance against RPV have suggested that E138K in the p51 subunit of HIV-1 RT is responsible for emergence of drug resistance against rilpivirin by reducing the drug susceptibility to bind with the enzyme.
HIV controllers in four African countries

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Background: HIV controllers (HCs) have the ability to spontaneously suppress HIV viral load (VL) without antiretroviral therapy (ART) intervention. This group consists of elite (ECs) and viremic controllers (VCs) who suppress to undetectable and low levels respectively. With adoption of universal ART initiation regardless of CD4 count, it will soon become difficult to identify HCs. We described HC characteristics and compared them to non-controllers in an African context.

Methods: The African Cohort Study (AFRICOS) is an ongoing cohort enrolling HIV-infected participants at 12 PEPFAR supported clinical sites in Uganda, Kenya, Tanzania, and Nigeria. Follow up is every six months. ART naïve participants were identified and grouped as ECs (VL <50 copies/ml), VCs (VL 50-2000 copies/ml) and non-controllers (VL >2,000 copies/ml), all in ≥3 consecutive visits, on separate days, spanning a period of ≥12 months. Other variables were study site, age, gender, marital status, education, baseline CD4, CD4 at last ART-naïve visit, nadir CD4, and VL after ART initiation. Fisher’s exact test and Kruskal Wallis tests were used to assess significant differences.

Results: From January 2013 to March 2018, 2,788 HIV-infected participants were enrolled, and 130 were analyzed. Six (0.2%) were ECs and 14 (0.5%) VCs. The median age of ECs, VCs and non-controllers was 42, 37 and 33 years respectively (p=0.1840). Ninety percent of all HCs and all ECs were female, compared to 69.1% of non-controllers (p=0.1838). The median CD4 count in the last visit before ART initiation was significantly different with ECs having 901 cells/mm3, 604 cells/mm3 for VCs and 475 cells/mm3 for non-controllers (p=0.0001). After ART initiation, ECs and VCs had median VL (10.5 copies/ml and 980 copies/ml respectively), which was lower than non-controllers (11534 copies/ml, p=0.0011). The proportion of ECs, VCs, and non-controllers that achieved viral suppression ≥ 6 months after ART initiation was 33.3%, 90.9% and 3.65% respectively (p=0.0023). There was no significant difference in the rest of the variables.

Conclusion: Overall clinical measures (CD4+ count prior ART and viral suppression after ART) were better in HCs than non-controllers. This trend in VL and CD4+ count between the HCs and non-controllers, makes it crucial that immunological and viral factors are worked upon to determine the cause for the differences.

Disclaimer: The views expressed are those of the authors and should not be construed to represent the positions of the US Army or the Department of Defense.
Baseline Levels Of Apobec3g MRNA Expression Does Not Predict HIV Disease Progression

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Background: The host antiviral factor, apolipoprotein B mRNA editing enzyme catalytic polypeptide-like 3G (APOBEC3G) is known to control HIV replication by inducing G to A hypermutations into the growing HIV chain during reverse transcription. However, the extent to which APOBEC3G affects disease progression is unclear. In this study, we examined APOBEC3G mRNA expression levels before initiation of treatment and its effect on disease progression, after 12 months on antiretroviral therapy (ART).

Materials and Methods: Twenty-eight (28) consenting HIV patients were studied from Korle Bu Teaching hospital and Eastern Regional Hospital, Koforidua. All patients were enrolled as antiretroviral therapy naïve and followed up for 12 months. Blood was collected for CD4+ T cell counts and also processed into plasma and peripheral blood mononuclear cells (PBMC). The change in CD4+ count over the 12-month period was calculated. Host RNA was extracted from PBMC and APOBEC3G mRNA expression levels were estimated by real-time polymerase chain reaction (qRT-PCR) using gene-specific primers. Glyceraldehyde 3-phosphate dehydrogenase (GAPDH) gene was also amplified alongside as an internal control for gene expression. Delta A3G level was calculated as the difference in means between APOBEC3G mRNA and GAPDH mRNA. Descriptive statistics were applied to analyze the data obtained and a linear regression model was used to assess the effect of A3G mRNA expression on changes in CD4+ count.

Results: After 12 months, 83% males and 64% females were on ART whilst 17% males and 36% females remained ART naïve. A mean baseline CD4+ count of 183.78 cells/µl and 648.63 cells/µl was found for patients with CD4+ count >350 cells/µl and ≤350 cells/µl respectively. At month 12, the mean CD4+ count had increased to 409 cells/µl for patients with CD4+ count ≤ 350 cells/µl and 688 cells/µl for CD4+ count > 350 cells/µl. The Mann-Whitney U test showed significant change in CD4+ count between baseline and 12months (p<0.017). The median ΔA3G mRNA level was found to be 3.5862 (0.7085-5.6237) for those with CD4+ count > 350cells/µl and 3.0946 (1.7469-6.5271) for patients with CD4+ count ≤ 350cells/µl. No significant association was found to predict the effect of ΔA3G mRNA level on CD4+ count as a measure of disease progression using the linear regression model.

Conclusion: Baseline APOBEC mRNA levels showed no significant effect on HIV disease progression as measured by CD4 T Cell count. A larger study is needed to augment our understanding of the impact of host APOBEC3G on HIV disease progression.

Pattern of HIV Prevalence and Incidence in Akwa Ibom State Aids Indicator Survey (Akais) in Nigeria: Population Based Study

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Background: Estimates of HIV prevalence are widely available from sentinel surveillance or cross-sectional studies however HIV incidence is much more sensitive to the changing dynamics of disease transmission and provides a more sensitive measure of the current state of the epidemic and of the impact of programmes. We report pattern of HIV prevalence and Incidence in 2017 population-based survey in Akwa Ibom State, Nigeria, funded by the USAID.

Materials and Methods: Eligible household members were enrolled through a two-stage probability sampling method across 31 local government area of Akwa Ibom in Nigeria. A total of 15,609 adults and children participated in the survey. Rapid HIV serology testing was conducted at the household (HH) in line with National HIV testing algorithm. EDTA blood sample were collected from all HIV positive in HHs and were transported to satellite laboratory for CD4 testing (BD Fascount), HIV quality control / assurance check and processed into plasma. Plasma samples were shipped to Central Quality Laboratory of University of Yoo Teaching Hospital, Uyo, for HIV confirmatory test (Geneius HIV 1 / 2 kit, Biorad, France) and also tested for HIV-1 RNA Viral Load (Cobas Roche Ampliprep / Taqman). Confirmed HIV-1 positives were tested for recency using Limiting Antigen Avidity Assay kit (Laq) (Sedia Bioscience Inc. Portland Oregon USA). HIV incidence was therefore estimated using the Sedia Laq data management sheet and HIV incidence calculator developed by CDC. Data were collected using CS entry software and analyzed. Results were presented in frequency, percentage and 95% Confidence Interval (CI).

Results: Of the 15,609 participants, 14, 899 consented and were tested for HIV (0-14 years -6,593; 15 years and older-8,306), Overall HIV prevalence was 2.8%; point prevalence in children 0– 14 years was 0.4 percent, and 4.8 percent for adults aged15 years and older. Prevalence in children are 0.4%, 0.3% and 0.6 % in 0-4, 5– 9 and 10– 14 years respectively while for adults are 1.5%, 4.7%, 5.3%, 7.3%, 7.6%, 6.3% and 3.3% for ages 15–19, 20– 24, 25–29, 30–34, 35–39, 40–49, and 50 years and older. Prevalence was higher in females (5.6 %) than males (3.7 %) aged 15 years and older. The adjusted HIV incidence among 15 years and above was 0.41/100 Persons year (PY) (CI:0.16-0.66) among 15year and older. Incidence was marginally similar among gender; male 0.42/100 PY (CI: 0.05-0.79) and Female 0.41/100 PY (CI: 0.08-0.74). Highest incidence rate was observed among age group 15–19 (0.84%) followed by 35-39 years (0.76%) and the least among 25-29 years (0.28%). No incidence was observed among age group 20-24 years.

Conclusion: High burden of HIV in age group 35- 39 and 15 - 19 years old is a pointer to revised HIV programing to reduce the risk amongst these the adolescents and adult of reproductive
Hepatitis E Virus seroprevalence in some high risk human populations in Cameroon

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Background: Hepatitis E virus (HEV) is a major cause of acute hepatitis worldwide. HEV usually causes acute self-limiting hepatitis, but in some cases fulminant liver failure, chronic hepatitis may occur leading to morbidity and mortality, especially in at-risk groups such as the pregnant women, Elderly people, patients with pre-existing liver disease or those who are immunocompromised. In general population, HEV infection is usually asymptomatic with mortality rate of approximately 1-4%, but fulminant hepatitis may occur in pregnant women in developing countries with higher mortality rates. HEV infection in immunocompromised population mainly comprised of human immunodeficiency virus (HIV)-infected patients, may result in about 60% of cases in chronic hepatitis infection characterized by rapid progression of liver fibrosis to cirrhosis. Although young adults have been shown to be the group at high risk for infection in Africa, older adults are more at risk in HEV infection in high-income countries. In Cameroon, knowledge about the HEV among these high risk human populations is almost nonexistent. Only one study on the HEV in HIV-infected patients is available. The objective of our work is to study the seroepidemiology of the hepatitis E virus in pregnant women, HIV-infected patients and elderly populations in Cameroon.

Materials and Methods: A total 903 patients were collected in Southern and Central regions of Cameroon, including 450 elderly people, 183 pregnant women and 270 HIV-infected patients. All sera obtained were tested for the presence of antibodies anti-HEV with an enzyme-linked immunosorbent assays: HEV IgG ELISA and HEV IgM ELISA 3.0 kits (MP Biomedicals Asia Pacific Pte Ltd, Singapore). The demographic characteristics of the participants and data on risk factors for HEV infection were recorded during sampling. The association between initial anti-HEV status and potential risk factors was assessed using the Chi-squared test. Microsoft Excel 2007 and SPSS version 21 software were used to process, analyze, and plot data.

Results: The overall seroprevalence was 34.9% (95% CI: 31.8%-38.1%) amongst which 50% (95% CI: 45.4%-54.6%) in elderly people, 21.3% (95% CI: 16% -27.8%) in pregnant women and 18.9% (95% CI: 14.6%-23.9%) in HIV-infected patients. The seroprevalences of recent infection were 14.8%, 9.9% and 39.8% in pregnant women, elderly people and HIV-infected patients, respectively. The seroprevalences of past infection were 4.9%, 10.2%, and 8.8% in pregnant women, elderly people and HIV-infected patients. No risk factors were significantly associated with HEV infection in this population.

Conclusion: In our study, we found a high prevalence of anti-HEV antibodies in some high risk human populations in Cameroon. The high seroprevalence of HEV obtained in emphasizes more on the endemicity of this infection in developing country. Our results demonstrate that the epidemiology of HEV infection is underestimated and that severe forms may exist. Further studies are required to understand the epidemiology of this infection in Cameroon.

HIV Incidence and Pre-Exposure Prophylaxis Awareness and Uptake Among a Random Sample of Female Sex Workers in Mombasa, Kenya

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Background: Declines in new HIV infections in Kenya have coincided with biomedical and structural HIV interventions, including targeting female sex workers (FSWs), a population historically over-represented in the epidemic. While condom use with clients is high among Kenyan FSWs, awareness of newer biomedical prevention methods such as pre-exposure prophylaxis (PrEP) may be limited. The population-level HIV prevention impact of PrEP scale-up among FSWs will depend on local HIV incidence. Public health benefits may be counteracted by adverse sexual and reproductive health outcomes, such as increases in unplanned pregnancy if PrEP uptake results in declining condom use. We explored HIV incidence and PrEP awareness and uptake among FSWs in Mombasa, Kenya.

Methods: FSWs aged 16-34 years were recruited into the WHISPER or SHOUT study from 93 randomly-selected sex work venues in Mombasa between September 2016-May 2017. Participants underwent HIV point-of-care testing and completed interviewer-administered surveys covering socio-demographics and sexual behaviours at baseline, 6 months and 12 months. HIV incidence was calculated among participants HIV-negative at baseline with a subsequent HIV test result. At month-12, PrEP awareness was assessed by asking participants if they had ever heard of, or used, PrEP. Multiple logistic regression explored factors associated with PrEP awareness and PrEP use in the last 12 months.

Results: Of 882 FSWs enrolled, 688 (78.0%) were included in incidence analyses. Ten incident HIV cases were observed over 690.7 person-years of follow-up (median, 1.03 years), with an incidence rate of 1.45/100 person-years (95% confidence interval (CI)=0.78–2.69). Six hundred and eight HIV-negative participants completed a survey at month 12, of which 366 (60.2%) reported having ever heard of PrEP. PrEP awareness was associated with older age (adjusted odds ratio[aOR]=1.05/year;
Abstract

Cl 1.001-1.10) and reporting Christian compared to Islamic faith (aOR=1.55; CI=1.02-2.35), however was not associated with recently seeking healthcare services, duration of sex work, weekly income or average payment for sex. Ninety-four participants reported ever taking PrEP; 90 (14.8%) had done so in the last 12 months. PrEP use in the last 12 months was associated with older age (aOR=1.02/year; CI=1.02-1.18), recently seeking healthcare services (aOR=1.86; CI=1.07-3.24), reporting Islamic compared to Christian faith (aOR=2.31; CI=1.74-4.57) and having completed primary education (aOR=1.39; CI=1.42-11.25). PrEP use in the last 12 months was not associated with having a boyfriend, condom use with clients or boyfriends, duration of sex work or number of clients in the last week. Fifty-three participants reported currently taking PrEP, of which 34 (64.2%) reported taking PrEP every day in the last week; 45 (84.9%) reported taking PrEP at least 4 days in the last week.

Conclusions: Awareness of PrEP among Kenyan FSWs was moderate, however uptake was low. Utilising healthcare services was not associated with PrEP awareness, highlighting an opportunity for healthcare providers engaging with FSWs to deliver information on PrEP. PrEP use was not associated with inconsistent condom use. While some FSW populations may not meet recommendations for PrEP implementation based on population-level HIV incidence, identifying and offering PrEP to FSWs at increased risk of HIV may help reduce HIV transmissions among these populations.

Feasibility of measuring HIV-related mortality during population-based surveys: a randomized validation study in Malawi

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Background: Eliminating HIV-related deaths is a key goal of HIV prevention and treatment programs. Monitoring progress towards that objective requires precise data on causes of death, but in most sub-Saharan African (SSA) countries, civil registration and health information systems are poorly developed. Instead, reliable data on causes of death are often only available for highly selected populations, such as clinical cohorts or health and demographic surveillance systems (HDSS). In the absence of representative data, UNAIDS uses mathematical models to estimate trends in HIV-related mortality from limited data on HIV prevalence and/or treatment coverage. We tested whether adding a few questions to the instruments used to collect mortality data during nationally representative surveys (e.g., Demographic and Health Surveys, DHS) might help estimate the excess mortality faced by persons living with HIV.

Methods: Following in-depth interviews and pre-testing, we added 4 HIV-related questions to the siblings’ survival history tool used to measure adult mortality in DHS. These questions ascertained the HIV status and engagement in care of a respondent’s deceased sibling(s) at the time of his/her death. We conducted a validation study of this questionnaire among the population of the Karonga HDSS in Malawi, where reference data on HIV-related mortality are available. Participants were 15-59 years old residents of the HDSS population. Sampling was stratified by HIV status of the respondent, and history of HIV-related deaths among a respondent’s siblings. Participants were randomly assigned to one of two modes of data collection: a face-to-face interview (FTFI), and audio computer-assisted self-interview (ACASI). In total, 307 participants were assigned to FTFI, and 306 were assigned to ACASI. The primary outcomes were the sensitivity and specificity of the questionnaire in recording HIV-related deaths among a respondent’s siblings. We also tested whether these outcomes varied by time since the death of a sibling.

Results: We contacted 614 individuals, and 539 responded to the survey (87.8%). The respondents consisted of 276 (51.2%) females and 263 (48.8%) males. 272 (50.5%) were interviewed face-to-face, and 267 (49.5%) were interviewed using ACASI. The sensitivity of the questionnaire in recording HIV-related deaths was 68.8% with ACASI and 74.1% with FTFI (p = 0.37). The specificity of the questionnaire was 93.0% in the ACASI arm and 95.8% in the FTFI arm (p = 0.22). In both arms, the sensitivity of the questionnaire was higher in recording more recent HIV-related deaths: for example, the sensitivity of FTFI in recording HIV-related deaths having occurred within the past 8 years was 83.5% compared to 66.9% for deaths having occurred more than 8 years ago (p = 0.0339).

Conclusion: Our enhanced questionnaire achieved high accuracy levels in classifying recent deaths as HIV-related in the FTFI arm. These levels are comparable to those achieved for other causes of death (e.g., maternal deaths), which are widely elicited during nationally representative surveys or censuses. After additional validation studies in other SSA settings, this new questionnaire might help better track progress towards the elimination of HIV-related deaths. ACASI was not effective in improving data quality.

Hiv-1 Molecular Epidemiology Within And Between Risk Groups In Coastal Kenya

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Background: Transmission patterns within and between populations at high risk of HIV-1 acquisition in Kenya are not well understood. Few studies suggest that the HIV-1 epidemic in MSM may be separate from that in the general population. However, these studies have been limited by low sampling density and unavailability of broad risk group data. We aimed to determine HIV-1 subtype distribution and transmission dynamics within and between men who have sex with men (MSM), injection drug users (IDUs), female sex workers (FSW) and the general heterosexual population (HET) in coastal Kenya.

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Methods: We generated 153 new HIV-1 pol sequences (~1000bp) from plasma samples of antiretroviral therapy (ART) naïve FSW and HET populations in Coastal Kenya (collected in the period 2005-2017). In addition, we retrieved all HIV-1 pol sequences from Genbank from ART naïve individuals from Coastal Kenya (n=495, 2005-2017). A BLAST approach was used to determine an additional set of reference sequences. The resulting Coastal Kenya specific sequences (n=648) and reference sequences (n=930) were aligned and analysed by maximum likelihood phylogenetics to determine HIV-1 subtype distribution and transmission clusters. Transmission networks were classified based on the number of sequences per cluster into dyads (2 sequences), triads (3 sequences) or cluster networks (≥4 sequences).

Results: Of the 648 Coastal Kenya sequences, 107 (16%) were MSM, 58 (9%) IDUs, 373 (58%) HET and 110 (17%) FSW. The epidemic was characterized by subtypes A1 (n=427, [66%]), D (n=69, [11%]), C (n=45, [7%]), G (n=3, [-1%]), and recombinant forms (n=104, [16%]). One-hundred-and-seventy-seven sequences formed 50 clusters, comprising 31 dyads [62%], eight triads (16%), and 11 networks (20%). The majority of MSM sequences (65%) formed several separate and independent transmission clusters with cluster sizes ranging from 2-9 sequences per cluster. In contrast, the majority of IDU sequences (74%) clustered together in one large network (n=41). Finally, most FSW and HET sequences were singletons (86% and 69%, respectively) and did not form any large transmission networks.

Conclusion: The HIV-1 epidemic in Coastal Kenya is still dominated by subtype A1 infections. Our findings suggest that the MSM and IDU epidemics may be largely separated from each other and other risk groups and populations. Targeted HIV-1 prevention interventions are warranted to break the transmission cycle amongst MSM and IDUs from Coastal Kenya.

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Unsuppressed viral load among adults with non-recent HIV infections: ZAMPHIA, 2016

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Background: HIV programs in Zambia aim to achieve epidemic control through antiretroviral treatment (ART) and viral load (VL) suppression among the estimated 1.2 million people living with HIV (PLHIV) in Zambia. Using data from the 2016 Zambia Population-based HIV Impact Assessment (ZAMPHIA), we assessed prevalence and correlates of unsuppressed viral load (UVL) among adults (15-59y) with non-recent HIV infections (NRHI: ≥12 months–130 days).

Methods: Demographic and behavioral information and blood samples were collected from a nationally representative household-based sample of individuals. HIV-seropositive results were confirmed using the Genius supplemental assay; VL testing using Roche COBAS Ampliprep/COBAS TaqMan platform. Recency of infection was determined by comparing limiting antigen (LAg) avidity EIA testing with VL and ARV metabolites (NRHI: LAg>1.5 OD units, HIV RNA<1000 c/ml, ARV metabolites detected). UVL was defined as HIV RNA>1000 c/ml. ART use was based on a combination of self-report or detection of ARV metabolites in collected samples. Descriptive and multivariate analyses were conducted using methods that accounted for the complex survey design.

Results: In total, 2417 participants had NRHI; of these, 38.2% had UVL. Among PLHIV with NRHI and UVL, 64.1% were unaware of their HIV-positive status; 24.1% were aware of their HIV-positive status and were not on ART; 11.8% were aware of their HIV-positive status and were on ART. UVL was significantly associated with male gender (AOR=1.8, p-value=0.004), ages 15-24y (AOR=6.8, p-value<0.0001) and 25-44y (AOR=2.3, p-value=0.0001), and rural residence (AOR=1.8, p-value=0.004). UVL was also significantly associated with not seeing a facility-based healthcare provider in the past year (AOR=2.9, p-value=0.0001) and engaging in condomless sex (AOR=1.9, p-value=0.004) or no sex in the past year (AOR=2.4, p-value=0.002) compared to those who used a condom during their last sexual encounter. Past year marital status and being away from home for ≥1 month were not associated with UVL.

Conclusions: Most PLHIV with NRHI and UVL in Zambia were male, rural residents, unaware of their HIV status. HIV testing, treatment, and counseling services that exist outside of traditional health facility settings and specifically targeting men, younger populations, and rural residents are needed to achieve epidemic control in Zambia.

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Attitudes about Vaccines to Prevent Ebola Virus Disease in Guinea at the End of a Large Ebola Epidemic: Results of a National Household Survey

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Introduction: In 2014-2016, an Ebola epidemic devastated Guinea; more than 3,800 cases and 2,500 deaths were reported to the World Health Organization. In August 2015, as the epidemic waned and clinical trials of an experimental, Ebola vaccine continued in Guinea and neighboring Sierra Leone, we conducted a national household survey about Ebola-related knowledge, attitudes, and practices (KAP) and opinions about “hypothetical” Ebola vaccines.

Methods: Using cluster-randomized sampling, we selected participants aged 15+ years old in Guinea’s 8 administrative regions, which had varied cumulative case counts. The questionnaire assessed socio-demographic characteristics, experiences during the epidemic, Ebola-related KAP, and Ebola vaccine attitudes. To assess the potential for Ebola vaccine introduction in Guinea, we examined the association between
vaccine attitudes and participants’ characteristics using categorical and multivariable analyses.

Results: Of 6,699 persons invited to participate, 94% responded to at least 1 Ebola vaccine question. Most agreed that vaccines were needed to fight the epidemic (85.8%) and that their family would accept safe, effective Ebola vaccines if they became available in Guinea (84.2%). These measures of interest and acceptability were significantly more common among participants who were male, wealthier, more educated, and lived with young children who had received routine vaccines. Interest and acceptability were also significantly higher among participants who understood Ebola transmission modes, had witnessed Ebola response teams, knew Ebola-affected persons, believed Ebola was not always fatal, and would access Ebola treatment centers. In multivariable analyses of the majority of participants living with young children, interest and acceptability were significantly higher among those living with vaccinated children than among those living with unvaccinated children.

Discussion: The high acceptability of hypothetical vaccines indicates strong potential for introducing Ebola vaccines across Guinea. Strategies to build public confidence in use of Ebola vaccines should highlight any similarities with safe, effective vaccines routinely used in Guinea.

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Unraveling the burden of (major) depressive disorders among people living with HIV in Africa

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Introduction: Depression can negatively impact the course of HIV infection. It is therefore important to accurately estimate its burden among people living with HIV in Africa (the epicenter of HIV infection), with the aim of deriving efficient and evidence-based related health policies, locally.

Materials & Methods: We carried-out a systematic review and meta-analysis of studies published between January 2000 and February 2018 on the prevalence of (major) depressive disorders among people living with HIV in Africa. We searched PubMed, Embase, Web of Science, African Journal Online and Africa Index Medicus, supplemented by a manual search; no language restriction was applied. A random-effects meta-analysis model served to pool studies together.

Results: A total of 118 studies representing 61,125 patients and 19 countries were retained. Methodological quality assessment revealed that 64 (54.2%), 49 (41.5%) and 5 studies (4.3%) had a low, moderate or high risk of bias, respectively. Most studies used the Centre for Epidemiology Studies Depression Scale to diagnose depression. The pooled prevalence estimates of depressive disorders and major depressive disorders were 36.4% (range 4.0-67.7; 95% confidence interval (CI): 32.1-40.7) and 15.6% (range 0.0-68.5; 95%CI: 12.6-18.9), respectively. These estimates were significantly higher in Northern than in sub-Saharan Africa; conversely, the study setting, site, CD4 cell counts, age, sex, and proportion of people with undetectable viral load did not influence our estimates.

Conclusion: The burden of depressive and major depressive disorders is very high among people living with HIV in Africa, hence deserving more attention and implication from all local actors.

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HIV-1 Drug Resistance and Potential Determinants among Cameroonian Patients: Evidence-Based Recommendations from the Chantal BIYA International Reference Centre (CIRCB)

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Background: Human immunodeficiency virus (HIV) infection is a global health priority, with national prevalence of 3.4% in Cameroon and a high genetic diversity. With scale-up of antiretroviral therapy (ART), HIV drug resistance (HIVDR) becomes a public health priority, requiring monitoring of determinants according to ART-regimens, in order to set-up measures to limit resistance emergence nationwide. We therefore sought to determine the threshold of HIVDR according to ART-exposure of non-B HIV-1 subtype infected patients and factors associated with HIVDR emergence within the Cameroonian context.

Materials and Methods: Using the CIRCB-HIVDR database, a study was conducted among patients received for HIVDR testing at the Virology Laboratory of the Chantal BIYA International Reference Centre for Research on HIV/AIDS prevention and management (CIRCB) from January 2011 to May 2017. Briefly, genotypic HIVDR testing had been performed in the protease-
reverse transcriptase region and interpreted using the Stanford University HIVDR database v.8.5. BioEdit v.7.0.5.3 was used for sequence alignment and the maximum likelihood method of MEGA v.7.0.26, used for phylogenetic tree construction. Statistical analyses were performed per group (ART-naive, first- and second-line ART-experienced patients), major HIVDR mutations and their association with clinical, immunological and virological parameters were evaluated; with p<0.05 considered statistically significant.

Results: Overall, 441 patients were enrolled (mean age: 41±11 years; 61.68% female) and stratified following ART-exposure: 135 ART-naive, 199 and 107 failing first- and second-line respectively. Median CD4 was highest amongst ART-naive (206 cells/mm³ [IQR:72-333], vs. 126 cells/mm³ [IQR:55-241] first-line vs. 110 cells/mm³ [IQR:45-150] second-line). Viremia varied similarly: ART-naive (180,900 copies/ml [IQR:53,400-617,320]); first-line (50,828 copies/ml [IQR:5,280-90,756]); second-line (38,000 copies/ml [IQR:10,230-111,596]). HIVDR increased from 8.15% (ART-naive), 83.70% (first-line) to 85.98% (second-line), p<0.05. In the entire data set, CRF02_AG was prevailing (60.54%) and associated with lower HIVDR-emergence compared to others (50.35% vs. 64.97%; OR: 0.55; p=0.003). However, HIVDR-emergence was similar between patients with poor (83.89%) vs. good (82.00%) compliance to ART (OR: 0.93; p=0.88).

Conclusion: In Cameroon, immunity decreases from naïve to first- and second-line ART-experienced patients, with a similar trend in viral replication (likely due to decreased viral-fitness in the frame of increasing mutants with ART-exposure). The predominant CRF02_AG appears to limit HIVDR emergence compared to other strains circulating in Cameroon. Thus, key determinants of HIVDR-emergence in our Cameroonian clinical context entail exposure to failing ART-regimens, delayed detection of treatment failure (i.e. very-low CD4 at failure) and viral subtype.

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Computational Methods for Evaluating Impacts of Current HIV Interventions for Key Population in West African Coastal Areas

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Background: The coastal corridors of West Africa boast of tremendous vehicular and human traffic, with very high population mobility. In 2016, 70% of trade activities in West Africa occurred along this corridor, Involving 5 countries: Côte d’Ivoire, Ghana, Togo, Benin and Nigeria (ALCO, 2016). The delay of transporters at the boundaries prolonged opportunities for risky behaviour. There is a high prevalence of HIV in this area. UNAIDS described it as ‘hyper endemic’ [1]. An estimated 79% of new HIV infections in Central and West Africa in 2016 occurred in these countries. Men Who Have Sex with Men (MSM), Female Who Sell Sex (FSWS), and People Who Inject Drugs (PWID) account for about 32% of new HIV infections in Nigeria and are the worst affected population sets by the epidemic. HIV prevalence among FSWS ranges from 26.6% in Côte d’Ivoire, 34.7% in Benin, 34.9% Nigeria, to 54.7% in Togo [2]. World Bank and Global Fund recently rolled out programs aimed at mitigating the spread of HIV in this area. We investigate the impacts of theses programs and model the effects in five years’ time, in this study.

Methods: A mathematical model was developed, using python programming language. A hybrid S-U-D-T and S-I-T structures were used in designing the model. The I group of FWSS was further divided into U and D while S-I-T was used for other population groups. A Susceptible (S) group includes all members of the population set; The Undiagnosed (U) group includes infected member of the population that are yet to be tested. The Diagnosed are the tested and confirmed individuals. The model considers various factors affecting the implementations of the program. Current values of the model variables, as shown in the table below, served as baseline inputs to the model. The variables include initial prevalence of HIV among FWSS, their clients; proportion of sex acts that are protected; initial population of the target group; duration of the intervention; number of sexual contacts per FWSS, average number of sexual acts per week, etc. Three Scenarios of the model were estimated over a period of five years.

Result: As shown in the outputs, if the current intervention on treatment is maintained, the new infection rate will initially decrease to 0.3 of the current rate (19.2% of all new HIV infections along 3 of the 8 bordering units and gradually increase by 3.6% in five years’ time. A slight decrease of 0.3% would be experienced in the general female population. Adopting a test and treat policy for FSWS returns a 74.7% reduction on the number of new infections among clients of FWSS in five years’ time.

Conclusions: Our model reveals the efficiency of treatment in reducing the rate of new infections among FSWS, their clients and general female. The models reveals the importance of the investing in the FSW intervention programs now, rather in the future. The model outputs can be used to calculate the Quality Adjusted Life Years (QALY) to be gained during the intervention.

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Characteristics, time to linkage to care and loss from care of a cohort of newly diagnosed PLHIV in Libreville, Gabon.

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Background: In Gabon, the number of people living with HIV (PLHIV) has shown a 8% increase between 2012 an 2017 despite changing policy according to WHO. At the time of the 90’90’90’ goals, data on HIV continuum of care which are important to adapt controls strategies are lacking in central Africa, including Gabon.

Methodology: We retrospectively analyzed data from a cohort of 452 newly diagnosed PLHIV enrolled into care at the second public HIV care and treatment center (CTC) of Libreville. Age, sex,
WHO clinical stage, time from diagnosis to first CTC visit, time of ART initiation, number of CD4+ T cell count and follow up within the study period were recorded and compared between two periods. 2012 to 2015 when ART eligibility was recommended for PLHIV with less than 350 CD4+ T cells/µL and 2015 - 2017 when ART initiation threshold had been increase to 500 CD4+ T cell/µL.

**Results:** The median age at the CTC care enrollment was 40 [32-50] years old in 2012-2014 and 44 [36-53] years old in 2015-2017 (p=0.01). Women predominated during the while period (69.5%). While PLHIV in stage 3/4 increased from 32.8% to 51.9% in 2015-2017 (p<0.01), Tuberculosis remained the main opportunistic infection. Clinically well PLHIV attended more frequently the CTC in 2015-2017 (26.6%) compare to 2012-2014 (5.0%). The proportion of patients with HIV advanced disease showed an opposite trend (67.2% versus 57.7% in 2015-2017) (p<0.01). The median CD4+ level did not significantly changed (216 [95-387] /µL versus 205 [97-338/µL]) (p=0.77). The rate of PLHIV with less than 350 CD4 cell/µL at care enrollment was 82.1%, it was 88.3% in 2015-2017 (p=0.77). The frequency of severely immunosuppressed patient was also comparable (14.8% versus 15.4%) (p=0.96). Rapid care initiation was more frequent during the period (72.7% versus 59.7%) (p<0.01) as well as the proportion of patient on ART (85.1% versus 98.0% in 2015-2017) (p<0.01) and that of PLHIV with rapid art initiation (9.3% versus 18.0%) (p=0.01). According to CD4+ cell count, ART was initiated upon 3 months of diagnosis in 9.1% PLHIV with <350 CD4+/µl in 2012-2014 and in 16.1% of these with ≤500 CD4+ cell/µL in 2015-2017. One year after their first CTC visit, 52.9% in 2012-2014 and 47.1% in 2015-2017 had follow-up discontinuation.

**Conclusion:** Despite substantial improvement significant challenges an all continuum of care exist in Libreville. Interest should focus on improving HIV diagnosis rapid care and ART initiation as well retention in care.

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**Regional Variation and Unawareness of HIV + Status in Urban Ethiopia: EPHIA 2017 – 2018**


**Background:** Ethiopia’s HIV epidemic is concentrated in urban areas across the country. The Ethiopia Population-based HIV Impact Assessment (EPHIA), a household-based survey, was conducted from October 2017 through April 2018 to measure the prevalence of viral suppression and other characteristics among HIV positive adults and children on treatment in urban Ethiopia.

**Methods:** A total of 20,170 adults 15-64 years of age were interviewed. HIV testing was conducted in randomly selected households using the national rapid diagnostic testing algorithm with laboratory confirmation of seropositive samples using a Geenius supplemental (Bio-Rad Geenius™ HIV 1/2 Confirmatory) assay. Weighted frequencies and 95% confidence intervals were calculated to assess regional variation in HIV testing levels. Multiple logistic regression was used to determine associations between region and self-reported awareness of HIV-positive status.

**Results:** Of the 19,136 (95%) adults tested for HIV, 914 tested positive (prevalence=3.0%). Adult urban HIV prevalence was lowest for Somali and highest for Gambella region. Of the estimated 384,011 People Living with HIV (PLHIV) in urban Ethiopia, 296,130 (77%) were from three of the 11 surveyed regions (Oromia, Amhara, and Addis Ababa). Of the estimated 98,590 PLHIV who were unaware of their HIV-positive status, 77,569 (79%) were from the same three regions. Compared with the Benishangul Gumuz (region with highest awareness level), Oromia (AOR=8.6, 95%CI 1.9-39.0), SNBNPR (AOR=9.8, 95%CI 1.9-49.6), Harari (AOR=8.6, 95%CI 8.6-45.5), Gambella (AOR=9.4, 95%CI 1.5-59.6), Afar (AOR=5.2, 95%CI 1.1-26.0), and Addis Ababa (AOR=8.0, 95%CI 1.7-36.8) had a statistically significantly higher odds of being unaware of HIV-positive status while adjusting for age and sex.

**Conclusions:** HIV prevalence varied by region across urban areas. The largest proportion of adults who tested HIV positive and were unaware of their status during the survey were from three of the 11 regions of the country. The national HIV program should focus on these three regions as areas of ongoing transmission and epidemic control and give due attention to increasing awareness of preventing HIV and knowing their HIV status.

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**Impact of Socio-economic inequality on access to Antiretroviral Treatment for peoples living with HIV in Cameroon**

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**Background:** In 2016, the country adopted WHO recommendation, the test and treat strategy, and started to scale up Antiretroviral Therapy. By the end of 2018, an improvement was observed with 52% of PLHIV reported on treatment in-country. However, these results are still far away from the UNAIDS 90-90-90 target. The aim of this study is to evaluate the impact of socioeconomic inequality on the access to ART.

**Method:** A cross sectional study was conducted in Cameroon from October to December 2017. Data was extracted in the ART register in selected health center. Eligibility criteria were patients aged 15-49 who that started ART at less than six months before the study period. Logistic regression was used to evaluate factors associated to access to ART

**Result:** A total of 3 074 PLHIV on ART were recruited in the study, 59.6% were women and the main age was 38.8[38.3-39.2] years. More than 22% of patients reported that ART is not accessible in Cameroon and 30.5% reported ever have miss their appointment to refill their medication. Living in rural area was
associated with poor access to ART services (OR=0.60; P<0.000). Distance (0.87, P<0.001) and cost of transportation from the household (0.99, P<0.002) to the health facility, as well as the patient income (OR=1.1, P<0.027) were strongly associated with poor access to ART. As compare with government employees, we found that PLHIV working in private sector (OR=1.6, P=0.014) had better accessibility to ART services. In the multivariate analysis, rural area and high cost transportation were considered like barriers to accessibility to ART as well as those with the lower income.

Conclusion: Accessibility to ART is important for retention and viral suppression. However, our study suggested that socioeconomic inequality may affected PLHIV to get their treatment on time. Then we should develop better strategy to reach the more vulnerable groups, especially peoples living in rural area and involve community during elaboration of guidelines.

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Cost-effectiveness of index HIV self-testing to reach male partners in Malawi

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Background: Testing high-risk men is critical to reach UNAIDS 95-95-95 targets. Index partner HIV self-testing (HIVST) has successfully increased testing among male partners in Malawi. We assessed the cost-effectiveness of index HIVST compared to standard partner referral slips (PRS) for men using the combination of a decision analytic model and trial outcomes. Cost per male tested positive and cost per male newly initiated ART was modeled for HIVST and PRS.

Methods: We used data from a trial comparing index HIVST to PRS among partners of ART clients at 3 district hospitals in Malawi. Testing outcomes were measured through follow-up surveys with enrolled ART clients. ART initiation was measured through medical chart reviews at 35 surrounding facilities. We parametrized a decision-analytic model based on trial results. Cost estimates were derived from micro-costing of a companion facility-based HIVST trial in Malawi. Cost of HIVST (HIVST kit ($2), counselling, confirmatory testing) and PRS (counselling, facility-based testing) per male partner newly aware of their status and per ART initiation were used to determine the cost per outcome for male partners.

Findings: Among all male partners enrolled in HIVST arm, 90%(182/204) received an HIVST kit, 66%(135/204) tested for HIV, 14%(28/204) tested positive, and 3%(7/204) initiated ART. Among men enrolled in the PRS arm, 90%(73/81) received PRS, 22%(18/81) tested for HIV, 5%(4/81) tested positive, and 4%(3/81) initiated ART. Cost per new positive was $14.90 for PRS and $16.11 for HIVST. Cost per ART initiation was $14.90 and $68.27 for PRS and HIVST, respectively. Higher initiation costs for HIVST were due to lower rates of linkage to care and ART initiation within the HIVST arm. Threshold analysis indicated that only when linkage is 100% and the price of HIVST test kit is reduced to $1.30 does index-HIVST become cost-saving compared to PRS.

Conclusion: Cost per new positive identified is similar for index-HIVST and PRS. However, as it stands, PRS may be a more efficient way to initiate men on ART compared to index-HIVST in Malawi. In order for index-HIVST to be a financially competitive modality to engage men across the HIV treatment cascade, novel linkage strategies will be required.

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Coût d’une consultation médicale de suivi et Reste-à-Charge pour les patients VIH au CRCF-CHU Fann de Dakar-Sénégal en 2018

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Problématique: Le Reste-à-Charge est la part de la dépense de santé que les patients ont à payer après interventions des dispositifs de protection sociale (mutuelle, assurance, subventions par l’État ou divers acteurs privés) lors d’un acte médical. Diverses études ont montré que les Restes-à-Charge élevés réduisent l’accès aux soins en favorisant le renoncement aux soins.

Objectif: Estimation du Reste-à-Charge d’une consultation de routine pour les PVHIV, suivies au CRCF (CHU de Fann). Cette étude est réalisée dans le cadre du programme UNISSAHEL-Sénégal de l’IRD/CRCF.


Résultats: l’étude a porté sur 344 personnes (69% de femmes). L’âge moyen est de 46 ans (mini 18 – maxi 74), avec en moyenne un enfant <15 ans à charge ; une seule personne n’était pas traitée par ARV ; la durée médiane de traitement ARV est de 6 ans (maxi 20 ans). 82% des personnes n’ont pas de protection sociale, 12% sont affiliées à une assurance (des fonctionnaires, du secteur privé, de la caisse de retraite, assurance privée), 6% à une mutuelle de santé communautaire. Le coût moyen total calculé (frais médicaux + frais de déplacement), hors médicaments ARV, CV et CD4 est de 33 USD/personne/consultation [mini : 9 – max : 375]. Il se répartit

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Abstract

Effets d’une pharmaceuticalisation de la PTME en Afrique : entre soulagement et individualisation du vécu des femmes VIH+

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Méthodologie: Une méthodologie qualitative a été mise entre 2013 et 2017 dans 4 sites PTME à Dakar, Sédhiou, Ziguinchor et 2 sites au Burkina Faso. Des réunions d’informations, 50 Focus group et 125 entretiens semi-directifs ont été effectués avec 90 femmes VIH ayant une expérience de la PTME dont la majorité avec l’option B+ des acteurs communautaires, des professionnels de santé, des médiateurs FVVIH, et des leaders d’association de PVIH.

Résultats: Les principaux constats ci-dessous ont été notés

- Une intégration de la PTME dans les services de santé de la reproduction a induit une mise sous ARV (trop ?) rapide et une détérioration de la qualité du suivi bio-médical
- Le dépistage VIH en consultation prénatale est de plus en plus rapide souvent sans sans counseling pré test, explique qu’elles ne soient pas préparées à recevoir cette information alors que les professionnels de santé allègent leur implication et délèguent aux médiateurs, souvent sans moyens, de nombreuses taches dans le suivi.
- De nombreuses femmes ont des difficultés pour respecter un allaitement maternel exclusif, assurer correctement leur propre alimentation
- La sensibilisation et la communication sur la PTME ont des points aveugles : peu d’informations sur l’efficacité des ARV sur le vécu du VIH et la prévention de la transmission sexuelle. Or le partage du statut avec le conjoint pour des femmes enceintes de leur conjoint est toujours risqué dans un contexte où le VIH est toujours déshonorant et les difficultés auxquelles elles doivent pour justifier leur suivi biomédical et faire face aux dépenses de santé après leur accouchement créent une nouvelle forme de vulnérabilité peu soutenue

Conclusion: L’option B+ facilite l’accès et le suivi de la TME mais doit être accompagné de soutiens nutritionnels, sociaux et pour la sécurisation de la continuité du suivi biomédical dans un contexte où les obstacles sociaux restent importants en amont du traitement. Des interventions centrées sur la prise du traitement ARV « pharmaceuticalise » la PTME, responsabilisant les femmes et minimisant les autres aspects conjugaux, nutritionnels et sociaux toujours importants.

Determinants of post-disclosure violence among HIV positive women in sero-discordant unions in Kumasi, Ghana: a cross-sectional study

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Background: Violence against women is a global epidemic that has negative health outcomes. In sub-Saharan Africa, lifetime prevalence of partner violence is over 30% and reported outcomes include mental disorders, suicidal tendencies, low self esteem, abortions and fractures to name a few. Human immunodeficiency virus (HIV) positive women in serodiscordant unions...
Abstract

Estimating recent HIV infections in pregnant women using recent infection testing algorithm


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Background: Estimation of HIV incidence can facilitate the design and evaluation of effective HIV prevention interventions. Recent infection testing algorithms (RITA), which comprise of a series of biomarker tests to identify recent or non-recent infections are an increasingly established approach to measure HIV incidence. Using data from HIV-positive pregnant women in western Kenya, this study estimated recent infections with a RITA and compared to linked health and demographic surveillance system (HDSS) records from an ongoing study in the area.

Methods: Venous blood for biomarker testing was drawn from HIV positive pregnant women during an antenatal care (ANC) visit. Maxim LAg-avidity was applied to samples, and pregnant women with a normalised optical density (ODn) of ≤1.5 were considered potential recent cases. The cut-off duration for the LAg-avidity test was 130 days after infection. Those considered potentially recent had viral load (VL) assays conducted. Finally, assessment of antiretroviral therapy (ART) uptake was done by reviewing medical records. Thus, pregnant women with LAg avidity ≤1.5 ODn, VL levels of above 1,000 copies/ml and not taking ART or on ART for <90 days were considered recent HIV infections. Further, we obtained HIV test results conducted before 2017 from Siaya HDSS database and compared them with RITA.

Results: Between February and November 2018, 19% (447/2,361) of the pregnant women who enrolled were HIV-positive. Of the 86 women with previous infections, 57% were <30 years of age, 9% were in their first pregnancy. Of the 89/91 with recent infections, 83% of the HIV-infected women had recency testing results. Of the 373 samples, 91 were identified as recently infected based on LAg-avidity and, 9/91 had viral load >1,000 copies/ml. Seven of these were taking ART for <90 days and one had not started taking ART. Thus, RITA identified eight pregnant women with recent infections; all eight were <30 years old, five were married, three were in their first pregnancy, and five were in their first trimester of pregnancy.

Of 107 pregnant women with recency test results who were successfully linked to an HDSS record with prior sero-survey HIV-status measurement, 21 were HIV-negative and 86 were HIV-positive in the HDSS. Of the eight RITA-based recent infections, two could be linked to an HDSS records; both had previous records of being HIV-negative. Of the 86 women with previous HIV-positive results in the HDSS, all were identified as long-term infections using RITA.

Conclusion: In this study, we found that RITA identified eight pregnant women as recently HIV-infected. The recent infections occurred in women under 30 years of age, suggesting that HIV prevention programs in the area should target this age group.
Abstract

Beyond the Caregiver: Diffusion of early childhood development knowledge and practices within the social networks of HIV-positive mothers in Malawi

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Background: Early childhood development (ECD) is critical to the growth and well-being of children. It is particularly important for children exposed to HIV – who experience worse health and developmental outcomes than non-exposed children. ECD programs targeting caregivers improve ECD outcomes. However, such programs are often limited in reach, focusing on individual caregivers; impact on the caregivers’ broader community and social-network is unknown. We assessed ECD-related perceptions and behavior among the social networks of HIV-positive mothers who participated in a 9-month integrated ECD-antiretroviral therapy (ART) program in Malawi.

Methods: A subset of 30 randomly selected HIV-positive mothers who completed the integrated ECD-ART program were asked to give study invitations to 7 friends/relatives >18 years of age with whom they speak regularly. As a comparison, community-based surveys were completed with adults >18 years, using census data for randomization. Both populations completed a one-time survey to assess ECD-related knowledge and practices for infants <12 months, using validated measures. Multivariate analyses (adjusted for age and sex) were conducted to examine differences between social-networks and the broader community.

Findings: A total of 615 individuals were recruited (203 social-network, 412 community) and 563 completed a survey (172 social network, 391 community). Social-network and community respondents had a mean age of 31 and 38 years, 3 and 4 children, and 79% and 70% were married, respectively. Knowledge about the importance of ECD was dramatically higher among social network as compared to community respondents: 83% vs. 68% believed telling stories to infants was important (AOR:3.10 p-value<0.001); and 97% vs. 57% believed singing was important (AOR:10.57 p-value<0.001). There was also significant difference in practices that promote ECD among infants, such as actually making toys for infants (84% vs. 32%; AOR:8.03, p-value<0.001), singing (87% vs. 63%; AOR:3.65, p-value<0.001), telling stories (75% vs 49%; AOR:2.79, p-value<0.001), and father involvement in feeding/bathing (68% vs 51%; AOR:2.51; p-value:0.001).

Conclusion: An integrated ECD-HIV program targeting HIV-positive mothers is associated with diffusion of ECD information and practices to mothers’ social-networks. The reach of ECD programs may be greater than initially anticipated and should be explored further.

La moralisation de la prévention? Effets du discours des soignants pour les femmes VIH+ au Sénégal

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Object: Au Sénégal, en dépit de toutes les interventions ciblant la vulnérabilité féminine, la proportion de femmes parmi les PV+ demeure importante (61%) et 70% des nouvelles infections surviennent dans des couples stables. L’objectif de ce travail est d’analyser les discours des acteurs communautaires sur la sensibilisation au VIH et des soignants lors de la prise en charge des fV+ pour en comprendre les effets.

Méthode: Cette étude qualitative est basée sur les données collectées dans le cadre du projet ANRS 12271 et d’une thèse : « De l’exception à la « normalisation ». Anthropologie de la santé reproductive confrontée au VIH au Sénégal ». 20 Focus group et 110 entretiens semi-directifs ont impliqué 75 fV+ ayant l’expérience de la PTME, des médiatrices FvV+, des intervenants en sensibilisation sur la PTME, des professionnels de santé et des leaders de PV+.


Conclusion: La communication envers les femmes en amont et en aval de l’infection vise davantage la conformité avec les normes sociales que l’exactitude épidémiologique. En contribuant à « pacifier » les femmes, les soignants perpétuent leur vulnérabilité au VIH et favorisent la persistance d’une prévalence VIH féminine plus élevée que celle des hommes.
Abstract

A Comparative Appraisal of Human Papillomavirus among HIV-infected versus uninfected Women in Cameroon


Background: Human papilloma viruses (HPV) are naked DNA viruses, ubiquitous and capable of infecting humans and many mammals, responsible for skin and mucosal cancers. HPV is the second leading cause of cancer death among women in resource-limited settings (RLS). In an event of HPV-exposure, viral clearance ranges over a period of 12 to 18 months, but could be longer and more virulent in case of co-infection with HIV, especially in the population of women. In the frame of limited knowledge on HPV according to HIV-status of women, we sought to compare the rate of HPV positivity among Cameroonian HIV-infected and uninfected women and identify associated factors.

Methods: A cross-sectional and comparative assessment (control-case: 1-1) was conducted in 2018 among 100 women enrolled consecutively at the General Hospital and the Gyneco-Obstetrical Hospital in the city of Yaoundé over a period of 9 months. HPV genotyping was performed by real-time PCR, HIV serological screening by serial algorithm, CD4 lymphocyte typing by flow cytometry, and HIV viral load by Abbott m2000RT.

Statistical analyses were performed using Microsoft Excel 2016 and Graph Pad version 6.0 software.

Results: A total of 100 women (mean age: 36.8, +/-3, 53 years) were enrolled (50 HIV-positive versus 50 HIV-negative). Overall, the median CD4 was 399 cells/mm3 (354 HIV-positive versus 414 HIV-negative). The overall rate of HPV was 33% (33/100), with the following genotype distribution: genotypes 16 (12%), genotype 18 (14%) and other genotypes (74%). According to HIV status, the rate of HPV positivity was 54% (27/50) among HIV-positive versus 12% (6/50) among HIV-negative women (OR: 6.609, 95%CI: 2.841-27.338; p<0.0001). According to ranges of viral load among HIV-positive women, HPV-positivity non-significantly: from 28.2% with undetectable viremia (<40 copies/ml), 42.8% with low-level viremia (40-999 copies/ml), to 30.3% with high viremia (≥1000 copies/ml); p<0.45.

Conclusion: The burden of HPV is significantly higher among HIV-infected women compared to uninfected peers, likely due to immunodeficiency in the course of HIV infection. Of interest, HIV viremia was not associated with the burden of HPV, suggesting a lack of synergistic interactions between the two viruses. The low rates of HPV genotypes 16 and 18, as compared to other high-risk genotypes, calls for further investigations on the vaccine effectiveness in the country.

Unmet need for family planning and contraceptive utilization among HIV-positive women: ZAMPHIA, 2016

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Background: Globally, HIV mother-to-child transmission (MTCT) rate estimates range from 15% to 45%. Contraception to prevent unintended pregnancies is a strategy to reduce MTCT, however, limited information describing contraception utilization and unmet need for family planning (UNFP) in Zambia exists. Suppressed viral load (SVL) during pregnancy, labor, and delivery minimizes the risk of vertical HIV transmission. Only 59% of women ages 15-49 living with HIV (WLHV) in Zambia have SVL. We used data from the 2016 Zambia Population-based HIV Impact Assessment (ZAMPHIA), a nationally-representative household survey, to describe contraceptive utilization and UNFP among HIV-positive women.

Methods: This analysis included non-pregnant HIV-positive women ages 15-49 who reported having sex in the past year and responded to questions about their desire to have a child and their current contraceptive method (n=49). UNFP was defined as not wanting children within 6 months and not using any contraceptive method to prevent pregnancy. HIV-seropositive results were confirmed using Geenius supplemental assay; viral load (VL) testing used Roche COBAS Ampliprep/COBAS TaqMan (CAP/CTM) platform. Unsuppressed viral load (UVL) was defined as HIV RNA ≥1000 c/ml. Analyses accounted for the complex survey design; prevalence and 95% confidence intervals are presented (% [95% CI]).

Results: Prevalence of UNFP was 28.5% (22.8-34.1) and differed by VL—35.8% of women with UVL had UNFP compared to 21.4% of women with SVL (p=0.07). UNFP among women with UVL differed by marital status (married/cohabitating: 20.3%; single/divorced/widowed: 45.7%, p=0.01), parity (nulliparous: 54.2%; parous: 31.0%, p=0.02), and receipt of family planning counseling during an HIV care visit (yes: 24.9%; no: 68.2%, p=0.02). Regardless of pregnancy desire, 32.7% (24.3-41.1) of women with UVL used any contraceptive method; of these, 81.8% (70.0-93.6) used moderate-most effective methods (i.e., oral contraceptives pills, intrauterine device, implant, injection).

Conclusions: UNFP is higher among WLHV with UVL compared to those with SVL. Among women with UVL, UNFP was lower among women who received family planning counseling during a HIV care visit. Scaling up of HIV and family planning service integration, including counseling on the full range of methods, is a strategy to reduce MTCT in Zambia.
Correlates of ART use among newly diagnosed HIV positive adolescent girls and young women enrolled in HPTN 068

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Background: Despite expanded access to HIV treatment worldwide, poor HIV care outcomes persist among HIV positive young people, particularly adolescent girls and young women (AGYW).

Methods: This survey was conducted among AGYW recruited from the HPTN 068 cohort who had sero-converted during the trial. The aim was to examine correlates of treatment use. Log binomial regression was used to estimate the crude associations between social support (Medical Outcomes Study support scale), stigma (Berger HIV Stigma Scale), and HIV status disclosure (ever/never) and current anti-retroviral therapy (ART) use, adjusting for age and time since diagnosis.

Results: Seventy-nine AGYW were included in this analysis. Median age of participants was 20 and time since diagnosis ranged from 0.5 to 4.8 years (median=2.1). Over 75% of AGYW (n=60) had sought HIV care at some point with the same number reporting previous disclosure of their sero-status. Just 43% (n=34), however, were on treatment at the time of the interview. Among those that had previously sought care, accessing HIV treatment (24%) and avoiding falling ill (20%) were the two most important factors influencing individuals’ care-seeking decision. Over half of participants reported support was available to them most or all of the time when needed and the median stigma score was 27 (range 21-38). Adjusted analyses found higher current ART use among those who had disclosed their status with a prevalence ratio of 3.30 (1.10, 9.34). No statistically significant relationship was observed between social support or stigma and ART use.

Conclusions: ART use among HIV positive AGYW remained low despite active linkage to care offered by the study, with only 43% of participants on treatment with a median of 2.1 years after diagnosis. Interventions aimed at addressing the importance of HIV status disclosure and immediate and sustained ART utilization could yield substantial improvements in retention in HIV care among AGYW.

Economic Strengthening: An alternative approach to HIV Prevention amongst young women and girls residing in Klipfontein/ Mitchell’s Plain Sub-Districts, Cape Town

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Background: Despite numerous HIV prevention programs being implemented across the globe, the Sub-Saharan region of Africa remains heavily burdened with HIV. The new HIV infections are most prevalent among the young women and girls (YW&G). This has attributed among other things, to the economic imbalances that exist in the society resulting in YW&G engaging in transactional sex with older men, who in turn infect them with HIV. Therefore, it is important to understand the extent to which empowering young women can reduce HIV acquisition among young women.

Methods: The YW&G between the ages of 19-24, who are out of school, unemployed and who reside in the Klipfontein/Mitchell’s Plain sub-district were enrolled into the economic strengthening program (ESP). The program was divided into two distinct components. The “Standard Package” was an intensive 4-week program, comprising of a Personal development course, Professional development course and Sexual Reproductive Health education. The second component was a 6-month “Streams Package”. This comprises of 4 streams, namely, Employment stream, Basic Education stream, Further Education stream as well as the Entrepreneurship stream. The YW&G received further training, coaching and assistance with opportunities that are relevant to their streams.

Results: In a 2-month period, 416 YW&G were eligible and enrolled into the ESP. A total of 191 YW&G completed the Standard Package. Reasons for discontinuation included lack of child care, active search for employment, fatigue and relocation. A total of 168 YW&G continued into the development Streams. Thirty seven YW&G have been assisted to find employment and 35 YW&G have been assisted with bursaries and enrolment for basic and /further education and training. The YW&G on entrepreneurship stream have and are still receiving the relevant training and will receive mentoring and coaching as well as start-up funds.

Conclusions: Conditions associated with not being in school makes YW&G vulnerable to HIV acquisition. The implementation of this community-based program has assisted young women with basic and further education opportunities, work opportunities and business start-up training and has potential to reduce HIV transmission rate as the economical independent YW&G would no longer have to engage in transitional sex.
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Healthcare seeking experiences of HIV positive young women in rural South Africa

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Background: Healthcare accessibility and poor facility reputation are frequently cited as barriers to HIV treatment initiation and retention in care among HIV positive young people, particularly in rural, underserved areas.

Methods: This survey was conducted among HIV positive adolescent girls and young women (AGYW) recruited from the HPTN 068 cohort. The primary aim of this analysis is to describe the experiences of these young women in seeking HIV care in the nine government-funded clinics in the Agincourt Health and Socio-demographic Surveillance System site in the Bushbuckridge sub-district of rural Mpmalanga Province. Specifically, we examine reasons for seeking or avoiding care and for those that had previously engaged in care, experiences physically getting to the healthcare facility, wait times, perceptions of interactions with facility providers, and overall visit satisfaction.

Results: Of the 142 HIV positive individuals interviewed in this study, 103 (72.5%) had sought HIV care at some point since diagnosis with HIV. Among those that had sought care, 25 (24.3%) AGYW listed getting medicine as the most important reason for doing so. Among those that hadn’t sought care, not feeling sick was the most frequently cited reason for avoiding services (n=22; 56.4%). Of the 103 individuals that sought care, most walked to the clinic (n=45; 43.7%) and median travel time was 30 minutes (range: 5-90). Twenty-six individuals (25.2%) reported waiting more than one hour for services and 42 (40.8%) felt staff members did not spend sufficient time with them. Ninety-five AGYW (92.2%) reported staff made them feel better than before their visit and just seven AGYW (6.8%) would not recommend the facility they attended to someone else living with HIV, most commonly because of unfriendly staff (n=6). The most helpful factors in seeking care reported by AGYW were family support for seeking care (n=52; 50.5%) and easy and affordable transport to the care facility (n=13; 12.6%).

Conclusions: Overall, HIV positive AGYW’s experiences seeking healthcare in the Agincourt study area were positive. Study results suggest that the support of HIV positive AGYW’s families and friends, and understanding the benefits of timely treatment initiation could play a more substantial role in influencing an AGYW’s care-seeking behavior than their experiences with the healthcare system. While efforts to improve provision of healthcare services for young people in rural areas should continue, namely patient wait times, building strong, supportive communities for HIV positive AGYW should take precedent.

Factors associated with BMD in black postmenopausal women living with HIV: A cross sectional study.

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Background: Low bone mineral density (BMD) is a common metabolic complication in people living with HIV (PLWH). Reduced bone strength increases the risk of fracture in the aging HIV population, and this is an important cause of morbidity and mortality. Postmenopausal women on highly-active antiretroviral therapy (HAART) are particularly at risk of osteoporosis due to a combination of risk factors including traditional, behavioral and HIV related factors. Research regarding risk factors associated with BMD among women living with HIV in Africa are sparse. The aim of this cross sectional study was to examine bone mineral density and associated risk factors in a black population of postmenopausal women living with HIV in South Africa.

Materials and Methods: The study was a cross-sectional analysis of baseline data from participants enrolled in an ongoing prospective cohort study “Calcium and Bone Health Study” in the North West Province of South Africa. Participants were 120 black postmenopausal women on HAART recruited from the outpatient clinic for adults living with HIV in Potchefstroom. Menopause was defined as the absence of menses for at least six months. All data were collected at the metabolic laboratory. BMD was measured by dual X-ray absorptiometry (DXA) at the lumbar spine, left femoral neck of the hip (LFN) and total body. Physical activity was assessed using the global physical activity questionnaire (GPAQ) and participants were classified based on WHO criteria for moderate-vigorous physical activity (MVPA) ≥600 MET minutes/week. Dietary calcium intake was estimated by a quantitative food frequency questionnaire. Variables known to be associated with low BMD in PLWH (age, BMI, cigarette smoking, MVPA, duration of HAART, calcium and alcohol intake (g/day)) were included in multiple regression analysis with site specific BMDs (spine, LFN and total body) as dependent variables.

Results: Overall, 5% of women met the recommended MVPA levels. Age and BMI were the most significant contributors to BMD at the three sites. Age and calcium intake were negatively associated, while BMI was positively associated with BMDs at all sites. MVPA and duration of HAART explained some of the variance in the LFN and spine BMDs, respectively, although no significant associations were found. Age, BMI, calcium intake and duration of HAART explained 27.5% of variation in spine BMD, whereas MVPA in addition to similar variables explained most of the variation (37.9%) in LFN BMD.

Conclusions: Our results highlight the possible role of MVPA and duration of HAART use in LFN BMD and spine BMD, respectively, in black postmenopausal women living with HIV on HAART.
Provision of Cervical Cancer Prevention & Treatment Services: Lessons from Choma General Hospital, Zambia

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Introduction: Cervical cancer (CaCx) is preventable and treatable when detected early. The HIV-infected women are at higher risk of persistent HPV infection which has been associated with CaCx. HIV-infected women are more likely to develop invasive CaCx than the HIV.

Method: Zambia has employed Visual Inspection with Acetic Acid (VIA) and Digital Cervicography to screen for CaCx. This is a “See and Treat” strategy which uses cryotherapy and Loop Electrosurgical Excision Procedure (LEEP) to treat precancerous lesions, and biopsy suspected cancerous lesions. Confirmed cancers are treated depending on stage including Palliative Care (PC). We present findings from Choma General Hospital, in Choma district of Zambia for the period 2016 to 2018.

Results: We screened a total of 4,935 women for cervical cancer of which 6.2% (n=305) had a positive (VIA+) result. About 79.0% (241/305) were treated with either LEEP or cryotherapy about 58 (n=21.0%) had a suspected cervical cancer and a biopsy was done. Among those that had VIA+, 52.1% (n=159) and 38.7% (n=118) were HIV+ and HIV- respectively.

Conclusion: Cost effective & efficient cervical cancer screening strategies such as VIA can reduce the incidence of cervical cancer in all women, especially those infected with HIV. Community sensitization is therefore important to ensure all women are screened at least once in three years depending on associated risk factors.

Unmet Need for Limiting Childbirth and Fertility Desires among HIV-positive Women in Togo

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Background: With the large access to antiretroviral treatment, the life expectancy of HIV-positive infected patients has improved, most often associated with a desire to limit childbearing. Eliminating family planning (FP) unmet need among HIV-infected individuals (PLHIV) is critical to elimination of mother-to-child HIV transmission. We aimed to assess unmet need for limiting childbirth and its associated factors among HIV-infected women in Togo.

Methods: A cross-sectional study was conducted between June and August 2016 in Togo, including HIV-positive women of reproductive age (15 - 49 years), sexually active and followed-up in HIV-care settings in Centrale and Kara regions. Data were collected on a face-to-face basis by using a structured questionnaire. The main outcome was unmet need of birth limitations and was defined as desire to limit childbirth but not using contraception. Univariate and multivariate Poisson regression models were performed to identify associated factors with unmet needs. A multi-model averaging approach was used to estimate the degree of the association between these factors and the outcome.

Results: A total of 443 HIV-positive women were enrolled, with mean age of 34.5 years (standard deviation (SD): 7.0). Among them 244 (54.7%) were in a relationship and 200 (45.1%) had at least the secondary level of education. 39.1% of them were followed-up in a private healthcare facility. At the time of the survey, 40.0% women did not desire childbearing but only 9.0% (95%Confidence Interval (CI) [6.7-12.1]) of them expressed unmet needs for limiting childbearing. The main outcome was unmet need of birth limitations and was defined as desire to limit childbirth but not using contraception. Univariate and multivariate Poisson regression models were performed to identify associated factors with unmet needs. A multi-model averaging approach was used to estimate the degree of the association between these factors and the outcome.

Among them 244 (54.7%) were in a relationship and 200 (45.1%) had at least the secondary level of education. 39.1% of them were followed-up in a private healthcare facility. At the time of the survey, 40.0% women did not desire childbearing but only 9.0% (95%Confidence Interval (CI) [6.7-12.1]) of them expressed unmet needs for limiting childbearing. In multivariable analysis, associated factors with unmet needs of birth limitations were: being aged 35 years or more (adjusted prevalence ratio (aPR): 3.11, 95%CI [1.52-6.38]), living in a relationship (aPR: 2.32, 95%CI [1.15-4.65]), living in Kara region (aPR: 0.10, 95%CI [0.01-0.76]), being followed in a private healthcare facility (aPR: 0.08, 95%CI [0.01-0.53]) and having severe HIV symptoms (aPR: 3.50, 95%CI [1.31-9.37]).
Conclusion: Even though the unmet need for births limitation was relatively low among HIV-positive women in Togo, interventions to improve more access to contraceptive methods, and targeting 35 to 49 years old women, those in relationship or followed in the public healthcare facilities would contribute to the eradication of mother-to-child transmission of HIV.

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Shifts in HIV risk outcomes among adolescent girls and young women (AGYW): Mixed effects of DREAMS interventions in Zambia

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Background: Multi-sectoral HIV prevention efforts, like DREAMS, take a comprehensive approach to address the multiple vulnerabilities (e.g., sociodemographic, biological, and behavioral factors) associated with HIV incidence among AGYW. We assess shifts in biological and behavioral factors related to HIV acquisition among AGYW in Zambia.

Methods: AGYW enrolled in DREAMS programs aged 15-24 were surveyed in 2016-17 and again in 2018 across two sites in Zambia (n=885). Surveys captured knowledge, attitudes, practices, and program uptake. Bivariate and age-stratified multiple logistic regression analyses—adjusting for site, marital status, schooling, and orphanhood—examined change over time in STI experiences, sexual behaviors, partnership characteristics, violence experiences, and HIV testing among AGYW.

Results: At follow-up, mean age of respondents was 20 years and 9% had lost both parents. Overall, fewer were enrolled in school (70% vs. 57%), more were sexually active (41% vs. 50%) or ever married (5% vs. 7%). Over 90% adolescent girls (15-19 years) and young women (20-24 years) had participated in DREAMS safe space interventions that provide life skills and address HIV, STI, violence-prevention, and sexual and reproductive health. Over time, HIV testing increased significantly among both adolescent girls (AdjOR: 2.93 [2.17, 3.96]) and young women (AdjOR:1.55 [1.14, 2.10]), and young women had significant reductions in sexual violence from non-partners (AdjOR: 0.53 [0.37, 0.76]). Alternatively, AGYW reported increased transactional sex with casual partners (AdjOR: 3.49 [1.50, 8.15]), though the study was underpowered to examine age stratification. There were no significant shifts in other risk factors, such as experience of sexual violence from intimate partners, number of sexual partners in the last year, consistent condom use, transactional relationships, alcohol use before sex, and STI experience, among adolescent girls or young women.

Conclusions: We show mixed effects of DREAMS program engagement on outcomes related to HIV acquisition among AGYW. Over time, there were notable reductions in experiences of non-partner sexual violence and increases in HIV testing, yet there were increases in transactional sex. There is a need to redouble efforts to reduce high-risk sexual behaviors among AGYW.

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The common risk factors among young females accessing HIV testing services in youth friendly centers in Benue state, Nigeria.

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Background: Nigeria is globally recognized as the country with the second largest HIV epidemic. It has a growing population of 180 million people and over a third of this number is made up of young people of ages 10 -24. National Prevalence of HIV is still high at 3.2% with adolescent girls and young women accounting for about 25% of new infections, a situation which has been attributed to cultural behavioral factors and social inequalities, which can in turn fuel risk factors for HIV transmission.

Objective: This study aims to explore the risk factors for HIV transmission among young females accessing HIV services in 2 Youth-friendly centers in Benue State, Nigeria.

Material and Methodology: In order to reduce HIV transmission among adolescents and young people, APIN established Community-Based Youth Friendly centers in the state where HIV counselling & testing, behavioral change communication services and life skill services are offered to young people aged 10 -24 years. A review of female clients’ record in 2 community-based youth friendly centers in Benue state was conducted from June to December 2018, to identify risk factors associated with HIV transmission.

Result: Five hundred and fifty nine (559) females aged 10 – 24 years accessed care in the two centers within the review period, with a mean age of 19.6 years ± 3.5 SD. Risk factors for HIV transmission identified among them included non-use of condom- 395 females (84.0%), alcohol use 180 (32.2%), presence of other STIs 104. (18.6%), and multiple sexual partners 303 (64.3%).

Conclusion: Alcohol use, non-condom use and multiple sexual partners are still common among adolescent and young people accessing HIV services in Benue State Nigeria. HIV interventions should target sociocultural factors and behavioral change among them.

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Abstract

Background: AIDS-related illnesses are the leading cause of death among adolescent girls and women of reproductive age in Africa, despite treatment availability. Further, only 15% of adolescent girls and young women (AGYW) in sub-Saharan Africa know their HIV status. This analysis was conducted to describe the HIV testing services amongst pregnant AGYW (10-24) attending their 1st antenatal care (ANC) visit between October 2017 and September 2018.

Materials & Methods: Retrospective cohort data for pregnant AGYW (10-24yrs) booking for 1st ANC between Oct17-Sept18 at 666 public health facilities supported by the FACE-HIV programme were abstracted from the monthly health facility surveillance reports. Descriptive analyses were used to summarise and interpret the data using medians. HIV testing coverages and yields at ANC booking were calculated and analysed by age, sex and geographical location.

Results: A total of 175,501 pregnant women booked for 1st ANC at the 666 public health facilities during the 12-month period, 49.9% (87,529) were AGYW, of these, 44.3% (38,812) were aged 10-19 years. The overall proportion of pregnant AGYW with knowledge of their HIV status following the 1st ANC visit was 97.7% (85,646/87,629). Overall HIV test yield was highest amongst young women 20-24 years at 4.3%. Amongst the 6,174 pregnant AGYW who were documented as HIV positive in ANC, 47.3% were newly diagnosed at booking. In the 15-19-year age group, 55.3% (951) of HIV positive (1,719) adolescents were newly identified at booking.

Conclusion: Knowledge of HIV status amongst AGYW attending 1st ANC was very high at 97.7%, indicates PMTCT program success to increase coverage of HIV testing in ANC. However, the analysis identified missed opportunities amongst young adolescents (10-14 years). Of all the HIV positive pregnant AGYW attending 1st ANC, nearly half were newly identified at booking, highlighting the importance of HIV testing in ANC as an important vehicle to meeting the 1st 90 UNAIDS target.

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Modern Family Planning Use among People Living with HIV/AIDS: A Facility Based Study in Ethiopia

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Introduction: Despite increasing efforts to address the reproductive health needs of persons living with Human Immuno-Deficiency Virus (HIV), a high unmet need for contraception exists among HIV+ women in sub-Saharan Africa. Currently, Ethiopia promotes integration of family planning (FP) services in to HIV chronic care. Yet the contraceptive prevalence rate among clients remains low.

Objective: The objective of the study was to assess the role of socio-cultural factors on modern family planning use among HIV+ clients attending Anti-Retroviral Therapy clinics in Addis Ababa sub-cities.

Methods: The study involved a facility based cross sectional survey. The ten sub cities were initially categorized/stratified into 5 based on direction (East, West, South, North and Central) and from each category one sub city was randomly selected. The total sample size was proportionally allocated to the selected health facilities according to previous monthly average client load per health center. Participants were selected using simple random sampling technique during their routine visit at the health centers. Data were collected through a semi-structured interviewer administered questionnaire. Both descriptive and inferential statistics were generated and results considered significant at 95% confidence level using STATA version 14.0.

Results: Six hundred and thirty-six clients participated in the study. Majority of them were age between 30-39 years. Though majority, 607 (95.4%) participants approved the use of modern FP method, current use rate stood at 39%. Condom was the most (14.5%) commonly used single method. The odds of FP use by participants who disclosed their HIV status were almost twice that of their counterparts (AOR = 1.84; 95% CI: 1.14, 2.95). Participants who held discussion with their spouse/partners concerning FP, irrespective of the frequency had an odd of more than four when using FP than their counterparts (AOR = 4.35; 95% CI: 2.69, 7.04).

Conclusion and Recommendation: This study revealed that 6 out of every 10 HIV+ clients are not currently using FP methods. Disclosure of HIV status as well as open discussion with spouse/partner were positively associated with family planning use. These study findings call for comprehensive and client focus FP education and counseling in line with disclosure of HIV status and dialogue with spouse/partner in order to increase uptake and utilization of FP among clients. Partners have a great influence on the use and choice of FP methods, so their views is paramount.

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“That training was an empowerment for us to empower other women”: Mentors Mother Needs Assessment for Competency Training in Rural North-Central Nigeria

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Background: Lay Mentor Mother (MM) peer support for HIV-infected women has been an impactful PMTCT intervention in sub-Saharan Africa. However, information for establishing MM competencies and developing training curricula is lacking. The

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MoMent PMTCT implementation research study conducted a needs assessment among Nigerian MMs for skills and training.

Methods: This qualitative needs assessment was conducted in rural North-Central Nigeria in September 2017. MoMent was a two-arm prospective cohort study that evaluated the impact of structured peer support on PMTCT outcomes for mother-infant pairs. Intervention MMs received a baseline 5-day structured MM training in addition to daily one-on-one supportive supervision and standardized tools for documentation; control MMs received no structured training, relatively little supervision, and no standardized tools. All MoMent-engaged MMs were recruited for focus group discussions (FGDs) during the study exit process. FGDs covered work conditions/challenges and skill/competency needs. English and Hausa-transcribed data were analyzed in a grounded theory approach.

Results: Thirty-six of 38 MoMent MMs were interviewed in 7 FGDs; 34 (94.4%) women had ≥2 years MM experience, and two-thirds had secondary-level education.

Key Findings:
- MMs linked competency to passion and the ability to change client behavior. “I am passionate about it (peer counseling) and happy whenever I successfully persuade a client to accept her status.”—Control MM, FGD5.
- MMs found baseline training important in increasing knowledge and building capacity. “The training has really enlightened us...it has really helped us in knowing how to use our experience as HIV positive women to care for other HIV positive women.”—Intervention MM, FGD4. “That training was an empowerment for us to empower other women.”—Intervention MM, FGD6.
- Specific additional training needs identified were: adherence, infant feeding and family planning counseling, partner/couples disclosure counseling skills, and writing literacy. “Counseling, breast feeding and family planning. Honestly, sometimes I do not remember all the family planning methods until maybe I go home. So, we need a refresher training.”—Intervention MM, FGD2.
- Both intervention and control MMs suggested biannual trainings to establish and maintain competency. “I would want it [training] to be two times a year.”—Intervention MM, FGD6.

Conclusions: In spite of having received baseline training, some MMs still identified knowledge/skill gaps needing attention. Structured, periodically updated MM training with adaptable task-oriented and needs-based curricula is important to optimize MM impact in PMTCT programs. Competencies should be determined by both implementers and MMs-as expert HIV-infected clients.

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Developing Media to Promote Community Awareness of Early Detection of Kaposi’s Sarcoma in Africa

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Background: Diagnosis of Kaposi’s sarcoma (KS) at a stage too late for effective treatment persists in Africa despite its overtly cutaneous presentation and the possibility of remission when early-stage disease is treated with antiretroviral therapy alone. Training health workers about early recognition of KS decreases their knowledge but is only impactful if patients with early KS present to care. Indeed, recent work from Zimbabwe showed that facility-based KS training failed to increase early KS diagnosis, an unsurprising finding given the general public lacks knowledge about KS and the importance of early detection. We hypothesized that educated affected populations about KS is critical in making progress in early detection and that enhanced community awareness about KS can be achieved through exposure to educational messages about KS.

Methods: We developed culturally appropriate educational materials regarding early detection of KS using focus groups and in-depth interviews with KS survivors, HIV-infected patients, facility-based and community health workers, traditional healers, and media professionals. The messages portrayed a 3-part theme aimed to the general public: “Look” meaning to regularly examine one’s skin/mouth; “Show” referring to bringing to the attention of a health worker any skin changes; and “Test” denoting to patients to remind health care providers about skin biopsy for definitive diagnosis. We packaged the messages in three common media forms (comics, 90-second radio vignettes, and a 10-minute film). We examined the effect of the media on increasing awareness about KS amongst adults attending commercial markets in urban and rural Uganda. Participants were randomized to a single exposure to one of the three media, and we evaluated change in knowledge and attitudes after media exposure using pre- and post-tests.

Results: Among 420 participants exposed to the media, the median age was 30 years, 50% were women, 5.5% HIV-infected, and 67% literate. Before media exposure, only 1% could recognize and name KS from photographs, 29% thought that all persons were at risk for KS, 63% considered themselves at risk for KS, and 23% knew that a biopsy was required for definitive diagnosis. Media exposure resulted in statistically significant increases in participants’ ability to identify KS (from 1% at pre-test to 46% at post-test; p<0.001), awareness that anyone is at risk for KS (29% to 50%; p<0.001), belief that they may be at risk for KS (63% to 76%; p<0.001); and knowledge that a biopsy is required for definitive diagnosis (23% to 51%; p<0.001). Inability to identify KS after exposure to media was associated with urban residence (p = 0.002) and less than secondary education (p<0.001). Most participants (96%) found the materials culturally appropriate.

Conclusion: Featuring a theme of “Look”, “Show”, “Test”, we developed commonly consumed media forms (comics, radio vignettes, and a film) for the public in Uganda about early detection of KS; the materials resulted in statistically significant increases in knowledge, awareness, and belief that one may be at risk for KS; and knowledge that a biopsy is required for definitive diagnosis. Future work should include a large-scale randomized controlled trial to evaluate the effect of exposure to education on KS awareness and early detection among the general public.
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Who is likely to disclose their HIV status? Findings from a community HIV testing project in Botswana

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Background: With support from USAID, the Advancing Partners and Community (APC) program in Botswana provides community and treatment support to people living with HIV (PLHIV). Community health workers (CHWs) visit PLHIVs quarterly to assess needs and accordingly counsel and refer for services.

Method: A dynamic cohort of APC clients was initiated in 2015. At each client’s visit, CHWs entered clients’ self-reported information in phones using a DHIS2 platform. Data from October 2017 through September 2018 were analysed using STATA-12 to assess factors associated with disclosure of HIV sero-status to partners.

Results: A total 15,883 clients aged 18 to 94 years received community services through 40,068 assessments, including 14,015 (35.0%) initial assessments. The majority were female (60.0%), men were older than women (median age 40 years versus 35; rank-sum test p<0.001) and 39.5% were married or x workers (10.0% versus 54.4%; p<0.001), and less daly of Wi 64.4%,

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Factors promoting uptake of drop-in center services by female sex workers in Thika, Kenya

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Background: In Kenya, key populations are disproportionately affected by HIV and have limited access to health care services due to stigma and discrimination. Though drop-in centers (DICs) provide safe spaces and access to comprehensive HIV prevention services for key populations in a stigma-free environment, they remain underutilized. The LINKAGES Kenya project, a USAID- and PEPFAR-supported program, aimed to identify factors promoting uptake of HIV prevention services among female sex workers (FSWs) at Thika DIC in Kiambu county, Kenya.

Methods: Peer educators from the National Organization of Peer Educators (NOPE) enrolled FSWs into the program from hot spots in Thika town. At enrollment, FSWs were given the location of the DIC, informed of services available, and encouraged to access the DIC at least monthly for services. At the DIC, routine post-service questionnaires were administered to randomly selected FSWs and data were analyzed monthly. Descriptive statistics were used to summarize reasons for accessing services at the DIC.

Results: From October 2017 through September 2018, 3,184 FSWs were enrolled into the project, 2,431 of whom (76%) accessed services at the DIC monthly. Of the 143 FSWs administered the questionnaire, reasons for continued monthly access of the DIC included good rapport with service providers (31%), availability of Wi-Fi (25%), availability of care and treatment services for HIV (22%), provision of entertainment through the television at the DIC (15%), and good hygiene and cleanliness at the DIC (5%). Nearly 3% of FSWs accessed the DIC monthly to network with other project stakeholders, such as police, Ministry of Health officials, and church leaders during community meetings held at the DIC.

Conclusions: Availability of health care services, Wi-Fi and relationship building with clinical care providers play key roles in motivating FSWs to access services at the DIC. HIV prevention programs for FSWs should invest in training health care workers to provide key-population-friendly services.

detection of KS. Exposure to these media resulted in increased awareness concerning KS. Larger increases in knowledge and attitudes will likely require multiple exposures, perhaps to more than one media form, and facilitated discussions about content. The media are available online: https://vimeo.com/224920054 (film) and https://soundcloud.com/kaposis_sarcoma (radio vignettes).
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Secondary distribution of HIV self-testing among Malawian men; a qualitative study exploring perceptions and experiences in Blantyre, Malawi

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Background: In Sub-Saharan Africa (SSA), nearly half of the population that is living with HIV is not aware of their status. This has prompted the need for novel approaches to HIV testing and various community-based HIV counselling and testing approaches have proved to increase HIV testing uptake which has also facilitated introduction of HIV testing to hard to reach areas. However, despite the positive strides by these approaches, some segments of the population such as men still remain a challenge for uptake. HIV self-testing (HIVST) has proved to be one of the novel approaches to increase uptake of HIV testing with countries worldwide scaling it up. Challenging the potential of increase in access to HIV testing is the low uptake of HIV testing and poor linkage to care among men compared to women. Secondary distribution of HIVST has considerable potential to increase access to HIV testing and linkage among men. To explore experiences, perceptions and challenges of secondary distribution of HIVST among Malawian men, a qualitative sub-study was conducted within the ANC trial being implemented in southern Malawi.

Materials and Methods: A qualitative design was used in understanding the experiences, perceptions and challenges during secondary distribution of HIV self-testing kits. Respondents were both conveniently and purposively sampled in the catchment areas of the health centres where secondary distribution of HIVST was being carried out. In-depth interviews (n=45) were conducted with male partners who received HIVST kits through their female partners. Female partners (n=15) who initiate secondary distribution were also interviewed. In-depth interviews were used to understand deeper experiences and opinions of the respondents in the study. Data collection was carried out in an iterative way where research questions were reviewed after every set of interviews to develop deeper research questions.

Data analysis employed both inductive and deductive approaches, using pre-determined themes and emerging themes from the iterative approach of data collection and analysis. Data from male and female partners was linked to themes from the iterative approach of data collection and analysis. Data from male and female partners was linked to identify any relatedness. Themes were developed before data collection and other themes were generated from the data. The data was analyzed by answering the research questions using the generated and emerging themes, thus thematic approach to analyse the data.

Results: Most men perceived secondary distribution as a positive development in the fight against HIV/AIDS. However, most urban men explained that they initially resisted from receiving the kit from their partners. Information giving was one of the challenges that men identified where they explained that most women had problems with giving accurate information. Secondary distribution partially has an effect on masculinity especially among urban men compared to rural men.

Conclusions: Secondary distribution can accelerate reaching populations that do not access HIV testing services such as men. However, female partners that distribute the kits need to be well inducted to provide accurate information to their partners since this contributed to their partner’s decision to accept the kits or not.

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HIV Testing in Orphans and Vulnerable Children Through the Use of Community Agents

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Background: Over the past years, efforts have been made to increase HIV case finding, but children remain under-served. HIV infection is higher among children that have lost one or both parents than in the general paediatric population. In an effort to increase HIV case finding among children, the Centre for Infectious Disease Research in Zambia (CIDRZ), partnered with Expended Church Response (ECR) to test Orphans and Vulnerable Children (OVCs). The objective of this write up is to describe the HIV testing that was conducted for OVCs using community agents.

Methods: Meetings between ECR and CIDRZ were held to discuss testing OVCs using community agents. ECR provided us with a list of Community Based Organizations (CBOs) that they work with and shared a database of children with unknown HIV status. The CBOs have caregivers that provide home based care and psychosocial support to the Orphans and Vulnerable Children. Each caregiver was assigned several OVCs to bring for testing. They provided home visits and offered pre-test counseling to the guardians of the children. A consent form was developed and used to get written consent from the guardians. The guardians gave written consent allowing their children to be tested for HIV. The caregivers then brought the children to a central location for testing, which was more often the CBO premises. This exercise was conducted from June 2018 – December, 2018.

Results: Our target was 10,500 children with unknown status. We tested 12,388 from the ages 3 to 18 years; 4940 were males and 7448 were females. We worked with 16 CBOs, with an average of 30-40 caregivers per CBO. Each caregiver was assigned about 35-40 children to bring for HIV testing. Of the 12,388, 64 tested HIV positive in which 36 were new positives and 28 known positives. The 29 new positives were initiated on ART with 7 unwilling to be on treatment because they were not ready for treatment and others decided they will go to other clinics and start treatment but are still being followed up with counseling and home visits.

Conclusion: This community based intervention of testing OVCs through the use of community agents provides an opportunity for them to access HIV testing, care and treatment and can yield...
Abstract

More results in a short period of time. However, there was low positivity yield.

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Optimizing HIV Case Identification through Index Testing Campaign

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Background: The Centre for Infectious Disease Research in Zambia in collaboration with the Ministry of Health has been offering HIV services to the general population of Zambia. In an effort to increase and optimize HIV case finding among children, index testing was explored and implemented in 2015. This captured a lot of positive clients whom were later linked into care and treatment. However, we still faced challenges in testing the children. In this respect, an Index campaign was introduced in 2018 targeting HIV positive women and HIV positive children as the index client. This was because more than 90% of HIV infection in children occurs through mother to child transmission. The objective of this write up is to describe the index testing campaign that took place from November 2018 to December, 2018.

Methods: An index register was developed and adopted by Ministry of Health for index data capturing and monitoring. Peer educators and other Health care workers were oriented on the same and different trainings were conducted. For the purpose of the campaign, a model was developed in which a target was set for a clinic and each peer educator was assigned a number of contacts to bring for testing on a set date. We assigned 5-6 peer educators to bring children for testing. Each peer educator was given and a transport and lunch allowance for follow up visits and pre-testing counseling. Sensitization was done through clinical health education, neighborhood health committees and drama. Our Target was to test 1500 children in 10 clinics. About $1364 was spent on allowances during the campaign.

Results: Baseline data was captured from the October 2017 to September 2018 before the campaign was implemented in which a total of 10649 children were tested and 232 were HIV positive. After the campaign from 10 clinics, a total of 2257 children were tested and 40 were HIV positive and all 40 started treatment. Each clinic was given a target of 150 children to bring for testing. The peer educators managed to bring the children for testing. Linkage to HIV care and treatment was 100%.

Conclusion: It was observed that conducting index testing campaigns was an effective way of optimizing HIV case finding among children in a short period of time as opposed to routine methods. It also produced a higher positivity yield.

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Vers la fin des associations de PvVIH : expériences du Sénégal autour d’une « biomédicalisation » des médiateurs VIH+

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Contexte: Au Sénégal, les premiers leaders d’associations de PvVIH sous ARV ont été progressivement impliqués dans le soutien des PvVIH à partir des années 2000. En 2017, une centaine de médiateurs VIH intervenaient dans diverses structures sanitaires dont la plupart étaient recrutés et supervisés par une ONG, l’ANCS. Le recrutement des leaders associatifs contribue-t-il à la « mort » des associations de PvVIH?


Résultats: Les données mettent en évidence que le PvVIH qui sont recrutés comme médiateurs accèdent à des revenus, un statut professionnel qui leur permet de faciliter les soins à leurs pairs et à leur entourage. L’analyse des données montre une évolution du rôle et du statut des médiateurs. Au cours des années 2013 et 2015, les médiateurs VIH interviennent à temps partiel dans les structures sanitaires et continuent à jouer un rôle clé dans leurs associations où ils sont généralement les leaders. Ils utilisent leur position dans l’association pour orienter et recruter des nouveaux membres dans leurs associations. Mais l’ enquête réalisée en 2017 montre le rôle de plus en plus important joué par les médiateurs PvVIH au sein des structures sanitaires où ils sont généralement appréciés par les professionnels de santé, notamment les assistants sociaux, qui leur ont délégué quasiment toutes les activités liées au VIH. Dans un contexte d’accès au traitement plus tôt où les raisons d’adhérer dans les associations de PvVIH paraissent moins importantes. De plus, les associations ne disposent presque plus de ressources pour soutenir leurs membres en difficultés et ne distribuent quasiment plus les appuis comme elles le faisaient auparavant. Certains d’entre eux évitent de plus en plus de participer aux activités des associations, pour se consacrer à leurs activités dans les structures sanitaires.

Conclusion: La mise à disposition des médiateurs dans les structures de santé a été appréciée par les professionnels de santé a permis de valoriser l’expertise profane des PvVIH et de faciliter l’accès à un « capital » relationnel sanitaire. L’officielisation de cette activité sous forme de « prestations de service » entre les ONG et les structures de santé a permis de les rémunérer régulièrement et de leur donner un statut qui évolue vers une forme de « professionnalisation ». Le risque de « biomédicalisation » pourrait réduire leur plus value d’acteurs communautaires et les mettre sous la tutelle exclusive des professionnels de santé.

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Abstract

Engagement of HTS Implementing CSOs – a Community Based Service Delivery Strategy to Improving Uptake of HTS in Nigeria

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Background: The NSP as well as the WHO strategic document for universal access to HIV/AIDS services by 2010 recognizes the provision of HIV testing services as a priority intervention. Hence, HIV Counselling and Testing can be defined as the entry point to HIV Prevention, Treatment, Care and Support services. This study was designed to assess the contribution of CSOs implementing HIV testing services to improve the uptake of HTS in Nigeria.

Methods: Validated National health sector data on number of people tested, counselled and received result was obtained for 2 years (2012-2013) prior engagement of HTS implementing CSOs and compared with 2014 National health sector data which also included 2014 routine data from the HTS implementing CSOs.

Results: Number of clients who were counselled, tested and received result was 2,733,252 in 2012, 3,605,217 in 2013, and 5,770,027 in 2014, representing a 32% annual increase in 2013 and 60% in 2014. The CSOs contributed (389,661) which was 6.8% of the total in 2014 and 18% of the increase. Low percentage increase of HTS implementing CSOs in North East states Bauchi (1.1%), Gombe (0.6%) and Taraba (1.2%) could be attributable to insurgency. Anambra, Ebonyi, Enugu, Imo, Akwa Ibom and Bayelsa states were yet to engage CSOs while Kaduna and Sokoto states had no data available on the DHIS platform as at time of study.

Conclusions: Despite the fact that some states were yet to engage the services of the HTS implementing CSOs, there was an overall pronounced percentage increase observed in 2014 after engagement of HTS implementing CSOs thus improving uptake of HIV testing services in Nigeria. Engagement of HTS implementing CSOs – a community based service delivery strategy is required and needs to be sustained to increase number of clients who know their HIV status and thus achieve an improved uptake of HIV testing services in Nigeria.

Engaging Athletes to promote HIV prevention and create demand for uptake of HIV services – a NACA/UNICEF Adolescents & Young People (AYP) HIV prevention campaign strategy: #iSabiHIV at the 19th National Sports Festival

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Background: A large proportion of 160,000 AYP living with HIV in Nigeria are involved in sports. The sport-for-HIV programmes don’t create demand for HTS. Adolescents have low knowledge of HIV/AIDS (35%), risk perception and condom use (below 30%). Sexual activities in sports settings are high and mostly unprotected, but only 17% of young people know their HIV status. Athletes don’t promote HIV services’ uptake through their social media platforms. #iSabiHIV campaign provided a tailored intervention to increase HIV services uptake among athletes.

Methods: BYAN was engaged to reach athletes with HIV prevention messages and create demand for uptake of HTS. 20 mobilisers provided IPC, while on daily basis HIV awareness, condom distribution/demonstration and HTS was conducted. Athletes engaged HIV knowledge quiz, correct condom use contests using penile/vaginal models, most athletes promoted HIV prevention and services uptake through their social media handles reaching their fans and followers.

Results: All 3218 accredited athletes got HIV prevention messages. Mobilisers reached 1,117 (34%) via IPC and 2,003 (62.2%) knew their HIV status - 137 (6.6%) positive got referred for treatment - national test/treat guideline. 6 athletes already ARVs but forgot their drugs were provided with 10 days dosage. 2 peer influencers and 2 ambassadors got award plaques for providing HIV information as evidenced by comments/high traffic on their social media handles. Athletes showed positive attitude towards HIV/AIDS prevention as evinced by high condom demand and collection. Winners of contests got branded #iSabiHIV sports bags, headphones, T shirts and recharge cards.

Conclusion: More HIV prevention interventions targeting athletes should be funded to improve health seeking behaviours and outcomes. Policies should be enforced to protect young women and girls in sports especially the disabled ones from being exposed to risk of HIV infection. Athletes should be supported for HIV prevention activities in their various sports communities.
Abstract

Integrating peer education strategy in national HIV program in Rwanda: Strategy to improve adherence to treatment in the context of Differentiated Service Delivery Model (DSDM)

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Background: Peer education (PE) is one of strategies for improving adherence and retention among People Living with HIV (PLHIV). Today, Rwanda counts 240,000 estimated (PLHIV), 92.3% are on ART and 91% of them suppress viral load. In order to continue improving adherence and retention; the national HIV guidelines were revised in 2016 and defined a differentiated service delivery model (DSDM) for PLHIV care. This approach included reducing the frequency of clinical visits and drug pick-ups, which could, if not dealt with, create a gap in patient adherence support from the providers. In this context peer education strategy was integrated in national program to support DSDM and to ensure strong linkage between health facility and community. The objective of this analysis was to describe how peer education strategy was designed and integrated in national HIV program.

Methods: A comprehensive qualitative desk review was conducted on various versions of HIV national guidelines. We analyzed training reports conducted by HIV national program from February to May 2018 and finally conducted group discussions with Health Care Providers (HCP) implementing the peer education strategy.

Results: In 2017, The national HIV program developed the guideline, PE training manual, home visits and support groups registers to facilitate the implementation of peer education strategy. From February to May 2018, 1,200 HCP, a couple of a nurse and a social worker at each health facility providing HIV services, were trained to train selected peer educators. The training focused on the relevance of peer education in HIV services, PE selection criteria, their assignment in the community as well as at health facility. Furthermore, the trained HCP were tasked to continuously mentor PEs and monitor the implementation of the strategy. In accordance with the strategy, the next step following the HCP training was to train selected PEs at their respective health facilities, and start their work in the community that includes the coordination of peer support groups, conducting home visits for peers missing appointments and linking them with the HCP. After six months of peer education strategy initiation at the community level, it is perceived by HCP and PLHIV as a good strategy, facilitating the linkage between community and health facilities as well as vice versa.

Conclusion: Peer education strategy plays a great role in improving adherence and retention among PLHIV in the context of DSDM. The linkage between PLHIV from the community and health facilities is becoming stronger. However, a regular monitoring of the strategy is recommended to provide evidences that can support decision-making.

The promise of the Pulpit: Role of Religious Leaders in Leveraging the HIV Prevention, Treatment and Care Continuum in Kenya

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Background: “In Kisumu, HIV is alive during the day and dead at night...Because the same people, who talk about HIV prevention during the day; do horrible things at night that promote HIV.” Male Pastor, Kisumu

HIV remains a major global health challenge. Religious organizations and their leaders can play a pivotal role in leveraging community sensitization, HIV pre-exposure prophylaxis, testing and counselling, linkage to care, adherence to recommended antiretroviral therapy and retention in care given their numerical strength, expansive networks and moral authority. In Kenya, faith-based institutions provide over 40% of all health care services including HIV comprehensive care. We explored knowledge, attitudes and practices about HIV/AIDS prevention and care continuum among religious leaders in western Kenya.

Methods: The study was conducted in Kisumu and Busia counties of western Kenya between April 2014 and September 2015 using an exploratory qualitative design. We conducted 11 focus group discussions with 93 faith leaders from various religious and demographic backgrounds and key informant interviews with 45 purposively selected healthcare providers. Data were transcribed, coded to identify pattern and themes, and interpreted along the study objectives.

Results: Religious leaders had different experiences with and responses to the HIV/AIDS epidemic. Those from mainstream organizations were more knowledgeable and empowered about HIV and seemed to promote positive practices among their congregants while those mostly from pentecostal, and indigenous African churches focused more on spiritual healing and in some cases perpetuated stigmatizing practices. Most organizations use successful models to sensitize their people, link them to care, provide adherence support and ensure retention in care. Through these models, the religious leaders promote safe sex, confront stigma, bust unfounded myths and misconceptions about HIV; help retain people in care through dedicated ministries, such as: The ribbon Ministry from CITAM; Mbaka Oromo Model (Roho Israel); The ACK Compassion Program; ANERELA; Family Options (interfaith); Saint Peter’s Faith Ministry (Legio Maria) and PEFA Family Hope program.

Religious leaders were sufficiently motivated to learn about HIV/AIDS transmission, prevention and control.

Conclusion: Religious leaders play a key role in the HIV/AIDS prevention and care continuum and should be engaged meaningfully to curb the epidemic.
Abstract

Effective community mobilization: A key strategy to increasing uptake of family planning and HIV/STI services amongst women of reproductive age in Borno State, North East Nigeria.

Introduction: Nigeria has a relatively low Contraceptive Prevalence Rate (CPR) of 18% compared to the average Sub Saharan Africa Nations of 22%. According to Nigeria Demographic and Health Survey 2013, only 10% of currently married women of reproductive age (15-49 years) were using a modern contraceptive method. A cursory look at the geopolitical regions in Nigeria showed disparity in CPR across board. The South West has the highest rate at 24.9%, followed by the South-South with 16.4%, North Central 12.4%, South East 11%, North West 3.6% and the North East with 2.7%. Low CPR especially in North East Nigeria have been associated with belief systems, socio-cultural norms, and male dominance in decision making. Preference for a large family is also a general trend. High uptake of dual methods such as condoms has also shown to reduce the incidence of HIV/STIs. This paper documents the outcome of community mobilization strategies to improve uptake of family planning (FP) services in five LGAs in Borno State, North East, Nigeria.

Methodology: The UNFPA funded Integrated Reproductive Health and Mentoring (IRHM) activity provided access to quality integrated reproductive health services for women of reproductive age (15-49 years) and their partners in host and reclaimed communities in five (5) LGAs (Biu, Jere, Konduga, Hawul and Kaga) in Borno state, North East Nigeria. These services included family planning services (e.g. information and commodities such as condoms, oral pills, Depo Provera, Noristerat, IUCD & implants), antenatal care, postnatal care and Sexually Transmitted Infection (STI) screening services and HIV counselling through mobile outreachs and mobile clinics. Intervention strategies included awareness creation and advocacy visits to community leaders for their buy-in and involvement, male engagement and use of Information, Education and Communication (IEC) materials to dispel misconceptions and myths about FP services and its uptake. FP uptake data was collected within the implementation period (September - December 2018) though IRHM activities were conducted for only two (2) weeks in December. Trend analysis was done using MS Excel package.

Results: In October 13,169 persons (9,589 females: 3580 males) were reached with basic sensitization. Of this number 5,951 persons (45%) accepted and received FP services. In November 25,597 persons (15,941 females: 9,656 males) were reached with basic sensitization. Of this number 11,448 person (45%) accepted and received FP services. In December 4,985 persons (3,607 females: 1,378 males) were reached with basic sensitization. Of this number 2,594 person (52%) accepted and received FP services. A total of 2,283 women requested and received male condoms on behalf of their partners.

Conclusion: Community mobilization strategies such as advocacy visits to community leaders, awareness creation, male engagement and use of IEC materials were key in improving uptake of FP services including dual methods which prevents against HIV. These intervention strategies brought about a change in knowledge, attitudes and beliefs about FP services. There is need for more stakeholder engagement and resource mobilization targeted at strengthening community mobilization for increase uptake of FP services especially in humanitarian setting.

Background: The STAR initiative is an ongoing program that aims to scale up HIV self-screening (HIVSS) in South Africa among under-tested populations in an attempt to reach the 90-90-90 global targets. Due to the novelty of HIVSS, community engagement is essential for successful program implementation as many ordinary South Africans remain unaware of this testing option. One of the community engagement approach taken was the constitution of a Community Advisory Board (CAB). We report on experiences with the HIVSS CAB in Johannesburg, South Africa.

Methods and approach: In February 2018, leading civil society, NGO’s and people living with HIV networks were invited to make nominations for the HIVSS CAB. The main terms of reference were to assist with the development and implementation of the STAR community engagement strategy and share best practices. Through a vetting process, 18 (out of 25 organisations approached) CAB representatives were selected from communities across Johannesburg between March and July. Meetings are held every 2 months where implementation progress is provided and CAB member’s feedback successes and challenges as they engage the community.

Results: CAB members have been instrumental in raising awareness of and creating demand for HIVSS. Distributors have credited CAB members for improving awareness of HIVSS (shown by the willingness and increase in the number of people to taking the test). The increased knowledge has also decreased the amount of time spent during the demonstration sessions. There is at least 75% representation at meetings and members actively participate. The main challenge in the formation stage was getting a balanced representation of members across various sectors (including men and youth). To mitigate this, members were actively recruited from existing Wits RHI CABs.

Conclusion: Constituting the CAB has been highly beneficial in creating awareness and acceptance of HIVSS at community level. CAB members have been instrumental in dispelling misconceptions at community dialogues.
Abstract

Holistic demand creation and community mobilisation for PrEP integration into comprehensive sexual and reproductive health services for adolescent girls and young women supporting the South African National PrEP programme.

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Background: The Human Sciences Research Council’s (2018) South African (SA) National HIV Prevalence and Incidence Survey indicated a need for innovative social and behaviour communication campaigns to improve knowledge, access and uptake of Pre-Exposure Prophylaxis (PrEP). This abstract documents the demand creation approach developed for Project PrEP - an initiative integrating PrEP into comprehensive sexual and reproductive health (SRH) services for adolescent girls and young women (AGYW), funded by Unitaid, implemented in close collaboration with the South African National Department of Health (NDoH).

Methods: Project PrEP, in collaboration with NDoH, is implementing across SA in four districts through eight facilities supported by four roving mobile clinics. Utilising existing formative knowledge through engagements with AGYW, the project created a demand creation strategy focusing on combining various innovative communication methods in a comprehensive approach, thereby utilising different communication tactics across various communication channels to reach AGYW and their communities to create demand and support linkage to care.

Results: The strategy focuses on reaching a diverse audience, especially young people, with correct information in an effort to reduce stigma, create awareness, normalise HIV prevention and create an enabling environment where access to PrEP and other SRH services is supported. The strategy delivers on the following elements that all work together to compliment the comprehensive approach: printed information, education and communication materials targeted at young people, social media engagement through Twitter and Facebook, a website utilising innovative coding technology (material-based design) to appeal to young people, community engagements that include dialogues with different stakeholders and events for young people, hotspot activations and outreach targeting AGYW, a mobile application supporting adherence for AGYW, contributing to the She Conquers edutainment documentary television series, in-clinic offline media streaming (MyiSplus), youth-friendly spaces in clinics, radio campaigns and youth navigators and young demand creation agents engaged in social mobilisation and in-clinic youth engagement.

In addition, the project utilises SA’s national She Conquers Campaign to reach young people through layering of interventions and networks, ensuring meaningful youth engagement throughout the implementation of the project and the demand creation and community mobilisation strategy. Preliminary analysis indicates that over three months (November 2018 - January 2019) the project reached a total of 17160 potentially inclusive people, 15950 through social media and online engagement, 820 through community dialogues/events and 390 through IEC material distribution.

Conclusions: The multi-faceted demand creation strategy has demonstrated success in reaching a diverse audience with communication. The evidence generated through Project PrEP in relation to demand creation will help to identify the most youth-friendly and effective communication channels and tactics as well as guidance on the effective measurement of demand creation reach. Additional activities, including radio campaigns, She Conquers television series and innovations such as the MyiSplus and mobile application that are scheduled to take place, will enhance the reach of demand creation. These various approaches will be evaluated to generate evidence on the role of comprehensive demand creation in order to serve as a model and be adapted as needed for national service delivery to AGYW.

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Youth driven demand creation and community mobilisation to promote the use of PrEP, HIV, sexual and reproductive health services among adolescent girls and young women in South Africa.

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Background: In South Africa (SA), the highest rate of HIV incidence (1.51%) is reported among adolescent girls and young women (AGYW) aged 15-24 years, with approximately 1 300 new HIV infections every week. Oral Pre-Exposure Prophylaxis (PrEP) is an effective HIV prevention method. For successful scale up, innovative methods to reach, support and include AGYW, are needed.

Methods: Project PrEP - an initiative integrating PrEP into comprehensive sexual and reproductive health (SRH) services for AGYW, funded by Unitaid and implemented in close collaboration with the South African National Department of Health (NDoH) - is implementing across SA in four districts through eight facilities supported by four roving mobile clinics. To promote PrEP uptake, continued use and foster an enabling environment, a youth-led demand creation and community mobilisation strategy was designed.

The strategy built on existing demand creation channels such as the SA Presidency’s She Conquers campaign. Youth were engaged from the onset in dialogues and conversation through youth community advisory boards, social media channels and the national She Conquers Brand Council - a group of 27 youth representatives from all nine provinces in South Africa.
Results: The project developed a cyclical process for engaging and including young people in the demand creation approach and initiatives as well as other project-related topics. Young people were identified to serve on the She Conquers Brand Council which were established with the support of Project PrEP, they were capacitated on PrEP and other SRH topics as well as communication and messaging best practices. This group of young people were further engaged on the various communication tactics of the project as well as the creative concept. In addition, a youth community advisory board was also engaged on an ongoing basis for feedback.

Findings from these engagements indicate the need to address concerns among young people about PrEP-use; establish communication channels preferred by youth; and the need to extend the reach of PrEP messaging to create an enabling environment. This resulted in a multi-faceted and comprehensive demand creation strategy driven by youth, utilising communication channels and tactics such as print and social media, social mobilisation with all community groups, and youth capacitated as demand creation peers to reach a diverse range of people, especially youth, to inspire action. The She Conquers brand council is continuously engaged through a closed Facebook group. The project has kept in contact with these young people to gather feedback and suggestions on communication materials and approaches.

Preliminary analysis indicates that over three months (November 2018 - January 2019) the project reached a total of 17160 potentially inclusive people, 15950 through social media and online engagement, 820 through community dialogues/events and 390 through IEC material distribution.

Conclusions: Youth are passionate about engaging with public health initiatives. The project is demonstrating that meaningful youth engagement is feasible utilising different forums and channels to ensure the process is continuous and relevant. This engagement can ensure demand creation messaging for young people are appropriate and dynamic.

Objective: This study evaluated the impact of capacity development and commitment of a Community Based Organization towards sustainability of community HIV prevention, care and support interventions among vulnerable households in rural communities in Cross River State, Nigeria.

Methodology: This study reviewed retrospectively the achievement of a Community Based Organization over a four year period (2014-2018) as a result of capacity development and mentorship by FHI360. Within a period of four years (2012 to 2014), USAID through FHI360 was able to build capacity of the Community Based Organization in the areas of HIV intervention/programming, organizational capacity development, and implementation of capacity building plans.

Eight (8) staff and 24 community volunteers were trained on HIV service delivery; organizational capacity development; early childhood development education; and vulnerable children case management.

Results/outcome: Within the pace of 3 years (2014-2018), the Community Based Organization was able to unleash and enhance capacity to respond to the needs of orphans and vulnerable population beyond the life of the FHI360 SIDHAS project; get government accreditation for a primary and secondary school currently serving 506 learners; improve staff retention from eight (8) to 46; 46 for training and effective HIV service delivery; reinforce continuous support for 102 vulnerable households; establish continuous HIV prevention intervention for 8,000 at risk populations; increase access to educational services by 200 children living with and affected by HIV; and improve the organization’s funding sources with clear returns on investment on infrastructure including additional school blocks to cater for the teaming population of orphans and vulnerable population, remuneration and staff retention, beyond USAID funded HIV/AIDS Services (SIDHAS) project.

Conclusion/Recommendation: Identifying core strengths of local community organizations and providing necessary support for the timely implementation of capacity building plans will facilitate attainment of overall financial sustainability and continuity of service delivery among vulnerable households.

Capacity development and commitment of Community Based Organization towards sustainability of community-based HIV prevention, care, and intervention, beyond USAID funded HIV/AIDS Services (SIDHAS) project in rural Cross River State, Nigeria.

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Background: The role of local civil society organization in the delivery of HIV related services and achieving all HIV global targets cannot be overemphasized. Putting knowledge and skills acquired overtime into action is vital to the overall sustainability of HIV prevention, care and support interventions in rural communities.

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The Role Of Community Engagement in the Adoption And Acceptability of New Drugs by People Living with HIV: The Experience of Afrocab-Uganda Chapter

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Background: In Uganda around 1.5 million people live with HIV and around 1.2 million People are on ART. Most of the People on ART have been taking the Tenofovir, Lamivudine and Efavirenze(TLE) regimen, with the introduction of Dolutegravir(DTG), there is a gradual substitution of TLE by Tenofovir, Lamivudine and Dolutegravir(TLD). At the introduction of Delutegravir, Uganda received support to pilot
the introduction of single dose DTG in 2016. African Community Advisory Board (AFROCAB) advocated for community engagement for better acceptability of DTG. This community engagement was supported by UNITAID through CHAI.

Description: AFROCAB-Uganda chapter took on the community engagement before the introduction of DTG. Upon the consultation of the representatives of the different cohorts of the People Living with HIV (PLHIV) in Uganda, there was consensus to take on treatment literacy as a conduit for getting PLHIV to understand the concept of Treatment optimization and the new drug DTG. The constituency took it upon themselves to develop a treatment literacy manual which they used for training PLHIV about the ARVs those in the country, the new drugs and those in the pipeline. The training was gradual starting with the leaders of the 16 National Networks, the District Forums and finally the expert clients and the Peer Educators at the Health facilities where DTG was first rolled out. DTG being a new drug, both the health workers and PLHIV had inadequate information. To the PLHIV, they wanted to live with what they were used to i.e TLE/Nevirapine other than the DTG that they did not know, to the Health workers, there was no need of substituting the current regimens where people seemed to be doing well.

With the training of PLHIV, some people started demanding for the “wonder drug” where there were almost no side effects. With the preliminary findings of Botswana, and the initial pronouncement on DTG by WHO, and the country’s attempt to withdraw DTG from the Young, women and girls, there was demand to have girls and women access DTG.

With the new Uganda Treatment guidelines, girls and women in reproductive ages who insist on being enrolled on DTG are required to sign a consent form. Those who have correct information sign the forms and take DTG while those who don’t have correct information still fear to take DTG for the said side effects on the un-born babies.

Lessons Learned: Community engagement is important in the introduction of new drugs; Community no better how to reach out to the peers and are more likely to come up with initiatives that will meet their needs and priorities;

Treatment literacy is an important tool to inform communities about the upcoming drugs and the removal of the existing drugs. Informed communities can create demand for the new drugs.

Conclusion: Community engagement is paramount to the success of any new drug introduced and communities need information to make informed decision.

Treatment Literacy is a very important on drugs and new drug introduction. There is continued scaling up of treatment literacy among PLHIV in the country.

Background: The global response to the HIV epidemic is rapidly changing, with more emphasis on high-impact and scalable interventions, within the context of dwindling resources. There is the need to enhance the capacity of local Civil Society Organizations (CSOs) to implement and provide leadership for HIV prevention, care, and treatment services in a sustainable and effective manner. Yet, despite significant investments, it is evident that widely adopted capacity building efforts have not been effective. We present evidence of an effective approach to capacity building and institutional strengthening for local CSOs in Ghana, utilizing evidence from an embedded advisor case study.

Materials & Methods: The core mandate of The USAID Strengthening the Care Continuum project, implemented by JSI Research & Training Inc, and sub-partner Population Council, is to build the capacity of the Government of Ghana and local CSOs to provide quality, comprehensive, and stigma-free health services for key populations (KP) and people living with HIV (PLHIV) in Ghana. In 2017, HIV Technical Advisors were embedded into the local CSOs for a maximum of 45 days to provide mentorship and capacity building of the CSOs staff, to identify, adopt and implement effective and sustainable technical interventions across the treatment cascade. The study triangulated data from two main sources, i) a review of study documents and published literature (eg pre- and post-intervention technical capacity assessment (TCA), meeting reports, job description, terms of reference, end of contract reports, etc. ii) 20 qualitative in-depth interviews with staff of the CSOs, Chief Executives of the beneficiary CSOs and members of the KP. Qualitative data was analyzed using thematic framework analysis.

Results: Results are captured under three broad multifaceted conceptual areas:

i. Prospective acceptability: At the intervention development stage, CSOs were assisted to conduct a participatory, Technical Capacity Assessments (TCA), of their organizations. TCAs were used to develop technical action plans detailing, areas for technical assistance. CSOs felt the intervention was timely and addressed critical organizational needs.

ii. Concurrent acceptability: At the implementation stage, the advisors supported 7 CSOs. Achievements include;

   aligning their guidelines for field HTS with the National HTS guidelines, development of outreach HTS checklist to ensure adherence to standardized practices, integrating social media as a tool for linking hidden KPs to HTS services. One of the CSOs recorded impressive results (16 HIV positives out of 27 MSM who were reached through social media and provided HTS) following their adoption of social media interventions in month of May 2018, with the assistance of the embedded advisor.

iii. Retrospective acceptability: To sustain the gains, the Advisors supported CSOs to document their innovative strategies and to formalize their management information systems. Counterpart staff within the CSOs who worked closely with the embedded Advisors are currently playing a lead role in integrating the new learnings.

Conclusion: Using short-term embedded advisors, with clear exit strategies helps to sustainability knowledge.
Abstract

Developing a Child Safeguard Policy For a Large Orphans and Vulnerable Children’s Project in Nigeria: Lessons for Community Based HIV Implementation Organization.

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Background: Orphans and vulnerable children (OVC) are children under 18 years, who have lost one or both parents to HIV/AIDS and deemed to be vulnerable to economic, social and cultural challenges. In Nigeria, OVCs are identified and supported by care givers and community based organizations (CBOs) and often do not have policies protecting OVCs from program staff, volunteers, vendors and even their care givers, implying that no laid-down deterrent to child abuse and exploitation exists. Program implementation policies are easier to adopt when development is iterative and evidence-based. Innovative Solutions to community Development Initiative (ISD), is a Nigerian based CBO, developed and instituted a Child Safeguard Policy in 2017 for its staff and volunteers working across four field offices which currently support 29,000 OVCs in North Central Nigeria.

Method: ISD developed its child safeguard policy by constituting an editorial team led by the Protection Officer which reviewed existing safeguard policies of projects and organizations working in child protection. The sample policy documents reviewed were disseminated to program staff in preparation for brainstorming sessions which were participatory and added local context and culturally sensitivities to relevant components of draft child safeguard policy prioritized. Staff orientation meetings were used to review and trim the draft policy and ensure staff are familiar with sections of the document. The finalized Child Safeguard Policy was disseminated for sign-off and archiving on the records of individual staff, volunteers and vendors.

Results: The Child Protection Unit developed a draft document which covered key sections including the justification and objectives of the policy; prevention of child abuse and exploitation; reporting procedures and response mechanisms for allegations of child abuse. Prevention strategies included background checks for history of child exploitation during recruitment of staff, volunteers and vendors; orientation and ongoing training on compliance with policy; defining a code of conduct for all who work with children on ISD projects and child-friendly and sensitive messaging in ISD program communications. Reporting procedures established the position of a child safeguard officer in the organization; defined mechanisms for anonymous reporting (whistle-blowing); and disciplinary actions for confirmed cases, including termination of employment and/or contract. Policy will be communicated to every community where ISD will support OVCs to increase awareness of the organization’s commitment to child protection and deter occurrence of abuse.

Conclusion: A child safeguard policy linked to recruitment of staff, volunteers and vendors in community based organizations ensures that practitioners are familiar with the threat of child abuse in OVC programs. Participatory policy development ensures that all involved in child care in OVC programs are aware of repercussions of non-compliance and this serves as a deterrent.

Knowledge, Attitudes and Practices related to PMTCT among Traditional Birth Attendants of the Logone and Chari Division (Far-North Cameroon)

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Background: In Cameroon, traditional birth attendants’ (TBA) services are mostly appreciated by the general population in the North, Far-North, East and Southern Regions because they are culturally, economically, socially and geographically accessible to them. In these settings, most childbirth occurs at home and is mostly assisted by unskilled attendance (TBA).

Objective: The purpose of this study was to assessed the knowledge, attitudes and practices of TBA regarding Childbirth, HIV/PMTCT services in the Logone and Chari Department in order to easily identify their training needs.

Methodology: We conducted a cross-sectional descriptive study at the Health Districts of Mada and Kousseri during the Month of April 2018. TBA were assessed on their knowledge, attitudes and practices on delivery, HIV/PMTCT services in the Logone and Chari Department.

Results: 637 TBA were interviewed, 420 were from the Kousseri HD and 217 from Mada. TBA practiced deliveries for an average period of 18.72years. An average of 14.93 deliveries was performed by TBA in 3 months. A total of 598(93.9%) says that pregnant women may need to go to the Hospital and 209(32.8%) if she is HIV+. Also, 229(35.9%) says that they can be MTCT of infections during pregnancy but only 104(16.3%) said they can be MTCT of HIV. Only 323 (13.8%) knew that screening is necessary to know if a woman has an infectious disease. Only 24% of TBA wears gloves and 1.1% wears an apron during delivery.

Conclusion: This study confirms that TBA lack basic knowledge and good practical attitudes during delivery or child birth; thus, rises the maternal and neonatal death risks and/or transmission of preventable infections like HIV from mother to child or from mother to TBA or from TBA to the mother during delivery which doesn’t align with the sustainable Development Goal 3. Hence, TBA need training on skilled birth attendance and on PMTCT services in their community.
From overlooked to recognized: Building community partnerships in the era of treat all

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Background: For HIV programmes to reach entire communities for PMTCT and paediatric HIV prevention, treatment and care, efforts need to extend beyond clinic doors. We must engage community itself as an integral partner in health service delivery, building its credibility and capacity to co-implement high quality, user-responsive models of care that link facility and community in a continuum of excellence.

Method: From 2014-17, the Positive Action for Children’s Fund (PACF) and the Paediatric-Adolescent Treatment Africa (PATA) implemented the Clinic-Community Based Organisation (CBO) Collaboration (C3) programme in nine sub-Saharan African countries. C3 established and supported 36 project partnerships between health facilities and community-based organisations (CBOs) to jointly action PMTCT and paediatric HIV treatment, care and support services.

As part of the C3 partnership initiation process, clinic and CBO partners were asked to rate each other’s contribution to PMTCT/paediatric HIV services on a scale from ‘very low’ to ‘very high’, at baseline, six months and 12 months into their partnership. The data were analysed with STATA13 using Chi-squared test for trend.

Lessons Learnt: Overall, clinics and CBOs rated one another significantly higher in value-add to HIV services after partnership (82%) than they had before partnership (54%) (p=0.009). Results indicate that clinics in particular increased their rating of CBOs through partnership, from a mean pre-partnership rating of 46% to a mean post-partnership rating of 72% (p=0.04). While this increase in ratings pre and post partnership was also true of CBO ratings of clinics (72% vs 91%), this was not significant.

On the basis of these data and wider learning from C3, it is clear that increased health system-community engagement improves mutual perception and partnership readiness at the local level. This is particularly critical for clinics who may underestimate CBO value in health service delivery.

Conclusions/Next Steps: Establishing and supporting clinic-CBO partnerships is feasible and we recommend increased focus on and investment in the clinic-CBO relationship. This in turn will have a major effect on global targets to end paediatric HIV by 2020. Phase II of the C3 Programme is currently driving clinic-community partnerships to scale in key countries since 2018.

Effects of malnutrition on ART adherence. Findings from a community HIV project in Botswana

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Background: With the USAID financial support, the Advancing Partners and Community (APC) program in Botswana provides community support to people living with HIV (PLHIV) on treatment with the aim of increasing adherence to treatment and retention in care. Through quarterly visits, community health workers (CHWs) screen PLHIV for medical conditions, including poor nutritional status and accordingly counsel and refer to national health services.

Methods: Clients enrolled in community care including patients initiating ART, treatment defaulters and some stable patients were assessed for their nutritional status by measuring the mid-upper arm circumference (MUAC) with colour-coded tapes. Routine monitoring data obtained from a dynamic cohort were analysed with STATA-12 to assess factors associated with poor nutrition status among PLHIV. Malnourished individuals were referred to social services to apply for food basket.

Results: From October 2017 through September 2018, a total 17,755 clients aged 0-95 years received community services through 45,955 assessments, including 15,865 (34.5%) initial assessments. The majority were female (59.1%), the mean age was 35.7 years. 73.1% of the clients were assessed for nutritional status. Children aged below 18 years were more likely than adult to be malnourished (13.8% versus 2.4%, p<0.001). The proportion of malnourished individuals dropped from 4.1% at first or second encounter with client to 2.8% at subsequent visits (p<0.001). Malnourished clients were more likely than others to report: non-adherence to treatment in past month (7.6% versus 6.0%; p=0.025), having been late for refill appointment in the past three months (16.1% versus 11.5%; p<0.001), symptoms of tuberculosis at intensified case finding (9.2% versus 0.7%; p<0.001), regular alcohol use (9.9% versus 7.6%; p=0.004), being bedridden (2.3% versus 0.3%; p<0.001) and not having had a viral load measure in the past 6 months (79.oversus74.2 ; p=0.001).

Conclusion: Malnourished PLHIV have more difficulty to adhere to HIV treatment. The measure of the MUAC at community level is useful to identify people in needs of regular community support to remain in care. Community intervention to PLHIV may reduce the proportion of malnourished people through referral to adequate services and counselling.
Diagnostic accuracy of Xpert MTB/RIF in detecting pulmonary tuberculosis among people living with HIV in South Western Nigeria

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Background: Tuberculosis is a leading killer among people living with human immunodeficiency virus (HIV). HIV-infected individuals with latent TB are approximately 20-30 times more likely to develop TB disease than those who are HIV uninfected, at a rate of 8-10% per year, with the disease estimated to cause approximately 9 million cases annually and 1.5 million deaths. Hypothesis tested was site of infection effect on tuberculosis on tuberculosis treatment outcome. This study determined the diagnostic validity and reliability of Xpert MTB/RIF in identifying the presence of Pulmonary Tuberculosis (PTB) among HIV patients in South Western Nigeria.

Methods: This was a prospective analytical study among HIV patients between ages 15 – 60 years who are infected with HIV seen from January 2015 - June 2017. Patients with signs and symptoms of Pulmonary Tuberculosis (PTB) were enrolled and submitted sputum for Acid Fast Bacilli (AFB) smear and Xpert MTB/RIF. This was processed following protocol for pulmonary samples for Xpert MTB/RIF based on WHO guidelines. All samples were processed for AFB smear and Xpert MTB/RIF as part of the procedure for PTB diagnosis. Data was collected using Epidata & analyzed using SPSS software version 23.0, with significance fixed at P<0.05.

Results: A total of 300 patients were enrolled in the study. The mean age ± SD is 37.11 ± 15.27 years. One hundred and thirty four (45.0%) of them are males while one hundred and sixty five (55.0%) are females. Xpert MTB/RIF has a sensitivity of 93.0% and specificity of 98.5%. The main factor associated with tuberculosis treatment outcome was the site of infection (χ² = 19.01, df = 1, p = 0.001) as 233 (77.7%) of the patients were declared cured after six month treatment course.

Conclusion: Use of Xpert MTB/RIF as a screening tool has a great performance for rapid diagnosis of Mycobacterium tuberculosis might effectively reduce the risk of multi-drug resistant tuberculosis (MDR-TB) in HIV care and treatment settings and improve the prognosis of affected patients.

Evaluation of Early Infant Diagnosis (Eid)/Infant Virological Testig (Ivt) Outcomes in the Globalfund Impact Hiv Project in Nigeria, 2018

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Background: In Nigeria, like other UNAIDS priority states, PMTCT is an important HIV prevention strategy. EID positivity is a measure of effectivenss of PMTCT interventions. There is a dearth of information on the EID positivity rate in Nigeria. Due to the low resource, PMTCT intervention coverage has been used as the surrogate for infant infections prevented. The GF Impact project is implemented in 35 + 1 states which gives a national spread to data obtained in the project. Dried Blood Spots (DBS) samples are collected from HIV Exposed Infants (HEIs) and sent to the referral PCR laboratories through the National Integrated Sample Referral Network using a hub and spoke model. In this study, we analyzed the final outcomes of EID results for effectiveness of PMTCT interventions in the project and the EID results return rate to inform recommendations on the improvement required of EID testing services.

Methods: Routine program data were collected and keyed into District Health Information System (DHIS). Aggregated EID data for an 11-month period, January to November 2018 was extracted from the DHIS. We analyzed the EID positivity rate in the project for HEIs aged between 6 weeks to 12 months. Results were disaggregated by age and by states.

Results: Our analysis revealed an overall positivity rate of 4.4% (n=230/5206) across the 35 + 1 states. Four states having a positivity rate of 0.00% (n=0/138, n= 0/8, n= 0/28 and n= 0/10) and the highest state 19.4% (n= 6/31). Disaggregating by age the average positivity rate is 2.8% for HEI in the first 2 months of life and 7.5% from age 2 – 12 months. Out of the 6,985 samples transferred, 5,206 (74.5%) received their results while 1,779 (25.5%) had no results returned.

Conclusion: The overall low positivity rate when compared to the rate that has been reported in the past for Nigeria (6% in 2014) is a pointer to the effectivenss of the PMTCT programme in the GF Impact project. Analysis of patient level data, where available would provide visibility to the reasons for the higher positivity rate at 2 – 12 months of life. There is need to put strategies in place to improve EID results return rate.
Achieving the third 90 using integrated sample referral approach in a resource constraint setting: AIDS Healthcare Foundation Benue Experience

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Background: Nigeria has the second largest burden of people living with HIV globally with a HIV prevalence of 3.0%. An estimated 3.1 million people persons are infected with the HIV in Nigeria with about 33% ART coverage. A lot needs to be done to achieve epidemic control of HIV which align with the UNAIDS third 90 goal. The government of Nigeria with support from donor agencies and key stakeholders have set up a model to transport samples from the health facilities to the Polymerase Chain Reaction (PCR) laboratories. This paper aims to share AHF experience in accelerating viral load uptake in rural communities using an integrated sample referral approach.

Methods: Demand creation and Advocacy visits were done to relevant stakeholders, Planning meetings and recruitment of vendors for transportation of samples to PCR labs. Primary end point was VL< 1000 copies/ml after 6 months of ART. Data from 2016 to 2018 was collected using a cross sectional study design. Data was analysed using descriptive and ANOVA on the SPSS version 23.

Results: Number of samples sent before the advent of integrated sample network was 2415(35%), from January to December 2018 a total of 4631(65%) samples were sent to the PCR lab. Results of the total samples sent were retrieved with 2848(80%) suppression rate from retrieved results. There is a significant difference in the mean suppression rate with an increase across the different quarters in the year 2018 (F(2,23)=2.197 p<0.05). The difference was observed between the suppression rate of quarter 3 and that of the other quarters in the year 2018.

Conclusion: Our findings showed that Integrated sample referral network has helped in bridging the huge gaps of viral load scale up especially in rural communities. The viral suppression rates seen at different times is a clear indication that the third 90 would be achieved with support from key stakeholders. However, challenges of long turn- around time of results from these labs need to be addressed in resource constraint settings.

Performance evaluation of Xpert HIV-1 Viral Load assay

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Background: The HIV-1 Viral Load Assay performed on the GeneXpert® Instrument Systems is an in vitro rapid, random access assay for rapid quantitation of Human Immunodeficiency Virus type 1 (HIV-1) in human plasma. This validation was conducted to evaluate the performance of the Xpert® HIV-1 Viral Load (XVL) assay for the detection and quantitation of HIV-1 RNA in control and clinical specimens.

Methods: Two, 4-module GeneXpert instruments were used for the validation. Thirty-eight frozen plasma samples from confirmed HIV-1 seropositive donors and ten frozen plasma samples from confirmed HIV-1 unaffected donors were tested using the Xpert® HIV-1 Viral Load assay. Both HIV-1 positive and negative clinical samples were initially tested using the Abbott RealTime HIV-1 assay (AR) as the gold standard. Four replicates of HIV-1 positive controls of different viral load concentrations (25, 50, 150, 150, 150 000, and 1 500 000 copies/ml) which were produced and characterised by the NIAID Virology Quality Assurance (VQA) Laboratory were used to evaluate performance of the XVL assay.

Results: The XVL assay detected 100% of VQA controls including those controls with nominal values 25 and 50 copies/ml. Three of the four replicates of controls with a nominal value of 50 copies/ml yielded a result that was 250 copies/ml and one was detected with <40 copies/ml. No control values for XVL exceeded the target difference of ±0.5 log10 HIV-1 RNA copies/ml. None of the HIV+ clinical samples for which a quantitative result was obtained in both assays exceeded the target difference of ±0.7 log10 HIV-1 RNA copies/ml. All the HIV-1 seronegative samples in the XVL data set yielded an undetectable result. The total assay SD target of 0.15 was not exceeded in any of the nominal concentrations for the XVL assay. Results for XVL were generally higher than for AR assay but did not exceed the target difference of ±0.7 log10 HIV-1 RNA copies/ml.

Conclusion: The Xpert® HIV-1 Viral Load test generates results equally as reliable as the Abbott HIV-1 Viral Load assay with respect to sensitivity, specificity, and precision and can be used for quantitation of HIV-1 RNA in clinical samples and HIV-1 viral load monitoring.
Abstract

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Improved Adherence to Early Infant HIV Diagnosis (Eid) Algorithm for HIV-Exposed Infants During Implementation of a Point-of-Care Eid Project in Kenya

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Introduction: Early infant diagnosis of HIV (EID) is vital to ensure infants begin lifesaving treatment as soon as possible. In 2016, Kenya revised its EID algorithm to replace nine-month antibody testing with virologic testing at 6 and 12 months of age, and adjusted treatment guidelines to mandate same-day treatment initiation among any infant with an initial positive result (with a new sample collected thereafter for a confirmatory test and a baseline viral load measurement). In this study, EGPAAF determined the level of adherence to the new testing algorithm for HEIs during implementation of the Unitaid-funded point-of-care (POC) EID project.

Methods: Retrospective conventional EID data from January to August 2017 were abstracted from the national EID dashboard for 53 health facilities in Homa Bay County prior to implementation of POC EID. Prospective data were collected from the same facilities following POC EID implementation from August 2017 to August 2018. We tabulated the total number of HIV-infected infants, number of HIV-infected infants who underwent a confirmatory EID test, and the number of HIV-infected infants who received a baseline viral load test during both time periods at each facility. We also use the unique identity number to link infants across testing time points and assessed the proportion of HIV-exposed infants with a negative EID result at 6 weeks and 6 months' time point who had a follow-up test at 6 and 12 months, at 3 facilities that had one-year experience with POC EID.

Results: Retrospective conventional EID data yielded 122 infants with an initial HIV-positive result. Only 44 (36.1%) had a sample collected for a confirmatory test and 31 (25.4%) had a sample collected for a baseline viral load test. For conventional testing, 149 and 48 infants had a negative result at the 6-week and 6-month EID testing time point, respectively. Only 120 (80.5%) and 20 (41.6%) infants had a follow-up test at 6 and 12 months respectively in-line with the EID algorithm. Prospective POC EID data collection yielded 87 infants with 82 (94.3%) having a confirmatory EID test and 73 (84.0%) with a baseline viral load test. Eighty-five infants and 82 infants had a negative result at the 6 week and 6 month EID testing time point, respectively. Of these, 81 (95.3%) and 80 (95.6%) infants had a follow-up test at 6 and 12 months, respectively, in-line with the algorithm.

Conclusion: POC EID implementation has the potential to increase the proportion of infants who adhere to the EID algorithm. Enhanced training on revised guidelines should be implemented for both conventional and POC testing to increase the level of adherence to the EID algorithm.

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A Pragmatic Approach for Ensuring the Quality of HIV Drug Resistance Testing in Resource-Limited Settings: Experience from Cameroon

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Background: In resource-limited settings (RLS), HIV-1 drug resistance (HIVDR) testing is mainly focused on the protease and reverse transcriptase (RT) regions of the HIV-1 pol gene that encompasses first- and second-line antiretroviral drugs. To ensure reliability in HIVDR testing, proficiency testing programs are recommended but their regular implementation remains challenging, especially in African RLS. Thus, it becomes essential to set-up a practical approach that ensures high quality performance for the optimal use of locally available antiretrovirals. Considering the broad HIV-1 genetic diversity in Cameroon and ART regimens, we sought to evaluate the reliability and reproducibility of HIVDR testing using standard protocols.

Methods: A comparative assessment was conducted using panels of specimens. HIVDR testing was performed using Applied Biosystems™ HIV-1 genotyping kit as per the manufacturer’s instructions. Drug resistance mutations (DRMs) and polymorphisms were identified using the Stanford HIVdb algorithm while HIV-1 subtypes were inferred using molecular phylogeny. Reliability (for kit controls) and reproducibility (for clinical aliquots) were each evaluated by assessing the concordance in the length of sequence coverage (≥1035 nucleotides), assigned subtypes and detected DRMs/polymorphisms.

Results: All the specimens of the panels were successfully amplified and sequenced, which include four different kit controls and clinical samples from six treatment-experienced patients (five samples in duplicates and one sample in quadruplicate), resulting to a total of 18 sequences generated. Among the four sequences generated from kit controls, all (100%) reached the required sequence coverage, all (100%) were classified as subtype B; DRMs/polymorphisms detected in the protease-region were: N37S (4/4), R41* (4/4), I54V (4/4), L90M (4/4), and in the RT-region were: M41L (4/4), K65R (4/4), K122E (4/4), Y181C (4/4), Y188I (4/4), Y188L (4/4), M184V (4/4), F214L (4/4); giving an overall reliability of 100% from kit controls. Among 14 sequences generated from 6 different patients, all (100%) reached the required sequence coverage and were classified as CRF02_AG (2), subtype D (2), CRF01_AE (1) and subtype G (1), with a subtype concordance of 100%. In the protease-region, concordance in the detection of major DRMs between aliquots was 100% (IS4V, IS4V) and 88.9% (32/36) for polymorphisms. In the RT-region, concordance in the detection of major DRMs between aliquots was 100% (M41L, E44D, D67N, K70E, K70N, L74I, V75M, A98G, K101E, K103N, V106M, Y115F, E138A,
M184V, V179T, Y181C, Y188L, G190A, L210W, T215Y, H221HY, P225H, K238T) and 90.1% (120/132) for polymorphisms; giving an overall reproducibility of 100% for detecting DRMs on clinical samples.

Conclusion: In this RLS with a broad HIV-1 genetic diversity, the reliability and the reproducibility in detecting DRMs are 100%. Thus, implementing a regular validation process, which combines kit controls and clinical specimens, could ensure the quality of HIVDR testing. Beside the participation to external proficiency testing programs, such regular internal controls would strengthen laboratory performance in monitoring HIVDR, which in turn improves virological response and ART strategies in RLS.

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A comparison of HIV Incidence estimates in Akwa Ibom AIDS Indicator Survey (AKAIS) Population-Based Study in Nigeria Using both Plasma and DBS for Limiting Antigen Assay Method

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Background: Identification of recent HIV infection is important in accurate estimation of HIV incidence and this has implications on HIV prevention strategies and treatment interventions. Methods that utilize cross-sectional testing and biomarker information have become an affordable alternative to the “gold standard” longitudinal approach to differentiate between recent and established HIV infections. Here, we describe the detection of recent HIV-1 Infection in Akwa Ibom AIDS Indicator Survey (AKAIS), a cross-sectional population-based survey using both Plasma and DBS.

Materials & Methods: A total of 8,306 consenting participants aged 15 years and older were tested for HIV of which 394 were confirmed HIV sero-positives with Biorad Genieus HIV 1 / 2 kit (Biorad, France). HIV Incidence was carried out on 370 eligible positive plasma using Sedia HIV-1 Limiting Antigen Avidity (LAg–Avidity) EIA plasma (Cat #1002), and 363 eligible DBS specimen on Sedia LAg-Avidity EIA kit (Cat #1003) with mean duration of infection (MDRI) of 130days and cut-off normalized ODn of 1.5 in combination with HIV-1 Viral load (Roche Cobas 96 Taqman system. No adjustment was made for the false recent rate (FRR=0)). Recent infection testing algorithm (RITA) was applied for estimating HIV incidence with viral load cut-off of <1000 copies /ml. HIV incidence was estimated for Sedia assay using the Sedia LAg data management sheet and CDC HIV incidence calculator to estimate population level incidence.

Results: Eleven specimens with HIV VL >1000 were identified as recent and 359 that had VL < 1000 copies were classified as long-term infection or non-recent on Plasma Sedia LAg – Avidity EIA. DBS specimen LAg EIA identified 22 recent infections, twice as much as Sedia Plasma LAg after adjusting for low viral load < 1,000 copies/ml. When samples were matched for duplicates on both assay, 10 recent samples in Plasma LAg aligned with DBS. Using Bland Altman analysis, mean bias differences and limit of agreement for the LAg EIA assay between Plasma and DBS were -0.77 (95% CI: -0.857 TO -0.688) and -2.409 to 0.863 respectively, with Correlation coefficient of 0.764. The weighted and adjusted HIV-1 incidence after viral load exclusion (<1000 copies/ml) was 0.41/100 PY on Sedia Plasma, while Sedia DBS was 0.85 /100 PY. A higher number of specimens were classified as recent using DBS (1 in 1.7).

Conclusion: Plasma and DBS specimens have high correlation, but LAg assay performed using DBS classifies more samples as recently infected, which may lead to overestimation of incidence in population-based survey. There is need to optimize DBS assay by adjusting the normalized ODn cut-off value so that DBS LAg EIA can be used for the HIV Incidence testing in a large population survey at the community level for ease of transportation to the laboratory, while Plasma LAg EIA can then be applied to validate the recent infections identified by DBS.

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Scale up of GeneXpert Platform in Liberia: A post-EVD Outbreak Health System strengthening intervention led to significant expansion of HIV and Tuberculosis testing

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Background: Weak laboratory and health systems resulted in significant proportion of deaths during the 2014-2016 Ebola outbreak in Liberia; however, procurement and deployment of 16 Cepheid Xpert Machines allowed for case detection and supported the end of the epidemic. Prior to the EVD outbreak, TB tests were mostly done using sputum microscopy, while samples for HIV viral load and early infant diagnosis were sent to laboratories outside the country. However, there were two GeneXpert machines available in country for MDR TB diagnosis.

Methods: Several disease programs (Health Emergencies, HIV, Tuberculosis) in the Ministry of Health collaborated with relevant partners to develop a plan to optimize use of the GeneXpert devices to support expansion of testing across programs to address diagnostic challenges. Minimal testing began in 2017. Routine HIV and Tuberculosis testing data for 2017 and 2018 were evaluated. Prior to 2018, samples for Early Infant Diagnosis (EID) were shipped outside Liberia. With the installation of the thermomixer, additional six GeneXpert machines and training of laboratory staff, testing sites for viral load and TB increased and EID began in-country in 2018. HIV viral
load and tuberculosis testing were performed using the WHO recommended algorithms.

Results: In 2017, the number of laboratories conducting TB, viral load and EID were nine, five and two, respectively. A total of 5,155 TB (31.5% MTB positive, 6% RIF), 273 HIV viral load (56% viral suppression) and 138 EID (8.70% positive) were performed using the Xpert assay. Samples for EID were sent outside of the country. Of the total viral load conducted, 243 tests were valid, while 30 were invalid. The coverage for viral load was 2% in 2017. In 2018, testing for EID, viral load and TB were expanded to 17 laboratories with 20 GeneXpert Machines in 10 of the 15 counties. A total of 3621 TB (29.1% MTB positive, 4.1% RIF), 3,154 viral load (53% viral suppression), 313 EID (5.75% positivity) tests were performed using Xpert assay. Reduced testing in 2018 was observed due to cartridge stock-outs. Of the total viral load conducted, 2,804 tests were valid, while 347 were invalid. The coverage for viral load was 20.6% in 2018.

Conclusions: Integrating HIV and tuberculosis testing on a multiplex technology in a challenging, resource-limited setting was successful and led to significant increase in diagnostic capacity for HIV and tuberculosis. This strategy led to increased coverage, thus leading to increased TB case detection especially RIF resistance, effective monitoring of HIV treatment outcome, and early diagnosis of HIV in exposed infants. Other values of this strategy include increased utilization of the GeneXpert Machines, improved equipment maintenance and strengthened coordination among the GeneXpert stakeholders.

Evaluation de la mise en œuvre de la biosécurité et du contrôle qualité de laboratoire dans un Centre de santé sexuelle géré par une OBC : le Cas d’Alternatives Cameroun.

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La mise sur pied d’un laboratoire et des services de dépistage dématérialisé au sein de notre centre communautaire, le centre médical Access, a rendu nécessaire l’application des normes et standards de la biosécurité au sein de notre organisation. Nous avons voulu évaluer cette démarche et en apprécier l’efficacité. En avril 2016, une équipe de PEPFAR est arrivée au sein d’Alternatives Cameroun, OBC œuvrant pour l’accès à la santé des LGBT au Cameroun, pour l’évaluation de la qualité de nos services, sur la base de l’outil SIMS conçu à cet effet. L’évaluation a révélé qu’aucun contrôle de laboratoire n’était effectué au Centre médical Access d’Alternatives Cameroun. Cette situation a motivé les auditeurs de contacter CDC (Center for Disease Control) pour nous accompagner dans le processus de contrôle qualité en laboratoire, par l’entremise de GHSS (Global Health Solution Systems) basé au Cameroun. Nous avons évalué pour la première fois et avons eu un score de 35/88. Par la suite, neuf membres de notre personnel, infirmiers, techniciens de laboratoire et personnel psychosocial, ont eu une formation en assurance et qualité, et 1 personne en biosécurité. Cette dernière a été nommée Déléguée à la biosécurité, et aurait pour rôle pour mieux prévenir les accidents/incidents liés au laboratoire et assurer la sécurité des personnes présentes au Centre Access. A cette tâche, nous avons intégré l’ensemble des processus de contrôle qualité en laboratoire. Après les différentes formations, nous avons implanté des documents pour le suivi et le respect des normes. Une fiche d’inspection a déjà permis d’effectuer plus de 150 inspections, et d’évaluer les améliorations à apporter au laboratoire en termes de respect de normes. Nous avons également mis des procédures en place pour le test VIH DETERMINE, ORAQUICK, HEPATITE B, SYPHILIS, traitement des déchets.

Leçons Apprises: Sept mois de mise en œuvre plus tard, un nouveau contrôle a été effectué et nous sommes passés à 65/88. Depuis lors, nous avons reçu quatre autres contrôles et supervisions, et six contrôles de panel. Tous les contrôles de panel ont tout obtenu un score de 100%. Nous sommes également devenus dynamiques dans la collecte et la gestion des données dans les registres correspondant aux normes de biosécurité. Bien que la déléguée à la biosécurité soit à la base une Assistante Sociale, et que très peu de technicien médicaux figurent dans notre personnel, il a été possible, avec les formations et une bonne organisation, de nous rapprocher des exigences de qualité dans les services de laboratoire.

Prochaines étapes: Les progrès obtenus nous mettent en meilleure position pour viser la certification de notre laboratoire. Parallèlement, nous pouvons envisager sérieusement l’extension des offres de notre laboratoire, étant donné la garantie de qualité que nous avons acquise. Notre expérience démontre que les centres communautaires peuvent et doivent eux aussi respecter les normes de sécurité. Il faut pour cela des formations de même niveau que celles données dans les centres hospitaliers et laboratoires.

Effectiveness of the response to the Ebola epidemic in Guinea 2014-2016 (Lessons learned and recommendations made)

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During the 2014 Ebola outbreak in Guinea, the Ministry of health with the support of international partners, set up a National Strategy to stop the disease propagation and control the epidemic all over the country ; A year later, a qualitative survey within the most affected areas including the health district of Gueckedou, Forecariah, and Conakry in which around 100 people were questioned. The in depth interviews targeted Stakeholders, Partner Organization Managers, Center of Ebola Care and treatment managers, Community leaders, Traditional healers , Mass media Officers, Community animators, and Secured Burial teams and the Focus group discussion with Youth , Women association, Health workers, community members.

The mains objectives of the evaluation were to pinpoint the overall effectiveness of the epidemic control activities; know the perceptions and the lessons learned during the epidemic.
gather the main recommendations to the control of epidemic like Ebola in a given country.

The evaluation results showed that: The majority (90%) of the interviewees has never heard about Ebola before the outbreak of 2014 those who have head were informed during their training in medical school (virology) or via mass media on the previous epidemic in RD Congo. (85%) of them declared being reached through infection of a family member, neighbor, colleague or a well-known health professional. Seven out of 10 interviewees recognized the plus values and the efficiency of the international organization supports help to control of the epidemic, think the disease was sent by stringers for experimentation purpose. The most contributing activities to the outbreak control were the Multimedia communication (70%), the case management (70%), and the distribution of hygiene kits (90%) (Hand washing devices, soap, and chlorine), and the National Committee coordination (40%), the training of the response actors, the community engagement (90%), and the strengthening of the laboratory system (50%).

The weaknesses of the Ebola response were: the discrepancy of the early message spread (which caused fear and panic among the population); the late of funding and international intervention; the multiplicity of the managing protocol used by the various partners; the “low level of skill of health workers to the prevention and infection control; the late of the community engagement and the reticence occurred.

The majority of interviewees recommend that most important action to be taken to control an epidemic, like Ebola, should be: an early deflation of the epidemic by WHO; a quick and efficient international mobilization; an efficient carefullness actions to save the victims; an harmonized information about the epidemic; an early involvement of all actors including Communities leaders, Socio-anthropologists, traditional healers, youth women association;

Almost all interviewed agreed on that the harm and the socioeconomic impact of Ebola in Guinea were related to the weaknesses of the country health system and the neglected of the early community engagement to the control activities.

Development of a National Bio risk (biosecurity and biosafety) policy in Guinea

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Prior to the 2014-2016 West Africa Ebola virus disease outbreak, there were no national biosecurity protocols to prevent infection that mad the laboratory source of infection. Almost all infection of health is related to the weakness of the biosecurity. By achieving a delicate balance between systems and practices, proper laboratory biosecurity reduces the risk of legitimate bioscience facilities becoming sources of pathogens and toxins for malicious use. Following the numerous training done in the area of IPC, biosecurity done in Guinea during and after Ebola, the need of having a national policy of biosecurity is expressed bay the Ministry of health. Under the CDC funding, Georgetown University developed a National Bio risk policy covering both the biosecurity and biosafety procedures.

The overall objective is to contribute to reinforcement of the security with the Guinean laboratories thought the Development a National bio risk (biosecurity and biosafety) policy

Under the lead of the Biomedical National Direction, the document was developed in 5 steps including appointing a technical working group that involved partners supporting the laboratory strengthening, literature review using the others countries experiences, two workshops involving the authorities and partners, followed by the validation of the National policy of bio risk by the Ministry of health. Here will be presented the content of the National Policy of bio risk of Guinea

The validated National bio risk policies:
• Determines procedure on how the health agents can behave to avoid being infected within their laboratory setting (bio risque) and to avoid sharing infectious agent form their laboratory to the community and vise versa (biosafety) as well., and the basic level of waist management and the different type of confinements (assessing, mitigation, performance)
• Describes the risks of working with dangerous pathogens and toxins in the current era of international terrorism. Also, we discusses biosecurity risk assessment-a practical methodology that allows laboratory management and biosafety/biosecurity officers to analyze and determine the level of risk, and serves as a basis for managing those risks.
• Includes questionnaires that can assist the process of collecting data for a biosecurity vulnerability assessment, example standard operating procedures and memoranda of understanding, and other useful reference material.

Addressing a variety of operating environments and the particular challenges they face when designing and implementing laboratory biosecurity, the
• Can assist bioscience facilities ranging from the large to the small, from those that focus on diagnosis or vaccine development, to those only minimally involved with infectious diseases?
• Finally, the document shows institutions how to develop and implement a biosecurity plan, and helps ensure that all components are included in the overall system, whether existing or new.

Importance of classical PCR in the diagnostic of HIV infection

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Background: HIV diagnostic have played a central role in the remarkable progress in identifying, initiating, and monitoring infected individuals on life antiretroviral therapy. Despite the continuous improvement of HIV testing, called “undetermined” cases of HIV diagnostic persist. The use of molecular tests such as classic PCR allows the final diagnostic and thus contributes to the improvement of the first one 90 of UNAIDS goal 3X90.

Materials & Methods: This was a cross sectional retrospective and prospective study of 30 sera and plasmas from patients with
Compromise in Sensitivity of RTK When Used for Donor Screening, Is High in Osun State

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Background: Blood transfusion carries a potential risk of transfusion transmissible infections. In developing nations, blood safety continues to be a major dilemma due to high prevalence of infectious agents among blood donors compounded with the problem of limited resources that preclude the use of sophisticated, sensitive and specific technologies for screening blood and blood products. This research aimed at assessing the performances of rapid test kits (RTKs) in the detection of human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV) among prospective blood donors in Osun State, southwest Nigeria; using nucleic acid based technique as gold standard.

Materials & Methods: A total of 321 prospective blood donors from 3 senatorial districts in the state of Osun were recruited for the study after obtaining ethical clearance and informed consent from LAUTECH Teaching Hospital Ethics Review Committee and the study after obtaining ethical clearance and informed consent from the Modified National Blood Transfusion Services (NBTS) questionnaire was administered to every participant to obtain socio-demographic data and information on exposure to risky behaviours and venous blood collected was used for Transfusion Transmissible Viruses (TTVs) screening. Screenings for HBsAg, HCV and HIV were done using rapid test kits (RTKs) in the detection of HIV, hepatitis B virus (HBV) and hepatitis C virus (HCV) among prospective blood donors in Osun State, southwest Nigeria; using nucleic acid based technique as gold standard.

Results: Among 30 sera, twenty five were directly negative with ELISA and these sera have been declared as undeterminate. The remain (5) was positive with ELISA and negative in Western Blot and these patients have been declared as undeterminate. The classic PCR performed on the five undeterminate samples showed four negative plasmas and one positive with viral load by Cobas AmpliPrep/Cobas TaqMan HIV-1 test.

Conclusions: In light of our results, national programs fighting against AIDS should integrate PCR into their screening algorithm to address the undeterminate case of serologies and thus improve the first 90 of the UNAIDS 3X90 target.

Performance evaluation of modified ABBOTT Realtime HIV-1 viral load assay for HIV-1 RNA quantification in diluted plasma samples

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Background: Human Immunodeficiency Virus (HIV)-1 viral load monitoring is a key component in patient care for people living with HIV. Most automated platforms such as Roche COBAS AmpliPrep/COBAS TaqMan and the Abbott RealTime HIV-1 Test (AR) require a minimum volume of 0.8ml to 1.1ml of plasma for maximum sensitivity. This may prove challenging when handling paediatric samples or small plasma volumes. The purpose of the study was to validate the use of calcium/magnesium-free phosphate buffered saline (PBS) to dilute donor plasma 1:5 for samples with low plasma volume and 1:50 for high-titered samples prior to testing for HIV-1 viral load on AR.

Methods: The effect of using PBS as diluent prior to HIV-1 RNA testing on AR was evaluated by testing twenty clinical samples with viral loads ranging from 1,000 - 5,000,000cp/mL neat. The real-time and diluted samples for each donor were assayed together in a single run. Two runs were of twenty-four samples that included ten neat donor samples, ten diluted samples, a VQA 200 copy control, and three kit controls (Low, High and Negative) were performed. Ten of the donor samples were diluted 1:5 (0.2ml plasma + 0.8ml PBS) and the other ten donor samples...
were diluted 1: 50 (0.02ml of sample + with 0.98ml of PBS). The diluted sample viral load counts were estimated by multiplying the result by the dilution factor (either 5 or 50). Results of log10 RNA copies/mL donor diluted samples were compared to the corresponding log10 RNA copies/mL donor neat AR results. The effect of PBS dilution was evaluated using a linear model of log10 estimated HIV-1 RNA concentrations as a function of dilution status (neat or diluted) and donor. The acceptance window of -0.42 to 0.59 was used and was based upon AR-specific estimates of the median difference (0.09 log 10) and a robust +3SD (+0.5 log 10) window established by the NIAID Virology Quality Assurance (VQA) program.

Results: Log10 HIV-1 RNA values for the neat and dilution-corrected samples were compared. The average log10 difference in HIV-1 RNA fell within the established acceptance window of -0.42 to 0.59. The dilution-corrected estimates were on average 0.020 log10 higher than the neat samples. The 95% confidence intervals for the actual data ranged from -0.254 to 0.294. This was equivalent to a 5% higher value on the diluted sample compared to neat.

Conclusion: This evaluation shows no clinically significant difference in log10 HIV-1 RNA was noted in samples tested neat and or diluted (1:5 or 1:50) in PBS. Therefore, the modified Abbott HIV-1 RNA dilution assay can be used to accurately measure HIV-1 RNA levels in small volume samples or samples containing high titres of HIV-1 RNA.

Performance evaluation of the Xpert® HIV-1 Qual Assay for detection of HIV-1 in clinical and control specimens

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Background: The Xpert® HIV-1 Qual (XQL) assay is a cartridge based rapid, random access platform. The test can be used for early detection of HIV-1 in diverse populations and most critically infected infants thus proffering a solution to challenges associated with Early Infant Diagnosis of HIV (EID) in resource constrained settings. Results can be obtained on the same day which helps timely clinical decision making. The validation was done to evaluate the performance of the XQL assay against a gold standard.

Methods: Two 4-module GeneXpert instruments within the UZCHS-CTRC Laboratory were used for the validation. Forty-Eight (48) clinical samples collected from donors with known HIV-1 sero-status (38 positive and 10 negative) were tested on the GeneXpert within UZCHS-CTRC Laboratory and qualitative COBAS® AmpliPrep/COBAS® TaqMan® HIV-1 Test, version 2.0 (RT) at BARC Laboratory in South Africa. Validation Controls containing 0.15, 30, 60, 120, and 240 U1 cells per 0.1mL HIV-negative blood (BLD) were obtained from the NIAID Virology Quality Assurance (VQA) program. Each U1 cell is estimated to contain 2 copies of proviral HIV-1 DNA copies per cell and an average of 6 copies of HIV-1 RNA per cell, or 8 copies of total HIV-1 nucleic acid per cell, based on internal testing done by the VQA using a modified quantitative RT assay (i.e. O. 120, 240, 480, 960, and 1,920 copies/0.1mL BLD, respectively).

Results: The 0 copy controls were undetectable with a mean CT value of 0.0. The XQL assay detected all of the VQA HIV-positive validation controls 0, 120, 240, 480, 960, and 1,920 copies/0.1mL BLD with mean CT values of 30.73, 29.73, 28.90, 27.98 and 27.70, respectively. There was 100% concordance between data generated with the qualitative RT and the XQL assays for the 38 HIV-1 sero-positive donors and the 10 HIV-1 negative donor samples.

Conclusions: The XQL assay demonstrated 100% sensitivity and specificity in the samples tested and demonstrate that the XQL assay performs comparably with the qualitative RT assay and can be used for accurate laboratory detection of HIV-1 nucleic acids in clinical samples and allow timely reporting of results for clinical management.

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Evaluating the impact of the laboratory handbook to reduce CD4 rejection for primary health care (PHC) services in Johannesburg, South Africa

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Background: South Africa has four levels of care ranging from tertiary hospitals to primary healthcare (PHC) facilities. PHC services adopted the ideal clinic initiative (IDI) to improve service delivery as a mechanism to realize National Health Insurance (NHI). One of the goals was the standardization of the clinic-laboratory interface (CLI). To improve the CLI, the PHC laboratory handbook was developed to provide guidance of specimen collection, storage, recording and transport. Training was provided in the Gauteng province in January 2018, cascaded to each health facility. The objective of the study was to assess the impact of the handbook implementation on test sample rejections, using CD4 as a proxy.

Methods: The retrospective cross-sectional study design was used to analyze laboratory data. The pre-implementation phase was assigned for rejections between January to December 2017 (post-implementation phase from February to December 2018). The implementation phase was for rejections in January 2018. Data was reported for the City of Johannesburg. Electronic gatekeeping (EGK) was excluded. A lookup table categorized the rejection descriptions as follows; (i) category, e.g. health facility and (ii) sub-category, e.g. poor request form completion. Microsoft Access and Excel were used to prepare and analyze the data (Redmond, WA, USA). The overall and monthly rejection rates (%) (RR) were reported for all three phases. For each category, the sub-category with the highest rejection rate was reported by origin.
Results: Overall, there were 8956/431103 rejections (2.1%). The pre- and implementation phases both reported a rejection rate of 1.8%. The post-implementation phase RR was 2.4%. The monthly RR ranged from 1.6% (January 2017) to 3.5% (June 2018). For the pre-implementation and implementation phases, 93% of rejections originated at health facilities. In the post-implementation phase, 93% was also reported. For health facilities, the “sub-category unsuitable for analysis” sub-category was the most common reason for rejection (67%; n=4945), whereas for laboratories it was “laboratory error” (92; n=509). Between the pre and post implementation phases, poor request form completion increased from 246 to 402 (63%).

Conclusion: The study results indicate that there was an increase in the rejection rate after the implementation of the handbook. One possible reason for this trend could be the introduction of mandatory data fields to be completed on the PHC request form (as per the handbook) It is further possible that either the cascaded handbook training had not resulted in a behaviour change or that staff prefer to continue with historical practices. After July 2018, rejection rate reduced (not statistically significant with a p-value of 0.9987) that may indicate some behavioural changes, i.e. people were getting used to filling out all mandatory fields. Additional follow-up training by laboratory coordinators and trainers may be required to flag the rejections reported in this study. This training should ideally include a simulation exercise that requires staff to complete the PHC request form and assesses this against the mandatory fields in the handbook. A rejections dashboard should be developed at the district and facility levels to identify poor performance for targeted on-site training.

For each treatment center (urban and rural), Chi-square test was used to explore the differences among gender & viral suppression and odd ratios calculated to assess the association between the two categorical variables.

Results: For an urban treatment center, 1059 patients - 715 (67.5%) females and 332 (31.4%) males - met study inclusion criteria. 70.3% of female patients (n= 503) and 75.3% (n= 250) of male patients achieved viral suppression after >6months of ART. Males were also found to be more likely to achieve viral suppression than females, P = 0.233; OR: 1.00, 95% confidence interval 0.20 – 50.397.

For a rural treatment center, 332 patients - 217 (67.4%) females and 105 (32.6%) males—met study inclusion criteria. 69.1% of female patients (n= 150) and 65.7% (n= 269) of male patients achieved viral suppression after >6months of ART. However, males were more likely to achieve viral suppression than females, P = 0.539; OR: 1.168, 95% confidence interval 0.712 – 1.917.

Conclusion: This study confirms that there may be geographical and gender variations in HIV treatment uptake and outcomes. There may also be the need to tweak treatment programs to ensure equitable outcomes for men and women everywhere.

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Gender Patterns of Treatment Outcome in HIV+ Adults Managed in Urban and Rural Clinics in South East Nigeria

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Background: Poor virologic outcomes in HIV treatment have been associated with the female gender. Within sub-Saharan Africa however, there are varying patterns of outcomes from country to country. Also, access to care and treatment for persons living with HIV vary between health facilities and also between geographical locations with evidence lacking in Nigeria on these patterns. Understanding these variations may guide interventions to improve viral suppression rates towards achieving UNAIDS 3rd 90 goal.

Methods: A cross sectional retrospective review of one thousand three hundred and eighty-one (1381) HIV positive persons receiving HIV treatment in an urban (1059) and a rural (322) treatment centers was done. These persons included in the study were above 20 years of age, who have been on HIV treatment for more than 6 months and had viral load assays done and received results between July and December 2017. Viral suppression was seen as HIVRNA of less than 1000copies per ml.

For year one, 10.2% of all CD4 samples tested (3 161 458) had a CD4 count <100cells/µl (292 282). During year 2 a

Reflexed Cryptococcal antigen (CrAg) testing in CD4 laboratories in South Africa two years after full implementation.

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Background: Cryptococcal meningitis (CM) remains a leading cause of mortality among HIV-infected patients. In South Africa. Reflexed Cryptococcal antigen (CrAg) screening against a confirmed CD4 count <100 cells/µl were introduced to CD4 testing laboratories of the National Health Laboratory Service (NHLS) in June 2016. By October 2016, 49 CD4 laboratories provided this service. National CrAg data for the first 9 months of after implementation identified areas with high positivity rates based on the relationship between the percentage of CD4 samples with a count<100cells/µl and CrAg positivity at district level. This study now reports CrAg data for the first 2 years after implementation, to assess changes in CrAg positivity distribution.

Methods: CrAg and CD4 laboratory data was extracted from the NHLS corporate data warehouse for the period 1 October 2016 to 31 September 2017 (Year 1) and 1 October 2017 to 31 September 2018 (Year 2). Data parameters included the episode number, date of testing, testing facility with related province and district, CrAg result and CD4 count. The total number of CD4 tests performed were used to calculate the percentage of samples with a count <100cells/µl. CrAg positivity rates were calculated from the total CrAg samples tested per province or district.

Results: For year one, 10.2% of all CD4 samples tested (3 161 458) had a CD4 count <100cells/µl (292 282). During year 2 a...
slight decrease to 9.75% was noted in the percentage samples with a count <1000 cells/μl. The global CrAg positivity rate changed from 4.8 (year 1) to 5.3% (year 2). Of the 9 provinces, only Gauteng showed a slight decrease in CrAg positivity from year 1 to year 2 (5.2 vs 5%). Kwa-Zulu Natal still has the highest rate of CrAg positive samples at 7.8%, followed by Eastern Cape with 6.8%. Of the 52 health districts, only 7 randomly distributed districts showed a decrease in CrAg positivity rates. Districts with CrAg positivity >6% was 18 for year one vs. 21 for year 2. The 3 districts with the highest CrAg positivity rates were identical for both years, from KwaZulu-Natal. Three districts showed an increase in CrAg positivity (without increase in test numbers) of up to 1.6%. The biggest change was seen in Cape Winelands (Western Cape) where positivity rate changed from 6.7 to 8.7%.

Conclusion: Analysis of two years of reflexed CrAg data showed an overall increase in CrAg positivity, confirmed for the majority of provences and health districts, even though actual test numbers decreased. Previously reported districts remained with the highest CrAg positivity, with additional districts moving up into CrAg positivity ranges above 8%.

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High-Level Viremia and Severe Immunodeficiency are Risk-Factors of Thrombocytopenia among HIV-Infected Cameroonian Individuals

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Background: Thrombocytopenia is an abnormal decrease in blood platelets, which can affect the prognosis of people living with HIV (PLHIV). In order to limit the occurrence of this hematological condition, we aimed to evaluate the frequency of thrombocytopenia according to antiretroviral therapy (ART), viremia and immune status of PLHIV.

Material and Methods: A cross-sectional and analytical study was conducted from June-November 2016 among 310 PLHIV, followed at the “Chantal BIYA” International Reference Center for the research on HIV/AIDS prevention and management (CIRCB), Yaoundé, Cameroon. Thrombocytopenia was assessed by blood count on the Mindray BC 3000 plus device, then categorized as mild [50000-150000] platelets/μl, moderate [20000-50000] and severe <20000. HIV-1 viral load by the Abbott m2000RT; CD4 by the BD Facs Calibur. Data analyses were carried out using Excel 2013 and Graph Pad Prism 6, with p values <0.05 considered statistically significant.

Results: The median age was 40 (IQR: 33-49) years with 60.9% being female. Of these patients, 79.0% (245) were on ART; 54.5% had CD4 counts <500 / mm3 and 25.4% had viremias >3log10 RNA/ml. Overall, the rate of thrombocytopenia was 19.0% (59/310), with 17.4% (54/310) mild, 1.6% (5/310) moderate and 0.0% severe. According to exposure to ART, 64.6% (42/65) of cases of thrombocytopenia were observed in naïve PLHIV compared to 6.9% (17/245) in treated patients, p <0.0001. With respect to ART regimen, 64.7% (11/17) of thrombocytopenia cases were observed in those receiving AZT versus 35.3% (6/17) in those without AZT, p < 0.05. As concerns viral load, 15.8% (20/130) of thrombocytopenia cases were observed in those with undetectable viral load, 11.0% (12/101) in those with viral loads between 1,60-3.0 log10 RNA / ml and 34.1% (27/79) in those with viral loads >3 log 10 RNA / ml (p <0.05; r = -0.12). The rate of thrombocytopenia was 16.2% (42/259) in those with ≥200 CD4 / mm3 versus 33.3% (17/51) with <200 CD4 / mm3 (p <0.05; r = 0.21). After multivariate analysis including CD4 count, viral load, age and gender, the CD4 count and viral load were found to be significantly associated to thrombopenia. (p=0.02 ; p=0.0003 respectively).

Conclusions: In the Cameroonian context, thrombocytopenia affects less than a quarter of PLHIV, the majority experiencing a mild severity. Interestingly, while ART appears to have a protective effect against thrombocytopenia, a close surveillance should be implemented for patients receiving AZT-containing regimens. Of note, high-level viremia and severe immunodeficiency are independent factors of thrombocytopenia. Therefore, in a context of limited resources, a considerable drop in platelets might serve as a signal of ART failure and a call for timely intervention.

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Achieving 3rd 90 UNAIDS goal: A comparative analysis of logistics for viral load sample logging in Imo State, South East Nigeria

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Background: HIV treatment guidelines recommend routine viral load (VL) monitoring as the gold standard for monitoring patient on HIV treatment, ensuring that a minimum of 90% of these patients achieve viral suppression. However, less than a quarter of these patients on treatment have access to the viral load monitoring test. They are largely limited by the transport system for the viral load samples. For most HIV treatment centers in south east Nigeria, the flow of viral load services include: intra-facility specimen collection and storage; cold chain shipment to a central laboratory; RNA extraction and viral load testing at the central laboratory; and final shipment of results to the patients. Factor affecting VL access are directly or indirectly connected with the different points on the service flow. Attempts have been made at improving on the logistics between facility and central laboratory (cold shipments of specimen and final shipment of results) in a bid to increasing the overall access. This study compared effects of direct facility staff shipment and third party shipment/logistics on viral load access.

Method: A retrospective data review of two thousand nine hundred and ninety-four (2994) viral load samples collected and two thousand and ninety-six results (2096) results received was
done. Included in the study were samples collected and results received between July 2017 and January 2019 from people living with HIV (PLHIVs) who have been on HIV treatment for more than 6 months. Statistical analysis was done to compare the rates of viral load sample collection and results received using direct facility staff shipment or third party logistics. Viral suppression rates for the two categories were also calculated.

**Results:** For direct facility staff shipments, 1477 viral load samples were transported to the central laboratory at the rate of 148 samples per month. A total of 1195 results at the rate of 120 results per month were received and the viral suppression rate was 67.6%.

For third party logistics, one thousand five hundred and seventeen (1517) viral load samples were transported to the central laboratory at the rate of 169 samples per month. A total of 901 results at the rate of 100 results per month were received and the viral suppression rate was 66.8%.

**Conclusion:** There may be varying cons and pros in the different methods for viral load logistics. However, in the face of dwindling funding for HIV care and treatment services, more research will be needed to explore the sustainability and cost effectiveness of these methods.

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**Abstract**

Fifty-three SFB isolated between February 2016 and May 2017 were used. They had been stored at -20°C and identified after subculture onto 5 % sheep blood Columbia agar and incubated at 37°C during 24h. Bacteria cells and isolated colonies were described. API 50CH/B was performed for identification. The effectiveness of LJ with VCNT at 10µg of Vancomycin to reduce Mycobacterial culture contamination rate were evaluated. Thirty- five (66%) isolates representing three genera (Bacillus, Paenibacillus and Brevibacillus) including 09 species were identified. The most important species were Bacillus cereus (30%) and Bacillus licheniformis (21%). Eighteen (34%) isolates were unidentified. The overall contamination rate on LJ with VCNT at 10µg of vancomycin was statistically lower than which without VCNT (18.7% versus 43.8%) (p = 0.01).

The most important SFB strains identified were B. cereus and B. licheniformis. Almost all identified strains were similar to those currently isolated in fermented traditional food suggesting at least in part food related contaminants. The involvement of similar isolates in human infections suggests that care must be taken about their real role in sputum. VCNT containing 10µg of vancomycin is a good alternative method to reduce mycobacterial culture contamination pending the development of a more efficient method.

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**Characterization of spore-forming bacteria isolated from contaminated Lowenstein Jensen media and effectiveness of Vancomycin to reduce Mycobacterial culture contamination in Burkina-Faso.**

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The type of commensal microorganisms can influence the efficiency of sputum decontamination for TB diagnosis by culture. A basic characterization of contaminants from LJ contaminated media showed that Gram positive Spore Forming Bacteria (SFB) were the major contaminants. The knowledge of the type of these contaminants and their resistance to biocides should contribute to resolve mycobacteria culture contamination issue. This study aims to identify the species of this contaminants and to evaluate the effectiveness of a combination of antibiotic (Vancomycin, Colistin, Nystatin, and Trimethoprim; VCNT) at 10µg of vancomycin used as selective supplement for LJ media to reduce Mycobacterial culture contamination mainly linked to SFB.

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**Impact of CYP2B6 genotype on prevalence of EFV resistance in mothers who are retained or disengaged from Option B+.**

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**Background:** Efavirenz (EFV) is the preferred first line drug utilized for pregnant and breastfeeding women under option B+. EFV mainly is metabolized by CYP2B6 and polymorphisms in CYP2B6 (specifically CYP2B6 516, 983 and 15582) lead to increased EFV plasma levels. We investigated the association between CYP2B6 polymorphisms and ART drug resistance. We hypothesise that CYP2B6 polymorphisms could potentially increase the period of monotherapy in mothers who are poorly adherent or who disengage from treatment, and thereby increase the window of opportunity for development of drug resistance. Conversely, higher drug exposures could increase the risk of toxicity and decrease adherence.

**Methods:** The study was conducted in Kampala City Council Authority clinics supported by the Infectious Diseases Institute (IDI), Uganda. Women with HIV initiating ART during pregnancy, who were 6-12 weeks postpartum were eligible. A woman was defined as disengaged (DW) if she had not attended her 6-week post-partum visit by 12 weeks after her estimated date of delivery. We analyzed stored plasma and whole blood samples from mothers (both retained and disengaged) with viral loads≤1000copies/ml. We performed Sanger sequencing to detect resistance mutations (Uganda) and host genotyping (University of Liverpool). Metaboliser genotype was categorised.
according to the AIDS clinical trials group algorithm as extensive, intermediate and slow.

**Results:** Between 2017 and 2018, 162 retained women (RW) and 160 DW were enrolled, of whom 110(94DW & 16RW) had viral load>1000copies/ml; of these 103 (94DW & 9RW) plasma and 62(53DW & 10RW) whole blood samples were analysed. Thirty participant samples had both genotypic and EFV resistance results (24DW & 6RW). There was no difference in gene frequency (P=0.995) between the DW & RW implying factors other than toxicity contribute to disengagement from care. Subsequent analysis was done only for DW given the small sample size for RW. 24/53 DW participants with whole blood samples had EFV resistance results; 7/15, 12/26 and 5/11 slow, intermediate and extensive respectively. 4/7(57.1%), 2/12(16.7%), 2/5(40.0%), slow, intermediate and extensive metabolizers had EFV resistance respectively. Although the proportions of slow metabolisers with EFV resistance was numerically higher, this failed to achieve significance(P=0.167), because of low sample size. The frequency was also high for extensive metabolizers.

**Conclusions:** Our results indicate that toxicity due to CYP2B6 polymorphism does not contribute to disengagement in care. It also generates the hypothesis that both slow and extensive metabolisers may be at a risk of drug resistance and this should be tested with a large sample size.

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Longitudinal measurement of Laboratory service integration in Nigeria: SIDHAS experience

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**Background:** Integration of HIV services with other health services have been known to be cost-effective and efficient especially in the wake of dwindling donor funding. We previously described an approach to quantitatively measure and track integration of HIV-related laboratory services into the mainstream laboratory services without requiring different laboratories for specific tests. Here we described further a follow-on longitudinal study measuring the changes in levels of integration over longer periods of project implementation of the approach from the USAID funded SIDHAS project.

**Materials & Methods:** A total of 93 supported Health facilities (HF) were assessed every quarter between FY13 Q4 to FY18 Q2 using a standardized checklist developed for measuring laboratory service integration. Level of integration was assessed on ordinal scale (0 = no integration, 1 = partial integration, 2 = full integration) for each of seven minimum laboratory service package including management structure, trainings, equipment utilization, equipment maintenance, quality management system, information management system and commodity management. A composite score of at least 80% is considered FULL integration, 25% to 29% PARTIAL integration and below 25% NO integration. Gap identified in every quarter were noted with follow up action. Data were collated on excel sheet and analyzed on Stata software. Cochrane-Armitage test for trend was used to examine differences across quarters.

**Results:** Of the 93 HF, 83 were secondary level (89.2%) and the rest tertiary. Statistically significant improvement in integration levels were observed within the 19 quarters follow up period (P<0.001). Mean % integration was 80% in FY18 compared to 40% at the onset of the study in FY13 Q4 (p<0.001). Level of Integration was observed to increase considerably from only one laboratory fully integrated, 71 partially integrated and 21 No integration in Q4 FY13 to 46 laboratories with full integration, 47 partial integration and zero with NO integration in Q2 FY18 (P<0.001). Among the service packages measured, Management structure attained 100% by the end of the study, while significant improvements were seen in Equipment use (34.9% to 85.5%), Training (53.2% to 84.9%) and commodity integration (25.3% to 83.3%) between the beginning and end of the study.

**Conclusion:** Our findings demonstrated the possibility of measuring longitudinally the level of laboratory service integration during project implementation to quantify the level of impact in strengthening of the Health system. Strong management support and site ownership are key to sustainability of service integration.

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Monitoring VL test optimization using a standard tracking tool: A case study at a PCR molecular laboratory

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**Background:** HIV Viral load test (VL) is the gold standard for monitoring HIV treatment response. The VL implementation was scaled up in Nigeria through PEPFAR initiative to increase access to VL to most facilities that provide HIV/AIDS treatment to clients. Prior to this initiative, the PCR equipment had been poorly utilized due to lack of routine VL services and resources to support the services. To achieve the UNAIDS third 90 goal, the molecular laboratories were tasked to ensure optimization of the laboratory through full utilization of testing equipment at expected capacity on number of tests done to meet VL demands. Here we pilot a tracker developed to monitor the optimization of VL test at PCR laboratory.

**Method:** VL standard tracker was developed to monitor key variables that enhanced testing in the laboratory namely: reagent and consumables availability, equipment functionality, total samples influx at reception and analysis, electric power supply, trained human resource and equipment error rate. Dr Lawrence Henshaw Memorial Hospital (DLHMH) one of the SIDHAS supported facility with a molecular laboratory was selected for the pilot of the tool in 2016. The VL test optimization was monitored over a period of 6 months. Each variable was assigned scores that represents the weekly status on an ordinal scale and a composite score grading classified as Full (80%), Partial (65-79) and No (<60%) optimization. Weekly data was
collected, analyzed and summarized into monthly percentage optimization using Microsoft Excel. Viral load test performed at the PCR lab was captured for the months.

Results: Analysis of monthly optimization and VL test revealed a gradual trend: April 43.8%, 544 test; May 67.7%, 503 test; June 88.2%, 972 test; July 87.7%, 946 test; Aug 88.2%, 882 test and Sept 74.5%, 1147. Full VL test optimization was achieved from June-August although September had a slight drop in optimization but laboratory was able to sustain the VL test peak. Deep dive analysis between the month of April and May showed that reagent stock out, low samples volume at analysis and long equipment downtime were responsible for the partial and no optimization. Viral load test increases gradually from 544 in April to 1147 in September.

Conclusion: The use of the VL tracker provides a more effective means of monitoring laboratory VL test uptake, 3rd 90 VL target and proffer real time solution in addressing challenges faced on VL testing. This tool can further be adopted for program use and monitoring of the PCR laboratory support to the network.

Results: Of the 325 participants, half were female (51%; 166/325) and almost three quarters were single (72%; 231/323). More participants were aged 25–34 years (39%; 110/325). Overall, 21% (n=68/325) were HIV-infected, with females more likely to be HIV-infected compared to males (27% [44/166] vs 15% [24/159]; p=0.012). In both HIV-infected and uninfected groups, BP was higher in those aged 35–44 (25% [6/24] and 35.7% [25/70] respectively) and >44 years (28.6% [4/14] and 48.1% [26/54] respectively). Males had higher BP than females (33% [52/158] vs 22% [37/166]; p=0.0323). Whereas more females were overweight/obese relative to males (46% [76/166] vs 21% [33/159]; p=0.0001). Females were more likely to be HIV-infected and overweight/obese.

Conclusions: Amongst clients attending an HTS, rates of NCD pre-cursors and co-morbidities were high. Elevated BP occurred more in older participants. Integrating pre-cursors of NCDs into HIV-screening and treatment programs in South Africa may increase uptake of services and improve HIV public health outcomes. More studies on whether integrated health care screenings will improve the uptake of NCD treatment and improve health outcomes are required.

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Demographics and Health Profile on Pre-cursors of Non-Communicable Diseases in Adults Testing for HIV in Soweto, South Africa

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Background: South Africa’s double burden of communicable and chronic non-communicable diseases (NCDs) may complicate HIV treatment and impact survival. National and global policies stress integrated screening to address NCD pre-cursors (e.g. blood pressure (BP) and body mass index (BMI)). However, screening is poorly implemented in many South African HIV testing services (HTS). We studied health profiles and NCD pre-cursors amongst adults presenting for integrated HTS in Soweto, South Africa.

Materials and Methods: We conducted a cross-sectional study, from February-June 2018, in an integrated HTS centre in Soweto, South Africa. We collected data on socio-demographics, syndromic tuberculosis (TB), sexually transmitted infections (STIs), BP (≥140/90= elevated), and BMI (<18.5 underweight; 18.5–25.0 normal; >25 overweight/obese) and stratified by age-group and sex We conducted unadjusted comparisons with Fisher’s exact test or chi-square analysis (categorical data) and Kruskal Wallis test (continuous data).

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Nine years retrospective study on treatment outcomes of tuberculosis patients under DOTs, Northwest Ethiopia

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Background: Data regarding tuberculosis (TB) treatment outcomes, proportion of TB/HIV co-infection and associated risk factors have been released at different TB treatment facilities in Ethiopia and elsewhere in the world as part of the auditing and surveillance service. However, these data are missing for the TB clinic offering directly observed treatment short-course (DOTs) at Debre Tabor General Hospital (DTGH).

Methods: authors analysed the records of 985 TB patients registered at the DTGH from September 2008 to December 2016. Data on patients’ sex, age, type of TB, and treatment outcomes were extracted from the TB treatment registration logbook. The treatment outcome of patients was categorized according to the National TB and Leprosy Control Program guidelines: cured, treatment completed, treatment failed, died, and not evaluated (transferred out and unknown cases).

Results: Around half of the registered patients were males (516, 52.4%). In terms of TB types, 381 (38.7%), 241 (24.5%), and 363 (36.9%) patients had smear-negative pulmonary TB, smear-positive pulmonary TB, and extra pulmonary TB, respectively. Six hundred and seventy-two patients (90.1%) had successful treatment outcomes (cured and treatment completed), while 74 patients (9.9%) had unsuccessful treatment outcomes (death and treatment failure). TB treatment outcome was not associated with age, sex, type and history of TB, or co-infection with HIV (P > 0.05). The proportion of TB/HIV co-infection was at 24.2%, and these were found to be significantly associated with the age groups of 25–34, 35–44 and ≥56 years (aOR: 0.44; 95%CI:...
0.25–0.8), (aOR: 0.39; 95% CI: 0.20–0.70), (aOR: 4.2; 95%CI: 1.30–12.9), respectively.

Conclusions: The proportion of patients with successful treatment outcomes was above the World Health Organization target set for Millennium Development Goal of 85% and in line with that of the global milestone target set at >90% for 2025. Relatively higher proportions of transfer-out cases were recorded in the present study. Similarly, the proportion of TB/HIV co-infection cases was much higher than the national average of 8%. Thus, the health facility under study should develop strategies to record the final treatment outcome of transfer-out cases. In addition, strategies to reduce the burden of TB/HIV co-infection should be strengthened.

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Prevalence of Cryptococcal Antigenemia and Associated Factors Among HIV/AIDS Patients on Second-Line Antiretroviral Therapy at Two Hospitals in Western Oromia, Ethiopia

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Background: Cryptococcosis is a public health important infectious disease globally. The majority of illness is among patients with defective cell-mediated immunity such as Cryptococcal meningitis, pulmonary cryptococcosis, and wound or cutaneous cryptococcosis. HIV infection is the main risk factor, accounting for 95% of cases in the middle- and low-income countries and 80% of cases in high-income countries. Individuals taking immunosuppressive drugs constitute most of the remaining caseload, although immunocompetent hosts are susceptible in some settings.

Objective: The main aim of the study was to assess the prevalence and associated risk factors of Cryptococcal antigenemia (CrAg) among HIV Positive Patients on second-line ART Therapy at Ambo General Hospital and Nekemte Referral Hospital, Western Oromia, Ethiopia.

Materials and Methods: The Hospital-based cross-sectional study was conducted from September 1, 2017, to October 30, 2017. One hundred eighty-three adult HIV patients on the second line Antiretroviral Therapy were consecutively enrolled from two hospitals using a cluster sampling technique. Five milliliters of whole blood were collected from each participant and CD4+ T cell levels and viral RNA was determined using FACSCalibur and real-time Polymerase Chain Reaction (RT-PCR), respectively. Whole blood was tested for CrAg using Cryptococcal lateral flow assay (Immuno-Mycologics, Norman, OK, USA) according to the manufacturer’s instructions. Then collected data was analyzed using SPSS version 20 software. Binary logistic regression models were applied to assess the association between predictors and outcome variables at 95% CI.

Result: Among the study participants, 115(62.8%) were females, 64(35%) were in 29-38 age group and 97(53%) were married, 169(92.3%) lived with HIV for >67 months since diagnosed for HIV, 124(67.8%) stayed on 2nd line ART for an average of 30 months. The overall prevalence of Cryptococcal Antigenemia infections among HIV-infected patients on 2nd line ART was 7.7%. Among Cryptococcus infected participants, 71.4% had baseline CD4 counts < 100 cells/µL, 50% had current CD4 counts < 100 cells/µL, and 85.7% had HIV RNA copies > 1000/ml. Being male [AOR, 95% CI: 4.78(1.14, 20.1)], poor adherence to ART [AOR, 95% CI: 0.12(0.03, 0.4)], occupational exposures to contaminated soil [AOR, 95% CI: 6.81(1.38, 33.4)], having non-separated house from hens or chickens [AOR, 95% CI: 0.06(0.01, 0.51)], CD4 T cell/µL<100 counts [AOR, 95% CI: 6.57(1.9, 23.3)] and viral load>1000 copies/ml [AOR, 95% CI: 11.7(2.4, 57.8)] were significant predictors of cryptococcal antigenemia.

Conclusion: The prevalence of Cryptococcal Antigenemia was significantly high. Being male, occupations that exposure to contaminated soil with avian droppings, CD4 T cell/µL<100 and viral load>1000 copies/ml were significant predictors of cryptococcal antigenemia. But, good adherence to ART and having separated house from domestic animals like hen or chickens were preventive to Cryptococcal Antigenemia. Therefore, public health measures, adherence to ART and early treatment are recommended.

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Intestinal Parasitosis in Relation to CD4+T Cells Levels and Anemia among HAART Initiated and HAART Naïve Pediatric HIV Patients in Model ART Center, Addis Ababa, Ethiopia

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Background: Intestinal parasites (IPs) are major concerns in most developing countries where HIV/AIDS cases are concentrated and almost 80% of AIDS patients die of AIDS-related infections. In the absence of highly active antiretroviral therapy (HAART), HIV/AIDS patients in developing countries unfortunately continue to suffer from the consequences of opportunistic and other intestinal parasites. The aim of the study was to determine the prevalence of intestinal parasites in relation to CD4+T cells levels and anemia among HAART initiated and HAART naive pediatric HIV patients in a Model ART center in Addis Ababa, Ethiopia.

Methods: A prospective comparative cross-sectional study was conducted among HAART initiated and HAART naïve pediatric HIV/AIDS patients attending a model ART center at Zewditu Memorial Hospital between August 05, 2013 and November 25, 2013. A total of 180 (79 HAART initiated and 101 HAART naïve) children were included by using consecutive sampling. Stool specimen was collected and processed using direct wet mount, formol-ether concentration and modified Ziehl-Neelsen staining techniques. A structured questionnaire was used to collect data on socio-demographic and associated risk factors. CD4+ T cells...
Results: The overall prevalence of IPs was 37.8% where 27.8% of HAART initiated and 45.5% of HAART naive pediatric HIV/AIDS patients were infected (p < 0.05). Cryptosporidium species, E. histolytica/dispar, Hook worm and Taenia species were IPs associated with CD4+ T cell counts <350 cells/μL in HAART naive patients. The overall prevalence of anemia was 10% in HAART and 31.7% in non-HAART groups. Hook worm, S. stercoralis and H. nana were helminthes significantly associated with anemia in non-HAART patients [AOR, 95% CI: 4.5(1.3, 15.2), P = 0.05]. The prevalence of IPs in non-HAART patients was significantly associated with eating unwashed/raw fruit [AOR, 95%CI: 6.3(1.2, 25.6), P<0.05], open field defecation [AOR, 95%CI: 9.3(1.6, 53.6), P<0.05] and diarrhea [AOR, 95%CI: 5.2(1.3, 21.3), P<0.05]. IPs significantly increased in rural residents [AOR, 95%CI: 0.4(0.1, 0.9), P<0.05)].

Conclusion: The overall prevalence of intestinal parasites significantly differed by HAART status and cryptosporidial species were found only in HAART naive patients with low CD4+ T cell counts. Anemia was also more prevalent and significantly associated with IPs in non-HAART patients. This study identified some environmental and associated risk factors for intestinal parasitic infections. Therefore, Public health measures should continue to emphasize the importance of environmental and personal hygiene to protect HIV/AIDS patients from infections with intestinal parasites and maximize the benefits of HAART.

Results: Out of 324, only 243 were studied. Results indicated significant neurocognitive impairment in PTB+/HIV+ group than PTB/HIV+ in the Global deficit score, p<.001, lower CD4 cell count with a mean of 323 cells/µL compared to 510 cells/µL for the control group. The majority of PTB+/HIV+ patients' CD4 cell count was in the range 201-499 cells/µL compared to their cohort whose majority had CD4 cell count above 500 cells/µL. 95% of PTB+ were stages 3 and 4, whereas 95% of PTB negative were stage 1. Linear regression model (p<.01), PTB status was predictive of global deficit score even while accounting for demographic and medical variables that have previously been associated with neurocognitive impairments. Specifically, a linear regression model identified PTB status (F=6.26, p<.02) as a significant predictor of Global Deficit Score (GDS). Age (F=3.21, p<.08) approached significance, while years of schooling (F =0.54), current. WHO stage (F=1.41) and gender (F= .13) were not significant independent predictors of GDS (all ps > .10).

Conclusion: This could be one of the first studies to highlight the fact that PTB has neurocognitive impairment in HIV+ adult individuals. Findings of the present study shows the presence of neuropsychological impairments in all the seven domains except motor in the PTB+/HIV+ adults in Zambia. The results indicate that there are lower biomarkers, WHO stage and more impairments in the PTB+/HIV+ than the PTB-/HIV+.

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The Hypertension Care Cascade in Prototypical African HIV Primary Care

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Background: HIV-infected adults have a 40 to 70% higher risk of cardio and cerebrovascular disease (CCVD) compared to HIV uninfected counterparts. Hypertension is a major modifiable CCVD risk factor that affects up to 30% of patients on antiretroviral therapy (ART). Recent national and World Health Organization guidelines recommend for screening and treatment of hypertension among HIV-infected adults on ART. We evaluated how well screening and treatment initiation are being implemented among patients on ART at a typical Ugandan semi-rural HIV Primary care facility to inform the current status regarding these first critical steps in the Hypertension care cascade.

Methods and Materials: We studied a random sample of patients in care during 2017 at the AIDS Healthcare Foundation supported HIV clinic at Masaka Regional Referral Hospital in Southwestern, Uganda. This clinic is equipped to screen for hypertension and located within a referral hospital were treatment can be accessed. We reviewed charts and electronic records for demographic information; blood pressure (BP) measurements and treatment information. We present period prevalence of screening and treatment initiation with 95% CIs. We used adjusted logistic regression to evaluate for predictors...
Feasibility and Outcomes of Integrating Diabetes Screening into Routine Viral Load Monitoring Among Patients on Antiretroviral Therapy in Malawi


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Introduction: People Living with HIV are at increased risk of diabetes mellitus due to HIV infection and exposure to antiretroviral therapy (ART). Despite this, structured diabetes screening has not been explored in African HIV clinics, possibly because of logistical challenges and uncertainty about the frequency of screening. We explored the feasibility and outcomes of diabetes screening, using the existing routine viral load (VL) monitoring schedule.

Methods: A mixed methods study was conducted from January to July 2018 among patients on ART aged ≥18 years at an urban HIV clinic in Zomba Central Hospital, Malawi. Patients who were due for routine 2-yearly VL monitoring underwent a finger-prick for simultaneous point-of-care glucose measurement and dried blood spot sampling for a VL test. Diabetes was diagnosed according to WHO criteria. Quantitative data on demographics and medical history were collected using an interviewer administered questionnaire and electronic medical records. In-depth interviews were conducted among patients diagnosed with diabetes on the access, experience and perceptions regarding the integrated diabetes screening program.

Results: 1316 of 3855 (95%) patients undergoing routine VL monitoring had simultaneous screening for diabetes during the study period. The median age was 44 years (IQR: 38-53); 61% were female; 28% overweight or obese; median ART duration was 83 months (IQR: 48-118); 49% were previously exposed to stavudine and 92% were virologically suppressed (<1,000 copies/mL). At the start of ART, median CD4 count was 199 cells/mm3 (IQR: 102-277); and 63% were in WHO clinical stages 1 or 2. Diabetes prevalence was 2.4%. Only two of 31 patients with diabetes were newly diagnosed. In multivariable analyses, diabetes diagnosis was associated with age ≥40 years (aOR = 2.7; 95%CI: 1.6 to 4.6) and being on a protease inhibitor-based regimen (aOR = 3.3; 95%CI: 0.8 to 13.0). Patients appreciated integrated screening saying it could lead to early diabetes diagnosis and easy access to diabetes care.

Conclusion: Integrating diabetes screening with routine 2-yearly VL monitoring was feasible and appreciated by patients on ART. Diabetes prevalence was low. Cost-effectiveness needs to be studied and could benefit from prioritizing adults above 40 years and on protease inhibitor-based regimens.
Chronic Disease Risk Factor Surveillance instrument was modified and used for data collection. Factors associated with hypertension were determined by logistic regression modeling using purposeful selection of covariates method. Propensity score matching (PSM) analysis was used to determine the ATT of ART on hypertension/blood pressure values using kernel weighting method with a bandwidth of 0.06.

**Results:** Study participants on ART had a significantly higher prevalence of hypertension (41.3% [95% CI, 35.2-47.3]) compared with their ART-naïve counterparts (16.9%, [95% CI, 7.4-26.5]). Regression modelling indicated factors associated with hypertension were, increasing age, family history of cardiovascular disease, inadequate exercising, a BMI 22.5 kg/m2, abdominal obesity, hypercholesterolemia and exposure to ART. Post-estimation analysis indicated the generated logistic model was “good” on “discrimination” with an AUROCC of 0.81 (95% CI, 0.75-0.85; p<0.001) and on “calibration”, with a Hosmer-Lemeshow goodness-of-fit test χ² value of 4.49 (p=0.810). The estimated ATT of ART on systolic blood pressure (12.0 mmHg, [95% CI, 5.7-18.3]; p<0.001), diastolic blood pressure (6.1 mmHg, [95% CI, 1.3-10.82]; p<0.012) and hypertension (26.2 %, [95% CI, 13.3-39.1]; p<0.001) were significant indicating a high possibility that the epidemiological association between ART and hypertension/increased blood pressure may be causal in nature.

**Conclusion:** This study showed that hypertension is prevalent among patients on ART attending KBTH HIV clinic and also established a plausible causal relation between ART and hypertension/increased blood pressure.

### Treatment outcomes among a cohort of HIV patients with mental illness enrolled in Ndera Neuropsychiatric Hospital, 2009-2018.

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**Background:** Mental health and HIV/AIDS are closely interlinked. In Rwanda, the prevalence of HIV is 3% and, by June 2018, about 89 percent of Rwandans living with HIV knew their status, of which 92.3 percent were on treatment and 91 percent of those on treatment had their viral load suppressed. In 2009, Ndera Neuropsychiatric Hospital started the integration of HIV and mental health services. HIV counseling and testing was provided to consenting clients and those testing HIV positive and willing to be followed at the clinic enrolled into HIV care and treatment. This analysis was conducted to assess the treatment outcomes among PLHIV with mental illness to inform the National HIV program needs to design and implement strategies to improve treatment outcomes targeting this group especially, youth aged 15-24, those who are diagnosed with depression and psychosis disorder. Additional assessments will be needed to identify specific factors which are negatively impacting the viral load suppression among HIV patients with mental illness.

### Tracking Malnutrition and HIV Outcomes: Cohort Analysis of Integrated Service Provision, Gweru District, Zimbabwe

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**Background:** With a mother-to-child HIV transmission rate of 6.7% and 2.1% of children under five years in urgent need of therapeutic treatment for Severe Acute Malnutrition (SAM) in Zimbabwe, effective integration of HIV/TB and malnutrition services is a national priority. UNICEF and OPHID implemented a program to strengthen integrated services in 11 Districts of Zimbabwe. Our objective was to trace uptake of integrated HIV/Nutrition services and treatment outcomes among children under 5 newly diagnosed with SAM and HIV.

**Method:** We conducted a retrospective cohort analysis of all children under 5 years admitted to the Gweru Provincial Hospital malnutrition stabilising treatment centre for SAM treatment and/or diagnosed HIV positive from Jan-Oct 2018. Individual

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“What’s the strategy?”: Diabetes Screening Test Performance among HIV-infected Patients on Follow-up.

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Background: Screening for Type 2 diabetes (DM) is recommended annually for HIV-infected adults in Kenya. However, there’s no clear guidance on the ideal test to be used in this special population.

We assessed the prevalence of DM among HIV-infected adults on ART using point of care HbA1c and fasting plasma glucose.

Methods: HIV-infected adults older than 35 years, non-pregnant, engaged in care for at least six years and on antiretroviral therapy for at least five years were enrolled into the study; conducted at two large HIV clinics in Central Kenya (Kiambu and Kerugoya). At enrolment, demographic, social history, HIV clinical history and relevant family history were collected. Anthropometric measurements were taken. All patients had a HbA1c measurement using Cobas b101®, an NGSP-certified immunoturbidimetric assay from Roche®. Those with a HbA1c of 5.7%-6.4% were requested to return the following day for a fasting plasma glucose. Participants with anaemia and recent transfusions were excluded.

Results: Of the 600 participants enrolled, 395 (64%) were female and the median age was 46.9 years (IQR: 42.5, 53). The median time since HIV diagnosis was 9.3 years (IQR: 7.6, 11.2) and median duration on ART was 8.1 years (IQR: 6.5, 10.0). Only 125 (20.8%) had a familial history of DM in the immediate family. Among both males and females, 329 (54.8%) had an abnormal waist-to-hip ratio while 264 (44%) were overweight or obese.

Both HbA1c and FPG were well correlated. Using HbA1c only, 14 people had newly diagnosed DM (HbA1c ≥6.5%). Additionally, of the 94 people with prediabetic HbA1c (5.7%-6.4%), 7 had a FPG ≥126 mg/dl; hence an overall point prevalence of 3.6%. (CI: 2.2-5.4%). Twelve individuals (2%) had prediabetic HbA1c but failed to return while fasting.

Of the study participants, a sub-population (n=172) had both a HbA1c and FPG measurements. Using an alternative strategy by starting with fasting glucose, 17 individuals had newly diagnosed DM with an FPG ≥126 mg/dl. Additionally, of the 62 individuals with prediabetic FPG (100-125 mg/dl); one had a HbA1c ≥6.5%; hence an overall point prevalence of 10.5%.

Conclusion: Among HIV-infected ART-experienced individuals, the overall prevalence of DM was low, but varied greatly depending on the testing strategy. Various glucose monitoring approaches e.g. serial random blood glucose measurements need to be explored to determine an accurate yet feasible diabetes screening strategy in this population.

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What Do We Know About Older Women Living with HIV? A Comparative Analysis of Prevalence of Hypertension among Women Living with HIV in 13 States in Nigeria

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Background: Globally, the number of older persons living with HIV (PLWH) including older women is increasing. There is growing evidence that older PLWH acquire co-morbidities including hypertension earlier in life compared to their uninfected counterparts. We compared prevalence of hypertension among HIV-positive women aged ≥50 years (older women in HIV care: OWHC) with those aged 18–49 years (younger women in HIV care: YWHC).

Materials and Methods: Retrospective analysis of data collected through routine service provision from health facilities supported by Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) project with funding from PEPFAR through USAID in 13 Nigerian states. We analyzed data of women who initiated ART between June 2017 and May 2018 and had their last systolic and diastolic blood pressure documented. Data was extracted from an electronic medical record; Lafiya Management Information System (LAMIS). Hypertension was defined as systolic blood pressure (SBP) ≥140 mmHg and/or diastolic blood pressure (DBP) ≥90 mmHg. Bivariate data analysis (Chi-square) was used to compare prevalence of hypertension among OWHC and YWHC.
Results: A total of 4,658 adult patients (66% women, n=3,090) initiated ART under the review period. Of the 3,090 women, 352(11%) were OWHC. Median ages of OWHC and YWHC were 56 years (IQR:51-60) and 31 years (IQR: 27-37) respectively. Majority of OWHC (68%) were separated/divorced/widowed while YWHC (66%) were married. Prevalence of hypertension amongst OWHC (11.4%; 95% C.I.: 8.0-14.7) was more than 3-fold higher compared to YWHC (3.3%; 95% C.I. 2.7-4.0), p<0.001.

Conclusions: Older women in HIV care had significantly higher prevalence of hypertension than younger women in HIV care. Our results underline the importance of integrating hypertension screening and management into routine HIV service delivery.

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Impact of depressive disorders on antiretroviral treatment outcomes among HIV infected women on lifelong antiretroviral therapy

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Background: HIV-infected women on lifelong antiretroviral therapy (ART) may be at high risk for common mental disorders (CMDs). If untreated, CMDs diversely affect quality of life, ART adherence and treatment outcomes. We 1) describe the prevalence of depressive disorders among HIV-infected women who initiated lifelong ART to prevent perinatal transmission; and 2) compare viral load (VL, as a measure of adherence) between women with depressive disorders (cases) and those without (controls). We hypothesized that depressive disorders in this cohort would be higher than in the general population; and that VL suppression would be lower among cases compared to controls.

Methods: A nested study was conducted in Blantyre, Malawi. The parent study follows HIV-infected women on ART (PEPFAR-PROMOTE multi-site study) and measures VL every 6 months. The SRQ-20, a 20-item screening tool for depressive disorders was administered to consenting women. A score of ≥8 indicated probable depressive disorder; a MINI clinical interview was administered to these women to obtain a definitive diagnosis. Data from May to December 2018 were analyzed. Multivariate logistic regression was run where each covariate was entered in the multivariable model. Covariates at diagnosis of depression included age, years on ART, ART regimen, employment status, access to electricity, marital status and VL.

Results: 284 women were consented and enrolled. 62 (21.8%) had both an SRQ-20 score ≥8 and diagnosis of depressive disorder confirmed on MINI interview. Approximately 98% of women/mothers in both groups had HIV VL <100 copies at enrollment. (See table for full list of covariates analyzed).

Conclusions: At 21.5%, prevalence of confirmed depressive disorders was higher in this cohort than the 15-17.5% found in previous studies among adults accessing primary care in Malawi. Sociodemographic factors were similar between cases and controls and VL suppression was similarly high in those with and without depressive disorders.

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Quantification of KSHV DNA as a Diagnostic Test for Kaposi Sarcoma in Africa

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Background: Histopathologic evaluation, the gold standard test for diagnosing Kaposi sarcoma (KS), has long been limited in sub-Saharan Africa by lack of qualified personnel, reagents, and materials. Even where histopathology is available, accuracy of KS diagnosis is often sub-optimal. This has led to widespread delays and inaccuracies in KS diagnosis, often resulting in late or improper treatment (e.g., unwarranted chemotherapy). As an alternative to histopathology, we hypothesized that quantification of the DNA from Kaposi sarcoma-associated herpesvirus (KSHV, also known as human herpesvirus 8, the viral causative agent of KS) in skin lesions can be used as a diagnostic test for KS.

Methods and Materials: We evaluated consecutive patients with skin lesions, suspected by their primary care providers to be KS, who were referred for a skin biopsy at 3 HIV care centers in Uganda (Kampala, Masaka, and Mbarara). Traditional histopathologic evaluation of the 5 mm skin punch biopsies, including immunohistochemical staining against the latency-associated nuclear antigen (LANA) of KSHV, was performed in Africa and by up to 3 pathologists in the US. Quantitative PCR (qPCR) for KSHV ORF 26 was performed on extracted DNA from the biopsy. Using the consensus of the US pathologists as the gold standard, we determined the sensitivity & specificity of PCR (both qualitative and quantitative) for KS diagnosis. A receiver operating characteristics curve was used to assess quantitative cutpoints and area under the curve (AUC).

Results: We tested 506 participants with skin lesions. Median age was 33 years, 38% were women, and 94% were HIV-infected; 22% of lesions were macules, 64% plaques, and 14% nodules. Consensus US pathologic testing revealed that 330 biopsies were KS, 149 not KS and 27 were indeterminate. Using US pathology as gold standard, the sensitivity of African pathology was 95% and specificity was 70%. Sensitivity of qualitative detection (presence or absence) of KSHV DNA for KS diagnosis was 99% but specificity was only 78%. Evaluation of quantitative KSHV DNA content found an AUC of 0.96; at the optimal cutpoint (1412 KSHV copies per μL of DNA), sensitivity was 98% and specificity was 90%, with 96% of subjects correctly classified.

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Conclusions: In the context of sub-Saharan Africa, where KSHV infection is endemic, quantification of KSHV DNA content in skin lesions by PCR has both high sensitivity and specificity for the diagnosis of KS when compared to gold standard pathology. In contrast, qualitative detection of KSHV DNA is non-specific. The findings suggest that a nucleic acid amplification-based diagnostic test for KS could largely replace the need for histopathology, be implemented in point-of-care format, and ultimately greatly increase access to timely and accurate KS diagnosis.

Coreceptor Use in HIV-1C Infected Individuals on ART in Botswana

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Background: HIV-1 subtypes B and D switch to CXCR4 coreceptor in about 50% of the cases with advanced disease progression while in HIV-1 subtype C maintains CCR5 coreceptor phenotype throughout the infection. HIV-1 utilizing CXCR4 (X4 virus) mainly emerge at the late stage of the infection and is associated with a faster progression to AIDS when compared to HIV-1 using CCR5 (R5 virus). Impact of combination antiretroviral therapy (cART) on HIV-1 coreceptor use and switch from R5 to X4 phenotype is not well understood. More data is needed on tropism in HIV-1C drug resistant strains as Maraviroc, an FDA approved ARV is only effective against R5 viruses. We determined the coreceptor use in a large cohort of HIV-1C infected individuals in Botswana.

Methods: gp120 V3 loop sequences were analyzed for tropism from 3010 Botswana Combination Prevention Project (BCPP) participants including 2312 (76.8%) participants on cART. Three tools, Geno2pheno (with a 5% false positive rate; 1-specificity), WebPSSM (HIV-1C Web Position Specific Scoring Matrices) and 11/25 charge rule, were used to identify the coreceptor tropism. Chi-squared, and Wilcoxon rank sum tests were used for categorical and continuous data respectively.

Results: Of 3010 participants with gp120 V3 loop HIV-1C sequences available, all three methods predicted 58% (95% CI: 56-60%) as R5 viruses and 1.2% (95% CI: 8-1.7%) as X4 viruses. Proportion of predicted R5 viruses varied between methods by 33% (95% CI: 63%-95%). However, only 59% congruent results between methods were obtained. Levels of viral load and ART status did not differ between participants harboring X4 and R5 viruses (p-values 0.091 and 0.498, respectively). Across the tropism detection methods, only WebPSSM was associated with higher proportion of X4 viruses in treatment experienced individuals: 517 (82%) vs. 868 (78%), p-value <0.0001.

Conclusion: This is the first study that revealed country-wide distribution of CCR5- and CXCR4-tropic HIV-1C at population level. Despite low prevalence of X4 viruses (1.2%), it is vital to monitor HIV-1 tropism before introduction of Maraviroc containing cART in this population, as some participants were infected with CXCR4-tropic viruses.

Improving and promoting anal health through a learning on the spot training of medical doctors and systematic offer of anal consultation for HIV positive MSM.

Joachim Ng

Background: A strong taboo surrounds anal pathologies and care in Cameroon, and very few doctors have a basic training in proctology. Aware of this Alternatives-Cameroun launched in 2011 a proctology program with the aim of reducing the taboo, improving and promoting anal health for all. Seven years later, it is time to assess the extent to which these objectives have been reached with activities developed in the program.

Methods: In 2011 we organized with one of our funder a training session involving three medical doctors and one nurse. This was a “learning on the spot” training because during the training week, learners consulted 52 people as part of the training among whom at least 40 were diagnosed of a given pathology. Between 2011 and 2017, our doctors and nurses participated in 5 other training sessions, the most recent being in 2017 where 70 people were consulted and around 40 treated. Since 2011 we could offer proctology consultations twice a week and since 2018, we offer them on a daily basis and more systematically. Peer educators and counsellors discuss the issues of anal health with our beneficiaries and motivate them to consultation. A digital data base help compute the data on these consultations.

Results: From 2011 to 2017 we have offered about 1250 anal health consultations, representing 33% of our HIV positive beneficiaries –these are the most vulnerable- needs, out of whom 95% are MSM, our main target. About half of the patients had condyloma and the remaining other anal pathologies, related to non-sexual behavior. About 95% of pathologies are treated at Access Center and the 5% referred to surgery.

Next steps: The proctology program consisting of training and offering consultation makes possible for more people taking care of their anal health. Although the program was designed in a LGBTI organization, and that proctology is still perceived as a gay issue, we are having clients from general population. We are looking forward to extend this expertise to at least 5 other CBOs in Cameroon by 2019. This will lessen the taboo on proctology, make it a natural medical act opened to anyone.
HIV patients on antiretroviral therapy at the University of Calabar Teaching Hospital, Calabar showed a prevalence of metabolic syndrome higher than that reported by a 12-year systematic review for the general population in Nigeria.

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Background: Although the medical management of HIV has been revolutionized by the use of antiretroviral therapy (ART), drug-related metabolic complications continue to constitute a major challenge to clinicians (Hester, 2012). Metabolic syndrome (MS) has received much attention in recent times due to increasing awareness of its association with cardiovascular morbidity and mortality. Much of the reports on metabolic complications among HIV/AIDS patients emanate from developed nations while very few reports exist in sub-Saharan Africa which has the highest HIV/AIDS burden with increasing access to ART (UNAIDS, 2017). The aim of this study was to investigate the risk factors of metabolic syndrome (MS) in HIV/AIDS patients using the National Cholesterol Education Program (NCEP ATP-III) and International Diabetes Federation (IDF) criteria.

Methods: A cross-sectional study was carried out on an equal number of HIV/AIDS patients on ART, ART-naive patients and apparently healthy HIV negative control subjects (n=75) at the University of Calabar Teaching Hospital from January to August, 2017. Demographic and anthropometric data were collected using a well-structured questionnaire. Fasting plasma glucose (FPG), total cholesterol, triglycerides (TG), and high density lipoprotein cholesterol (HDL-c) were estimated using colorimetric methods while low density lipoprotein cholesterol (LDL-c) was calculated using the Friedewald’s formula. The student’s T-test and analysis of variance were performed using SPSS 18. Statistical significance was set at P ≤ 0.05.

Results: The prevalence of MS based on the IDF criteria was higher compared to that obtained using the NCEP ATP-III standard in all three subject groups. The highest prevalence of MS was generally associated with the HIV/AIDS patients on ART (i.e. 32.0 %, and 50.3% for NCEP ATP-III and IDF criteria respectively). The prevalence of MS in patients on ART using the IDF guideline was higher than that reported by a 12-year systematic review for the general population in Nigeria which is 38.4%. This review reported that based on the WHO, NCEP ATP-III and IDF definitions, the overall prevalence of MS in Nigeria is 31.7%, 27.9%, and 28.1% respectively (Oguoma et al, 2015). However, the mean prevalence of MS from hospital based studies was 40.6%, 41.8% and 38.4% using WHO, NCEP ATP-III and IDF criteria respectively (Oguoma et al, 2015). Patients on ART had significant increases (p<0.05) in waist to hip ratio, FPG, serum TG and LDL-c, and a significantly higher (p<0.05) prevalence of hypertension, diabetes, low HDL-c and hypertriglyceridaemia compared to the ART-naive patients. Low serum HDL-c was observed to be the most prevalent form of dyslipidaemia in all three groups and the most prevalent risk factor of MS in HIV patients while central obesity was the most prevalent risk factor in controls.

Conclusion: The prevalence of MS based on the IDF criteria is higher compared to that obtained using the NCEP ATP-III standard. Treatment with ART increases the risk of metabolic syndrome and cardiovascular diseases. HIV/AIDS patients on ART should be advised on lifestyle modifications and there is need to undertake periodic assessment of their cardiovascular risk factors.

Molecular characterisation of ß-lactamase encoding genes in ESBL producing enterobacteriaceae from faecal samples of HIV/AIDS patients

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A potential source of hospital and community-acquired infections and antibiotic resistant spread is the faecal carriage. Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) dynamics have also been reported to influence antimicrobial resistance. This study was carried out to determine the carriage of Extended Spectrum Beta-Lactamase (ESBL) resistant and AmpC genes in Gram-negative bacterial isolates from faecal samples of HIV/AIDS patients attending Antiretroviral therapy Clinic at a tertiary hospital in south-western Nigeria.

A total of 50 non-duplicate ESBL producing Enterobacteriaceae isolates from faecal samples of the HIV/AIDS patients were subjected to molecular study to characterise their carriage of ESBL (TEM, SHV and CTX-M) and AmpC encoding genes using Real-Time PCR. The following: AmpC, TEM, SHV and CTX-M were detected in 714%, 1632%, 918% and 12% isolates respectively, while twenty one (42%) isolates were observed to harbour one or more genes. Eleven (22%) isolates harboured one gene each (AmpC (2), SHV (2) and TEM (7)), eight (16%) harboured two genes each (AmpC-SHV (1), AmpC-TEM (3) and TEM-SHV (4)) and two (4%) possessed three genes (AmpC-TEM-SHV (2) and TEM-SHV-CTX-M (2)). E. coli was found to be the only isolate harbouring more than two resistant genes, and highest frequency of occurrence of the genes (42.9%) was observed in this same organism.

This study therefore, revealed the carriage of ESBL and AmpC determinant genes by the normal intestinal microflora of HIV/AIDS patients, a potential public health risk that calls for proper infection control measures.
Might the prompt linkage to care have unintended consequences? A case study of a zero-gap district (Mangwe) vs a high gap district (Bulilima).

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Background: Zimbabwe has an estimated 1.3 million people living with HIV (PLHIV). Bulilima and Mangwe are found in Matabeleland South Province which has the highest adult prevalence of 19.7%. Bulilima and Mangwe have an HIV prevalence of 17% and 12% respectively. Mangwe has been classified as a zero-gap district (>90% linkage). Bulilima has been classified as a high gap district (<70% linkage). Some groups of HIV-positive individuals have reduced life expectancy due to the impact of late diagnosis and late initiation of ART. We aimed to investigate the improvement in mortality in patients on ART as a result of prompt linkage to care.

Method: A prospective longitudinal study was conducted. The cohort comprises 18826 participants initiated on ART in either of the two districts Bulilima or Mangwe from 1 January 2004 to 30 September 2018 reported using the HIV/TB Electronic Patient Monitoring System for 18 health facilities. All study participants have a unique ID number and were automatically followed up for death, emigration, and opting out of care. Linkage to ART status i.e. high gap vs zero gap, were evaluated using Cox regression as predictors of mortality.

Results: 179 females died and 4661 were censored in Mangwe whilst 161 females died and 7319 were censored in Bulilima. 177 males died and 2169 were censored in Mangwe and 152 males died and 4008 were censored in Bulilima. Mangwe (zero gap) recorded more deaths than Bulilima (high gap). The survival curve of end point (death) during the follow up period shows that the probability of a randomly selected individual from the population surviving without dying is quite high for Bulilima (0.92) and significantly lower for Mangwe (0.62). The males from Bulilima have a significantly (p=0.001) higher probability of a randomly selected male surviving without dying (0.90) with Mangwe registering (0.35).

Conclusions and Recommendations: We found there is a statistically significant difference between the two districts. The mean survival time for Bulilima is 13 years after ART initiation whereas the mean survival time for Mangwe is 12 years after ART initiation. Our study showed that longevity does not only depend on prompt linkage to care and it is important to identify the factors that contribute to the successful treatment of patients. Further studies need to be done among males especially in Mangwe to identify the factors that resulting in high mortality rates. These might be factors to do with adherence and retention. PLHIV can expect to live long if successfully treated. We analysed data on over 18000 patients on ART, among whom there were nearly 700 deaths. However, many patients were lost to follow-up, there remains the possibility of missed deaths. Our analysis does not include individuals who never start ART, which will exclude some individuals with the poorest prognosis.

Suboptimal blood pressure screening among PLHIV: Case study of Global Fund supported 3 pareto sites in Rivers state Nigeria

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Background: High blood pressure is the leading risk for mortality in the world. It is a modifiable risk factor for cerebrovascular, cardiovascular and renal diseases. Studies have shown that HIV-infected adults on ART have a higher prevalence of hypertension when compared with HIV-uninfected individuals. That is, HIV-infected adults with hypertension have a higher risk of cardiovascular events and all-cause mortality than HIV-uninfected adults with hypertension or HIV-infected adults with normal blood pressure. Blood pressure screening is an important and routine form of care carried out in health facilities to identify the presence of hypertension. Following the need for effective integration of communicable and noncommunicable disease management, HIV clinical service delivery facilities are platforms on which to enhance care by offering noncommunicable disease interventions. It is important to optimize hypertension screening and management in this at-risk group to improve quality of life. This study informs the need to improve on routine BP screening in identification and management of Hypertension in PLHIV.

Methods: This quantitative retrospective research studied clients currently on ART in the 3 pareto sites in GF project in River state as updated on the Retention Audit and Determination Tool (RADET). The population size was from inception of ART services in these sites to 2018. Sample size was calculated per facility with the aid of an online sample size calculator, using a confidence level of 95%. Through stratified random sampling and simple random sampling methods, the determined sample size was selected from the population. Data collected from client care cards and Lafia Management Information System (LAMIS) were analyzed using MS Excel.

Results: Out of a sample size of 748 clients currently on ART in the 3 facilities, 79 (10.56%) were screened for hypertension at first visit, 69(9.22%) at First refill and 135 (18.05%) at last visit. Out of these numbers screened, at first visit, first refill and last visit, 32(40.51%), 33(47.83%), and 68(50.37%) respectively, had elevated or high blood pressure.

Conclusions: The study shows that blood pressure screening among PLHIV is highly suboptimal with over of 80% of clients not screened. It also shows about 40% prevalence of hypertension among this group. It is therefore recommended that for effective management of this non-communicable disease comorbidity among PLHIV, screening for hypertension should be strengthened and antihypertensives should be included in the commodity pool for HIV care and treatment.
Geriatric health among older-age people living with and without HIV in rural Uganda: a pilot study

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Background: Due to the success of antiretroviral therapy programs in sub-Saharan Africa, people with HIV are approaching normal life expectancy, and there will be approximately 10 million people over 50 years of age with HIV in the region in the coming decades. However, there is a paucity of research examining the epidemiology of geriatric measures of health in sub-Saharan Africa.

Methods: This cross-sectional sub-study enrolled participants from a longitudinal community-based cohort of individuals over 50 years old living with HIV in rural Uganda and age and sex-matched uninfected comparators. We measured physical function (modified Fried frailty index, short physical performance battery [SPPB; potential range of 0 to 12 points], self-reported fall in past year), neurocognitive function (modified Montreal Cognitive Assessment-Basic [MoCA-B]), and sensory function (far and near visual acuity) measures. We calculated summary statistics for each measure for the total cohort and also stratified by HIV status.

Results: Out of 101 participants (45% HIV positive, median age 55 years, 50% female), 32 (32%) participants were prefrail, and 1 (1.0%) participant was frail. Sixteen (16%) participants self-reported one fall or more in the past year. On the SPPB, 26 (26%) participants had a reduced score (< 10 points). Using a cut-off score of 25 points or lower on the modified MoCA-B, 76 (75%) participants screened positive for possible neuropsychological impairment. Eleven (11%) participants had far visual acuity 20/40 or worse, and 62 (61%) had near visual acuity 20/40 or worse. In bivariate analyses, we did not find significant differences in any measures between HIV+ and HIV- individuals (all Student’s t and Fisher’s exact test p-values > 0.2).

Conclusions: Frailty and prefrailty appear less prevalent in our rural Ugandan sample compared to large similar-age Western and South African cohorts, with prevalences of frailty ranging from five to 19% in those other cohorts. A high proportion of our sample screened positive for possible neuropsychological impairment and for near visual acuity impairment. Future work includes developing region-specific norms and validation of the modified MoCA-B. We are also conducting a larger study with longitudinal follow-up to confirm these results and ultimately elucidate modifiable risk factors to improve health of older rural-dwelling adults in the region.

Prevalence of Types of Diabetes among People Living with HIV/AIDS in Kinshasa: Case of patients followed at the Kinshasa Provincial General Hospital (KPGH) from 2010 to 2015

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Context: In the Democratic Republic of Congo (DRC), the Human Immunodeficiency Virus (HIV) infection associated with Diabetes remains a public health problem.

Objective: The objective of this work was to determine the prevalence of type of diabetes among People Living with HIV (PLHIV) followed at the Kinshasa Provincial General Hospital (KPGH).

Methods: This is a retrospective survey based on 132 records of patients infected by HIV associated with diabetes followed at KPGH in the Department of Internal Medicine from 2010 to 2015. All records of diabetic PLHIV followed during the study period. The parameters of interest for this survey were: age, sex, marital status, clinical HIV stage, type of diabetes, and ARV regimen.

Results: The most represented age group was that of more than 42 years with 33 patients (25%) and a predominance of women with 74 patients (56.1%). The most recorded civil status was that of single with 54 patients (40.9%). Type 2 diabetes was dominant in the population with 89 patients (67.4%).

Conclusion: Diabetes mellitus type 2 (67.4%) was the most common type of diabetes found in the population of People Living with HIV followed in the Department of Internal Medicine of the Kinshasa Provincial General Hospital.

Proficiency Testing (PT) Performance of Primary Healthcare Centers (PHCs) enrolled in an In-house External Quality Assurance (EQA) Exercise.

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Objectives: Using Dried Tube Samples (DTS), we sought to identify poorly performing HIV Rapid Testing (HIV-RT) points and testers; in order to build their competency, train, and improve the quality of HIV-RT results in resource limited settings.

Introduction: Improving the quality of Laboratory testing results in resource limited settings can sometimes be a daunting task; especially as governments in most low to middle income countries do not have a functional Laboratory Quality Management System implementation strategy in place. The quality of health services and test results at the PHCs are usually held in very low regards; and characterized with mostly inadequate staffing, poor infrastructure, inadequate medical diagnostics, and poor funding. Assuring the quality of test results at this level of healthcare delivery system therefore requires efforts and shear commitment.

Materials and Methods: In order to assuring the quality of HIV-RT, 31 PHCs supported by APIN Public Health Initiatives in Plateau State, North Central, Nigeria, were all trained on "HIV Serology" in August 2018. This was followed-up with Technical Assistants (TAs) and Competency Assessments (CAs) of testers at testing points. During these scheduled TAs visits and CA exercises, the use of Quality Controls, the National HIV Daily Worksheet, testing and records documentation, safety and the importance of Post Exposure Prophylaxis (PEP) were all re-emphasized. In November 2018, an in-house DTS HIV Serology PT panels were prepared as EQA samples following acceptable standards; and five panels were distributed to each of the 31 PHCs to be tested. Of the 31 PHCs, 2 were private facilities, 7 were Faith-based, while 22 were government owned facilities. Correct documentation of all required elements in the EQA Worksheet and the correct interpretation of the final test results were all used in grading the performance of the testers. A simple percentage analysis was used to analyze the collected data.

Results: Of the 31 PHCs that participated in this EQA exercise, 28/31 (90%) made their result submissions within the stipulated period and also got their final results feedback. 3/31 (10%) did not make their submissions due to the unavailability of the testing staff at the time of the exercise. 24/28 (86%) of those who submitted the results scored 100%; while 4/28 (14%) scored below the 100% mark. The Private and Faith-owned facilities scored 100% respectively.

Conclusion: The quality of HIV-RT results at the lowest tier of healthcare delivery system in resource limited settings can be greatly improved through carefully planned commitment, training, monitoring, and regular use of EQA exercises. As this study has clearly demonstrated, and with this tier of healthcare delivery system in constant war of attrition, regular use of Technical Assistants and supervisory visits, with sheer commitment from government and other supporting partners would go a long way in helping to improving the overall perception of the quality of health delivery at this level of our health system.

Le comité thérapeutique multidisciplinaire: un dispositif pragmatique pour améliorer la prise en charge des enfants en échec thérapeutique dans les sites décentralisés au Sénégal


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Contexte: En 2018, la recherche opérationnelle EnPRISSE 2 (Prise en charge décentralisée de l'échec thérapeutique chez les enfants VIH+ au Sénégal) a débuté dans 23 sites des cinq régions du Sud du Sénégal (Tambacounda, Kédougou, Kolda, Sédioué et Ziguinchor). L'enquête, réalisée de mai à septembre 2018, auprès d'enfants VIH+ âgés de 0 à 20 ans, a montré que 68% des 302 enfants traités depuis plus de six mois, ont une charge virale (CV) > 1 000 copies/ml, signe d’un risque important d'échec thérapeutique.

A partir de l'expérience de l'Hôpital pour Enfants Albert Royer de Dakar (HEAR), où le taux d'échec virologique des enfants est passé de 64% en 2010 à 20% en 2016, grâce à un ensemble de mesures (formation du personnel, annonces, appui à l'observance, suivi biologique) un Comité Thérapeutique, multidisciplinaire, a été mis en place pour renforcer l’accompagnement des équipes dans la prise en charge des enfants.

Méthodologie: Ce comité est constitué de spécialistes de la prise en charge pédiatrique à Dakar (pédiatres, assistants sociaux, médiateurs de l’HEAR) et des équipes médicales et sociales de chaque site, à travers des réunions téléphoniques. Le résumé des dossiers des enfants est transmis au préalable aux membres du comité. Les discussions portent sur la situation médicale, familiale et sociale de chaque enfant et sont suivies de décisions collégiales.

Résultats: Six comités thérapeutiques, organisés entre septembre et décembre 2018, ont concerné des sites qui suivent entre 2 et 20 enfants et qui font face à des problèmes multiples : nombreux orphelins, précarité des familles, distances et coûts de transport, absence d'annonce du statut, difficultés de l'adolescence, accès limité à la mesure de CV, aux ARV de forme pédiatrique, équipes peu préparées, formation insuffisante des professionnels de santé.

L'examen de chaque cas a été suivi de décisions thérapeutiques et de mesures d'accompagnement : maintien du traitement, interruption temporaire, changement de schéma thérapeutique, passage en 2e ligne, contrôle de la CV, annonce du statut sérologique, renforcement du tutorat, éducation thérapeutique de l'enfant et de la famille, correction de la malnutrition, dépistage des fratries. ... La mise en oeuvre des décisions thérapeutiques nécessite un accompagnement des équipes...
soignantes après les comités thérapeutique pour un suivi individuel de chaque enfant.

**Conclusion:** Le comité thérapeutique est un dispositif pragmatique pour améliorer la prise en charge décentralisée des enfants, grâce à des échanges entre les sites et les experts de Dakar. Il a une dimension pédagogique et contribue à l’actualisation des connaissances. Il permet aux équipes d’exposer leurs difficultés et d’alerter les autorités sanitaires. Les réunions ont souligné des besoins de formation et d’accompagnement des équipes souvent isolées. Elles nécessitent une préparation, des échanges d’informations et un suivi ultérieur des décisions prises pour chaque enfant.

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### The oral pre-exposure prophylaxis (PrEP) continuation estimation conundrum: comparison of two primary data sources from Jilinde in Kenya

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**Introduction:** PrEP has been proven effective through clinical trials and demonstration projects, and good adherence and persistence during periods of risk are necessary for. Individuals initiating PrEP often experience multiple uses, interspersed with periods of low risk during which they may abstain from use. Episodic use poses a fundamental monitoring and evaluation (M&E) challenge when PrEP is delivered at public health scale. Here we explore two methods for estimating PrEP continuation using two different data sources available to Jilinde, a PrEP scale up project being implemented in ten counties of Kenya with support from the Bill & Melinda Gates Foundation.

**Materials & Methods:** Data related to PrEP service delivery are captured using Ministry of Health approved tools, including: client encounter form (CEF) filled at each clinical visit, PrEP register and monthly summary tool (MOH 731 Plus). The CEF data entered into the Jilinde Data System (JDS) database and de-identified. Both data in the JDS and MOH 731 data were used to estimate and compare the continuation rate at month 1 for 93 Jilinde supported health facilities offering PrEP since February 2017 to December 2018. This was done using three approaches: cumulative aggregate method from MOH 731; cross sectional method from visit count data in JDS, without regard to elapsed duration between visits and longitudinal method from timed visit data requiring first refill within 45 days to qualify as successfully continuing at 1 month.

**Results:** As at December 2018, 19,835 clients were reported to have initiated PrEP through MOH 731 reports. Of these 18,731 were initiated long enough to be due for a 1-month revisit, and 7,728 1-month revisits had been provided, suggesting a 41% continuation rate. During the same period, 21,605 clients initiated PrEP according to the JDS database. Of these, 20,810 clients were due for a 1-month refill. Using the cross-sectional method, 5,642 clients returned at least once post-initiation, suggesting a 27% continuation at first visit, though the timing of the visit (on time or late is not accounted for). Using the longitudinal method, 3,611 clients initiating PrEP long enough to be due for 1-month follow-up returned within 45 days of their first prescription, suggesting a continuation rate of 18%. Another 2,031 (9.7%) returned but at a date > 45 days since first prescription and so were deemed a PrEP restart.

**Conclusion:** The first two approaches over-estimate 1-month continuation for different reasons. For the aggregate method, 1-month continuation is overestimated because clients stopping and then restarting PrEP can have multiple 1-month follow-up visits. For the cross-sectional method, overestimation occurs because clients returning late are misclassified as refills. The longitudinal method is more precise because it distinguishes between refills and re-starts and enables continuations estimation for each use episode but involves sophisticated data analysis, which is impractical for a routine MOH surveillance systems.

## 179

### Feasibility and uptake of a medication container waste collection project in a large urban HIV clinic.


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**Background:** Antiretroviral drugs are dispensed in high density polyethylene containers. In Uganda, approximately 1,000,000 bottles per month are dispensed and subsequently discarded by patients e.g. in pit latrines or rubbish pits. To determine the feasibility of an eco-friendly pilot, we aimed to collect used medication containers at the Infectious Diseases Institute Kampala where 8000 patients receive antiretroviral treatment. We describe the implementation and report the trend in medication bottle collection.

**Methods:** A team comprising a pharmacist, pharmacy technician and a volunteer provided information sessions about the program in clinic waiting areas. Patient information leaflets and charts in English and Luganda were distributed. Other project inputs included sacks, weighing scale and plastic bags. Return boxes were emptied weekly, number and weight of empty bottles and tablets (if returned), recorded. A volunteer transferred empty returned bottles to a patient group that uses empty bottles to fabricate furniture items. Returned tablets were destroyed in compliance with regulatory guidelines. Indicators monitored were number of bottles returned versus average number of patient visits each month, and the ratio of antiretroviral weight to bottle weight. Personnel costs were estimated from actual salaries and estimated time expended on tasks.

**Results:** Over 10 months, 10 information sessions were held and 4800 information leaflets distributed. Total expenditure for the program was USD 1,833.99 driven by staff costs (68% pharmacist, pharmacy technician and volunteer allowances). Overall, 239 kg of bottles were collected. The ratio of bottles returned versus visits ranged from 13% at the beginning to 26% at the end of the period. The ratio of antiretroviral to bottle weight increased between February and May, and consistently decreased thereafter (Figure 1). There is no correlation between...
antiretroviral weight and bottle weight over time (Spearman’s rho = 0.56, p = 0.096).

**Conclusion:** Collection of waste medication containers incurred low costs and trend in collection data suggests increasing patient acceptance. Initial high volumes of tablets may have indicated stockpiles of nearly full bottles retained e.g. during medication switch.

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**Cost of Using Multipoint Video-Technology for National Guidelines Dissemination in Kenya**

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**Background:** HIV infection continues to be a public health threat in Kenya with 1.5 million Kenyans estimated to be living with HIV of whom approximately 1,000,000 are on antiretroviral therapy. Every 2 years, the MOH through its unit the National AIDS and STI Control Program, NASCOP, releases updated National ART guidelines and provides overall leadership and training to collaborators at the national, regional, and site levels.

Traditionally, Master TOTs from a pool of national mentors with similar competencies are selected to attend a didactic classroom training based on revised Orientation Packages. Two different training methods were employed for the 2016 and 2018 guideline for the national mentors: A didactic teaching class that the mentors have to travel to and take approximately 96 hours to complete, and a multipoint video conferencing technology that the mentors logged on remotely from their work stations and lasted approximately 10 hours respectively.

The objective of this analysis is to demonstrate the cost and efficiency of leveraging on teleconference model for dissemination of guidelines.

**Methods:** We assessed performed the analysis US$, and looked at cost (cost per training via didactic method versus cost per training using multi point video technology), efficiency (monetary cost and cost of time saved), and output of the training (pre and post test scores of participants in both modalities).

The Cost Efficiency Ratio (CER) was defined as (Total Cost (Didactic) / Total Cost (Multipoint Video)) divided by (Number Trained or hours (Didactic) - Number Trained or hours (Multipoint Video)). Analysis was done using Stata software version 15.1.

**Results:** Using didactic approach for training was associated with an average marginal cost of $49,210.00 for a class of 60 participants, and $820.17 per training a participant. In comparison, the average marginal cost of training using multi point video technology was $1550.00 for a class of 74 participants, and a total cost of $20,96 per participant trained. The Cost Efficiency Ratio (C.E.R) of using multipoint video technology was $3404.29

On average time spent for the multipoint video technology was 10 hours, compared to 96 hours spent using the didactic method, giving us a CER of $554.19.

Overall and marginal costs of training were associated with per diem costs (initial ($13,400.00 vs. $0.00) transport costs (fuel/reimbursements) ($1,900.00 vs. $0.00), with administrative costs (printing, stationary, hotel packages, airtime, bundles) ($33,910.00 vs. $1550.00).

Comparison of the pre and post test of the two methods used was similar, with both giving an average pre-test score of 74% and a post test score of 74% and 75% respectively (p value 0.937)

**Conclusions:** Guidelines dissemination using multipoint video technology for training lead mentors is inexpensive, feasible and has reduced cost. Also the output of the post test demonstrated no reduction in knowledge gained as the results were similar.

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**181**

Using standardized unique identifier codes to improve tracking of HIV service delivery among key populations in Kenya

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**Background:** Members of key populations (KPs) typically are highly geographically mobile and, because their behaviors are often stigmatized and criminalized, adopt different names, thus presenting challenges to tracking them through the HIV cascade of services. LINKAGES/Kenya – a KP program serving more than 54,000 female sex workers and 17,000 men who have sex with men – introduced a unique identifier code (UIC) system to track individuals accessing services within the program.

**Methods:** In collaboration with the Ministry of Health and the KP community, LINKAGES/Kenya developed a UIC comprising three major attributes: geographic, demographic, and incremental variables (Figure 1). A UIC was assigned to each KP member at enrollment into the program through a centralized system at the program’s drop-in centers to avoid duplication; a centralized serialization is maintained.

Figure 1. Components of a UIC.

county code/ sub county code/ Ward/Implementing Partner code/Hot spot code/KP Type/First two letters of first, Middle, and last name/ Month of Birth and KP serial number

UICs were shared with peer educators (PEs) and clinical service providers to help track and refer KP members to different service delivery points and services. Monthly data review meetings were held to review progress on use of UI Cs within the program. Descriptive statistics were used to describe outcomes of tracking through the HIV cascade.

**Results:** By the end of January 2018, all KP members enrolled through 18 implementing partners (IPs) had been assigned a UIC. HIV testing coverage among KPs improved from 54% to 79% since implementation of the UIC system, and links to care and treatment rose from 74% to 85%. IPs identified duplicate records through UIC assignment and cleaned up their cohorts.

**Conclusions:** Use of UI Cs greatly improved tracking of KP members and links to services. Extensive training of PEs and service providers and ongoing support is needed, because the
success of any UIC system relies not only on the complexity of the designed algorithm, but also on the human interaction involved in capturing the data and completing the data collection tools.

### 182

**Potential impact of implementing Index Partner Notification to reach undiagnosed People living with HIV in Rwanda**

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**Background:** Rwanda is on track to achieve the first target of the UNAIDS 90-90-90 as more than 80% of people living with HIV (PLHIV) are aware of their status. However, reaching the last PLHIV will be even more challenging. In response, Rwanda launched the HIV partner notification program - active tracing of sexual partners of newly HIV diagnosed individuals to improve identification of people with undiagnosed HIV infection and facilitate their linkage to care. We report results from implementation of the pilot of this strategy in Rwanda.

**Methods:** The pilot phase started in 23 sites Kigali city from October-December 2017. Newly HIV diagnosed men and women identified in Antiretroviral Treatment (ART) and Prevention Mother to Child Transmission (PMTCT) services were enrolled as index clients. They were offered the choice of referring their sexual partners themselves or having a health provider contact their partners for HIV testing. Sexual partners presenting to the facility were offered HIV testing and those found HIV positive were linked to care and treatment services. Prior to implementation, a training of healthcare providers on HIV partner notification was conducted and the HIV National Guidelines were updated to include the new strategy. An awareness campaign through different media was conducted at the national level to sensitize the public.

**Results:** In total, 542 Index clients were newly diagnosed in the pilot sites and they reported a combined total of 670 sexual partners. Of them, 76%(509/670) were successfully contacted and 89%(451/509) presented to the sites for HIV testing. Among those who presented, 12%(53/451) already knew their HIV status and were on ART. In the 398 sexual partners with unknown HIV status or previously HIV negative, 51(13%) were found to HIV positive and 78%(40/51) of the unknown HIV status and were on ART. In the 398 sexual partners with unknown HIV status or previously HIV negative, 51(13%) were found to HIV positive and 78%(40/51) of the

**Conclusion:** These results indicate that HIV partner notification may be effective in reaching undiagnosed people living with HIV in Rwanda. Additionally, this strategy can be effective in linking people to care evidenced by the high proportion newly diagnosed partners linked to care in the pilot phase. HIV partner notification, coupled with other already existing interventions may help Rwanda move closer to the 90-90-90 target.

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**Improving HIV case finding in Rwanda: Results of a pilot phase of Assisted partner notification implementation**

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**Background:** According to recent data from UNAIDS, people living with HIV who knows their status are estimated to be 81%, in east and South Africa region and new HIV infections are estimated to be highest (650 000 ~ 800000) with an overall incidence estimated at 0.3-0.53 in adults 15-49 (UNAIDS 2018 estimate). According to the same source, estimates for Rwanda are 88% for the first 90% and 91% for the second one. This means for Rwanda that 12% of PLHIV remains undiagnosed, yet new infections continue to increase their number.

Index testing and HIV partner notification is an approach that has the potential to improve coverage while also identifying people with undiagnosed HIV infection. Active Partner tracing, where sexual partners of HIV-diagnosed clients are contacted by their partner or a health provider, is effective in identifying persons with undiagnosed HIV infection.

This strategy is being implemented in Rwanda, we describe methods and results of a pilot phase of HIV active case finding which started in October 2017.

**Methods:** The implementation started by a pilot phase of index testing and partner notification services started October 2017 in 23 sites in Kigali city area where HIV Prevalence (6.3%) is the highest in Rwanda. Newly HIV-diagnosed men and women, tested through VCT and PMTCT services, were enrolled as index clients, and offered the choice of referring or bringing their partner for HTC, or having a health care provider contact their partner with the recommendation to come for HTC. Partners presenting to the facility were offered HTC and linked into HIV care and treatment if found HIV positive.

A training of healthcare providers on HIV partner notification and Counselling have been provided. Amendment of HIV National Guidelines and development of monitoring and evaluation tools have been made and in place. An awareness campaign through different media was conducted by National communication services.

**Results:** We describe results of the pilot phase from October to December 2017. Total Number of newly identified HIV clients (Index) =542; Number of identified sexual partners=670 Number of sexual partners contacted for HIV testing=509(76%); Number of sexual partners who already knew their HIV status and are on ART=53; Sexual partners notified but not yet come for HIV testing=58; Number of sexual partners with unknown HIV status or previously HIV negative tested for HIV=398(78%); Number of newly identified HIV positives=51(13%); Number of sexual partners identified negative=347; Number of newly identified HIV positives linked to ART=40(78%).

**Conclusion:** This pilot phase of Assisted partner notification demonstrated feasibility, acceptability and effectiveness of partner notification for HTC in facility-based in Rwanda. However, linkage to care is yet to be improved.
Abstract

184 Providing PrEP in practice; health care worker adaptations to PrEP delivery in Eswatini

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Introduction: Evidence relating to the implementation of pre-exposure prophylaxis (PrEP) for the general population in primary-care clinics in Southern Africa is limited. More evidence is required from those providing PrEP in 'real world' settings to better inform future programming, scale up and policy.

Methods: From September 2017 to October 2018 we conducted qualitative research as part of a PrEP demonstration study for the general population in Eswatini. 54 semi-structured in-depth interviews with purposefully selected health care workers (HCWs) were conducted in six public sector, nurse-led, primary-care clinics. Data from observational notes, daily debriefing sessions and interview transcripts were analyzed using NVivo following the tenets of Grounded Theory.

Results: HCWs said that they followed guidelines for PrEP delivery, but adapted certain elements to inform more people, to better suit the clinic environment and would make special arrangements to support certain individuals. The majority of HCWs said that clinic based PrEP education and promotion was insufficient and that community education would allow for clients to discuss and consult with their family, gain permission from their partners and from community leaders. Some HCWs had begun their own community based education and adherence counselling through community meetings and household visits, and promotion by advertising at taxi ranks and on public transport. HCW said they would like to provide more PrEP community services, but that their work schedule did not allow for it. Clinic based modifications included PrEP risk assessments alongside existing TB screening services, and targeting PrEP counselling for pregnant women and clients with sexually transmitted infections. HCWs described streamlining the PrEP initiation process and fast-tracking at risk clients for initiation and pill collection. Many HCW said they placed emphasis on PrEP being for 'everyone' to avoid unnecessary stigma. Many stated that the clinic opening times were not conducive to most working people and recommended alternative collection points for PrEP.

Conclusions: Integration of PrEP into existing health care service delivery entry points may help reach those most vulnerable to HIV infection, avoid time consuming referrals, and prevent loss of clients between different steps of the care continuum. PrEP education and promotion should be both clinic and community based to ensure potential clients have enough information before reaching the clinic, to prevent PrEP associated stigma and to assist in family and partner understanding of PrEP use. HCW providing PrEP in public-sector clinics have first-hand knowledge of implementation in 'real world' settings in a field where policy and program implementation is largely undefined. Integrating their feedback into future programming and policy may support effective PrEP delivery in Eswatini and other high prevalence settings across the Southern African region.

185 Tolerability of Routinely Offered HIV Testing in Children Admitted in Kenyan Public Hospitals.

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Background: In the Global arena, more than 270,000 children under 15 years died of Acquired Immune Deficiency Syndrome (AIDS) in 2009. The antenatal HIV prevalence in Angola is 2.8% and in one of the public hospital i.e. Lubango is 2.2%. With the recent availability of Antiretroviral Therapy (ART), routine HIV testing is now an essential component of HIV prevention and care. However many HIV infected children are never identified or are lost from the health care system before they can be enrolled into care contributing to high mortality. It is therefore essential for health care workers in health facilities to recognize routine HIV testing and counseling strategies for admitted children.

Aim: This study aims to determine the acceptability of routinely offered HIV testing among children admitted in public Pediatric Hospital in Kenya. In addition determine the factors associated with acceptability of HIV testing.

Design: Cross sectional study design

Materials and Methods: The children admitted in the wards underwent a physical examination, test for HIV antibody and HIV DNA-PCR; those who tested positive were classified using the World Health Organization (WHO) criteria from November 2013 to January 2014.

Results: A total of 370 participants (caregiver- child pairs) were recruited into the study and their data analyzed. Majority 81.3% of the caregivers were single with a mean age of 27 years. Majority (88.1%) of the participants resided in the urban areas close to the hospital. A significant number (86.7%) of the caregiver had some form of education with the majority having primary education. Most (96.2%) caregivers were the biological mothers of the children.

After successful iterations at the multivariable modeling, the significant predictor for acceptability for HIV testing was education level and residence. Education level was associated with acceptability for HIV testing. Caregivers with some level of education had 3 times higher odds of accepting the test compared to those with no education (3.34; 95% CI 1.02- 10.92, p= 0.05) after adjusting for all factors in multivariable model. Urban dwellers were more likely to accept HIV testing OR = 4.4 (95% CI 1.41, 13.9) p= 0.02. Parents of female children were less likely to accept HIV testing as compared to parents of boys children, 181 (98.3%) of 184 boys were tested compared to 160 (93.5%) of 171 girls.

Conclusion: The acceptability of routinely offered HIV testing (opt out) of children admitted at public Pediatric Hospital was high (92%). The predictors of accepting a HIV test are maternal level of education and Residence.
Who is mostly affected? Analyzing Trends of HIV Testing Services (HTS) outcomes in Voluntary Male Medical Circumcision (VMMC) Project: Project IQ Malawi experience

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Background: In Malawi despite more men and boys not knowing their HIV status as compared to females, males are still underrepresented in HIV Testing Services (HTS). Barriers include male unfriendly health system infrastructure and service delivery models. However, as per WHO guidance, optional HIV testing and counseling are part of the minimum package of Voluntary Medical Male Circumcision (VMMC) services, making VMMC programs an important entry point for reaching men for HIV testing services (HTS). To better understand how Voluntary Medical Male Circumcision (VMMC) programs can provide opportunities to improve HIV testing among men, we analyze HTS trends in men reached through VMMC in Lilongwe District, Malawi.

Methods: Jhpiego’s Improving Quality (IQ) project in Malawi has been in operation since April 2016. The IQ project currently provides VMMC through 30 static sites and through mobile VMMC services in hard to reach areas of Lilongwe district. Following PERPFAR and WHO guidelines, HTS was offered to all clients accessing VMMC services. Client age and HIV status were captured across 30 static sites and aggregated in the Jhpiego’s M&E system as part of routine VMMC programmatic data collection. This analysisexamines quarterly trends in HIV prevalence across aggregated age groups between April 2016 and September 2018.

Results: From 2016–2018 86,326 (99.7%) VMMC clients were tested for HIV and 255 (0.3%) tested HIV-positive, increasing from 0.2% in 2016 to 0.3% in 2018. Men aged 30 years and older were most likely to test HIV positive, 1.8%. Boys aged 10-14 had the second highest prevalence, 0.3%. Comparison of HIV prevalence among VMMC clients in Quarter 4 each year shows a notable increase in HIV prevalence for boys aged 10-14 years from 0.1% to 0.2% and 0.6% per MC client tested in 2016, 2017 and 2018 respectively. However, despite an increasing and higher number of Medical Circumcisions (MC) across the years in the age groups of 15-19 years, 20-24 years, and 25-29 years, prevalence of positive clients was lower as compared to the 10-14 years. Finally while the prevalence of the mostly affected age group of 30 years was decreasing over time from 1.1% to 0.7% per MC client tested, prevalence in the 10-14 year olds was increasing.

Conclusion: Overall HIV positivity is low in the VMMC program, suggesting the project is effectively targeting prevention activities. However, since 2016, prevalence of HIV has increased in boys aged 10-14 years accessing VMMC services. HTS in VMMC programs could therefore help identify young boys likely to have been infected through vertical transmission but not tested during childhood. Additional work is needed to determine if scaling-up VMMC services to target younger clients could help reach more missed young boys and their parents and improve parent-child disclosure.

HIV Index Partner Testing: Examining the Feasibility and Impact of an Index Testing Register used in High-Burden ART Clinics in Malawi

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Background: Index partner testing is critical to reaching high-risk populations. However, routine approaches have had limited success – in Malawi fewer than 20% of individuals with an unknown status whose partner is HIV-positive are found to have tested for HIV. We implemented and evaluated a low-cost Index Partner Register.

Methods: Index Partner Registers were developed for adult (15+ years) ART clients accessing routine ART services. Registers screened for sexual partners in need of HIV testing (unknown HIV status as per national guidelines recommending annual testing), documented enrollment for index testing, and tracked partner uptake of HIV services. ART clients with an eligible partner were given standard partner referral slips, and with the consent of the client, home visits were made for partners not presenting to the facility within two-weeks. HIV testing among partners was measured through client report and chart reviews. The Register was implemented between July-October 2018 at 5 high-burden ART clinics (average ART cohort=3,281) in Chikwawa District. 20 HIV Testing Counselors and 20 Expert Clients (HIV-positive volunteers) attended a 1-day training and received 4-days of intensive observation, along with routine supervision.

Findings: Over a 4-month period, 50%(5059/10171) of all adult female and 40%(2078/5249) of male ART clients at participating facilities were screened using the index register. 15%(748/5059) of male partners and 13%(261/2078) of female partners screened were identified as in need of HIV testing. Of those, 43%(305/748) of male partners and 57%(154/261) of female partners tested for HIV, with 22%(68/305) of male partners and 14%(21/154) of female partners testing HIV-positive. 94%(64/68) and 95%(20/22) of male and female partners initiated ART, respectively.

Conclusion: An Index Partner Register implemented in high-burden ART clinics was feasible and sustainable with minimal resources, and resulted in a high number of high-risk partners identified. However, uptake of HIV testing remains suboptimal, and may require additional strategies, such as additional resources and time for partner follow up, improved counseling including assisted partner notification, and offering index HIV self-tests. Partners tested had high rates of HIV and ART screening.
initiation. ART clinics provide an ideal entry point for index partner registers since the majority of HIV-positive individuals can be reached rapidly.

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Scaling up adolescent responsive services increases HIV testing outcomes among Adolescents and Young people aged 10-24 years in Uganda

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Background: In Uganda, 73,000 Adolescents are estimated to be living with HIV; with prevalence rate of 1.3%. By 2016, coverage of adolescent friendly health services (AFHS) was 37%; hence, adolescents had limited access to HIV testing, information, Sexual and reproductive health services, and psychosocial services. Consequently, outcomes of adolescents and young people across the 90-90-90 cascade lags behind compared to the general population.

Methods: In 2015, AIDS Control Program, Ministry of Health developed an Adolescent HIV care and treatment capacity building strategy to scale up AFHS. A 5-days training curriculum and a health worker job-aid were developed. Training of trainers at national and regional levels and health workers from adolescent care entry points and one Adolescent peer educator was done. On-site mentorships were conducted one month and quarterly post training. HTS services were established in the various entry points. An evaluation was conducted to assess the extent to which AFHS had been scaled up in the country and its effect on HT outcomes amongst Adolescents by 2017.

Results: By September 2017, 77.6% health facilities had been trained in Adolescent HIV care, treatment and support. Coverage of AFHS increased to 59.4% in 2017. There was improved entry point testing for adolescents at ANC, maternity and post-natal clinic and adoption of targeted testing through use of a screening tool at outpatients department (OPD). HIV positivity among adolescents increased to 3.1%, from the 2.5% in 2016 with regional variation [East Central increased from 0.6% to 6.8%, a ten-fold increase, while Mid-Western (Hoima) increased from 1.7% to 6.8%]. Linkage into care improved from 44.6% to 74.3%; with variations by age and sex. Males 10-14 years (96.8%) and females 15-24 years (93.7%) were more likely to be linked into care than females 10-14 years and males 15-24 years respectively.

Conclusions: Adolescent competent health workers, Adolescent Care focal person, convenient and flexible working hours, Adolescent and Young people Peer Leaders and safe spaces at health facilities are effective in increasing HIV testing yield and aiding early linkage and initiation to HIV care and treatment for adolescents and young people.

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To Demonstrate that Implementation of National Mentorship Cascade through Regional Technical Working Groups Is An Effective Mechanism To Support Inter-Professional Learning.

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Background: The National Mentorship Cascade (NMC) framework was established for coordinating, training and supporting national mentorship teams through the Regional Technical Working Groups (RTWGs). The RTWGs bring together a network of county (health care workers) HCWs into inter-professional teams. Regional mentors provide ongoing, targeted mentorship, training and institutionalization of best practices. RTWGs provide a platform for inter-professional learning with different professional cadres working collaboratively to improve outcomes for individual patients at facility level. The RTWG coordinates all the HIV training and mentorship services in the region. The membership comprises all cadres of HCWs, County Lead mentors and HIV Implementing partners-technical teams in the region.

Methods: This is a cross-sectional study design using quantitative data collection methods from RTWG monthly meeting reports, RTWG summary reporting tools and minutes of meetings for a period of 12 months. Descriptive analysis was done presenting the means (standard deviation) and median (interquartile range (IQR)). Poisson regression presenting the hazard ratios (HR), adjusting for the number of MDTs held and the number of RTWG members trained, was done to assess for the association of mentorship sessions and CMEs with a change in the rate of cases discussed monthly at the MDTs.

Results: The number of mentorship sessions and CMEs held in the first month was 264 and 194 respectively which improved to a total of 6948 (median of 530 (IQR: 434 – 725)) and 5187 (median 467 (IQR: 323 – 548)) within 12 months, respectively. There was also an increase in the number of MDTs held and the number of cases discussed over time from 490 and 445 respectively to a total of 9620 (median of 821 (IQR: 574 – 1062)) and 16584 (median 1515 (IQR: 817 – 1756)) within 12 months, respectively. The total number of participants was 858 (mean monthly attendance 72(SD=20)). An increase in number of mentorship sessions increased rate of cases discussed in MDT monthly over two-fold, using less than 400 sessions as the reference, HR = 2.46 (95%CI: 2.26 - 2.68) P<0.001, for 400-700 sessions and HR = 2.93 (95%CI: 2.68 - 3.21) P<0.001, for 701-1000 sessions. Similarly, there was over two-fold increase in rate of cases discussed in MDT using less than 200 CMEs as the reference, HR = 2.63 (95%CI: 2.41 - 2.89) P<0.001, for 201-400 sessions , HR = 3.32 (95%CI: 2.96 - 3.72) P<0.001, for 401-600 sessions and HR = 3.63 (95%CI: 3.21 – 4.10) P<0.001, for 601-800 sessions a month.
Abstract

Conclusion: The RTWG’s provide regional capacity for decentralized technical assistance in managing complicated cases through the national mentorship cascade. Successful interprofessional training and learning showcase how different professional cadres can work collaboratively toward to improve outcomes for individual patients.

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Increasing Access to Health Services, Through Screening for HIV and Other Metabolic Diseases in Cameroonian Military Barracks: “Military Health Days

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Context: In clinical settings, it has been observed that women were more likely to seek health services than men. To increase access to health services by men, military health days were organized in military barracks with as motto: “Healthy military for healthy nation”, within the community piece of a military HIV-program in Cameroon, from April to June 2018.

Methods: Screening services for HIV and other metabolic diseases were offered to active duty military personnel (ADM) and family members. For HIV, a screening tool already in use at the clinic was applied before testing, to assess exposure to HIV. For other metabolic diseases, weight, height, blood pressure, glycosuria and proteinuria values were collected. Univariate and bivariate analyses were carried out with 95%CI, as well as logistic regression.

Results: 2,049 individuals [468 females, 1,581 males, 1,345 ADM, 698 civilians and 6 retired military], were screened for HIV, and offered BMI, BP, Glycosuria and Proteinuria. HIV prevalence was 3.0% (±0.84); and 3.0% (±0.91) among ADM. In respect to sex, HIV prevalence was 3.0% (±1.84%) in males and 5.3% (±2.03%) in females. Overweight and obese values were respectively 37.8% (±2.1%) and 15.4% (±1.56%), whereas they were 41.8% (±2.64%) and 17.5% (±2.03%) with ADM. Glycosuria and Proteinuria values: 3.0% (±2.74) and 6% (±3.3%), 3.1% (±0.93%) and 5% (±4%) with ADM. 46.6% (±2.26%) of participants had Pre-High Blood Pressure [47.0% of ADM (±2.8%)], whereas 21.6% (±1.89%) had High Blood Pressure [22.9% of ADM (±2.36%)]. Bivariate analyses showed positive association between HIV infection and suspicion of STIs (RR=1.4), as well as with Many sexual partners (RR=2.8). Positive Predictive Value for the HIV screening tool used was 3.9% (±70%). Logistic regression showed positive correlation between HIV infection and age (p-value<0.0001) and male gender (p-value=0.047).

Conclusion: With a ratio of three men to one woman, “Military Health Days” have enabled more men to access health services. However, regarding the screening tool used, it turned out that its criteria were not adapted to use in community, unlike its clinical use. Considering our sample, some metabolic symptoms (heart diseases) appear to be more prevalent than HIV.

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Gap Entre le Depistage Du Vih et le Traitement Antiretroviral au Mali: Encore Loin de L’objectif D’élimination D’ici 2030 ?

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Introduction: Alors que d’ici 2030, l’objectif de l’ONUSIDA est de mettre fin à la pandémie du VIH, plus de 30 ans après sa découverte, l’épidémie reste généralisée dans de nombreux pays de l’Afrique Subsaharienne. Au Mali selon EDS 2011, la prévalence est de 1.1%, ceci malgré les efforts de lutte consentis par les politiques, les partenaires nationaux et internationaux. Les structures sanitaires reçoivent les patients souvent au stade évolué de la maladie. Au service de Maladies Infectieuses du CHU du Point G à Bamako, centre d’excellence de prise en charge de l’infection à VIH et de ses co morbidités, le constat est le même. L’objectif de cette étude était de déterminer les caractéristiques épidémio cliniques des patients naïfs de traitement ARV à l’admission au service des Maladies Infectieuses et Tropicales (SMI) du CHU du point G (Bamako-Mali).

Methodologie: Nous avons mené une étude prospective, à visée descriptive sur 102 patients infectés par le VIH. Tous naïfs au TARV et hospitalisés au SMI du CHU du point G de Janvier à Aout 2018. Les données épidémiologiques, les circonstances du diagnostic, et le délai de mise sous traitement ARV ont été recueillies. Nous avons utilisé le logiciel SPSS 20.0 pour leur saisie et analyse

Resultats: La majorité des patients étaient de sexe masculin (67,6%), âgés en moyenne de 36±10,4 ans. La séropositivité au VIH était connue au moins 3ans avant l’admission au SMI (54,9%). Le type I était prédominant (91,2%) et selon la classification OMS, 5,9% était au stade 3 et 38,2% au stade 4. Les patients étaient sévèrement immunodéprimés avec un taux de CD4 < 200 cellules/mm3 (82,4%) et 37,3% avaient un taux inférieur à 50 cellules/mm3. Le diagnostic principal était un sepsis secondaire à une pneumopathie à germes communautaires et spécifiques (37,3%), toxoplasmose probable (8,8%), cryptococcose neuroméningée (5,9%). Quant au délai d’initiation, il était > 20 jours (65,7%), avec plus de 39 jours (15,7%) après l’admission.

Conclusion: Les patients infectés par le VIH, hospitalisés au SMI sont fortement immunodéprimés à leur admission dans le service Conns HIV+ longtemps avant leur admission, ils y arrivent au stade SIDA. Une sensibilisation sur la prise en charge précoce de l’infection à VIH doit être renforcée. Après le dépistage, un suivi médical doit être immédiat, si on veut contribuer à l’élimination du VIH d’ici 2030.
Organisational Restructuring: A Key Process to Achieving the Mandate of National HIV/AIDS Response in Nigeria

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Background: To achieve an excellent response to HIV/AIDS, the process to reposition for a more efficient and effective national response gave rise to the restructuring of the National Agency for the Control of AIDS (NACA), the apex institution for the HIV/AIDS response, in 2018. As a result of this, a performance management system was established. The system develops innovative mechanisms and strategies to improve performance of various government mechanisms, grants, and credits available to the national response as well as service delivery. This study documents the restructuring process that has led to the shift in HIV/AIDS performance paradigm.

Methodology: The restructuring process started by inauguration of an experienced technical team and consultants that developed road maps and made recommendations for the agency’s required departments, divisions, units and job descriptions. Approvals were received from Office of Heads of Civil Service of the Federation (OHCSF) to institute the new structure. The agency staff were appraised to ascertain each person’s area of core competencies and recommendations were made that determined appropriate position and staff placements. Performance Management division was constituted, and the following were done:

- The agency’s performance management division developed performance management framework and tools at inception of the new system to track and for feedback.
- Performance management orientation for thirty-six state agencies for the control of AIDS (SACAs) plus FCT for the state to play critical and complementary roles at the state level coordination of HIV response.
- Thirty-seven (37) donors and implementing partners (IPs) were sensitized on the new performance management paradigm
- Out of these organisations, twenty-five submitted their annual work-plan and objectively verifiable key performance indicators were developed for tracking.
- Performance management mission was made to twenty-three states to track and monitor various IPs projects.
- Quarterly performance management field visits to track states, donors and grants performance.
- The annual organisational work plans that provide guidance on funding and implementation strategies were also monitored.
- Periodic reviews were done to ensure compliance and feedback.
- Corrections and recommendations were taken note of when the tools were administered.

Results/Lessons learnt: The performance management structure enables all stakeholders through its frameworks and tools to identify programmatic gaps. The feedback (programmatic gaps) are sent to the apex institution to help in decision making to improve service delivery. The restructuring has further helped to maximize coherence and coordination of AIDS response by aligning objectives of individual organization with the strategic objectives of the national response. There are also mitigation plans to reduce risks.

Conclusion/Recommendation: Restructuring has brought about a more evidence-based and result oriented approach to HIV/AIDS programming in Nigeria. It has also improved accountability of allocations, credits and grants in HIV projects as well as improved efficiency in programme planning. This has activated a platform for accountability, transparency and delivery of quality services for impactful HIV/AIDS response through its tracking and feedback mechanism. Scorecards for measuring performance of programmes/projects in collaboration with stakeholders (donors, grants, government) is recommended.

Offering Healing through a Child Protection Residential Programme in a Resource Constrained Community in Klipfontein-Mitchell’s Plain, Cape Town

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Background: Funded by the Global Fund, the Zimele Project of the Desmond Tutu HIV Foundation (DTHF), in conjunction with the Western Cape Department of Health and Childline Western Cape (WC), implemented a Child Protection Services programme in the Klipfontein/Mitchell’s Plain (KMP) sub-districts in Cape Town. The residential programme was tailored for 7-days therapeutic intervention to be provided for abused and traumatized children and their families. The children included was 90 boys aged 10~14 years who display inappropriate sexual behavior and 120 girls aged 10~17 years who are victims of sexual abuse; thereby exposed increased risk of HIV acquisition as a result of unsafe sexual practices. The intervention provided an occasion for the children to commence the healing process. The therapy provided was through individual and group sessions with post-camp care plans drawn for each child for continued care.

Methods: In quarter 2, 2017 the initial programmatic training of staff and therapists was conducted by Childline KwaZulu Natal (KZN). The DTHF team, led by a Social Worker, comprised of 3 male and 3 female Social Auxiliary Workers. This gender balance allowed for adequate representation of staff to participant engagement. The implementation programme began in quarter 3, 2017 with the identification of different stakeholders from Child and Youth Care Centers, primary and secondary schools. Referrals, with parental consent, into the programme we accepted from Social Workers. In quarter 1, 2018, Childline WC was identified as a key implementation partner for the remained of the programme. The 7-day therapeutic residential camps were conducted during school holidays to ensure continuity of care and create a safe space to commence the healing journey. A minimum of five individual and group sessions were provided to the children and adults/caregivers that also attended the residential programme. DTHF Research Nurses provided pre and post HIV counselling and testing to the participating children.
who consented. HIV risk reduction health education was conducted by the Nurses. Referrals and linkages where necessary were made to the relevant service providers within community to continue post-camp care. Monitoring and evaluation services was conducted, by both Childline KZN and Childline WC. Post-camp follow-up was conducted with learners, parents/ caregivers and referring Social Workers, to ensure holistic services were rendered.

Results: Data from July 2017 – Dec 2018 outlines the following: Number of girls reached = 119 (99.2%); Number of boys reached = 90 (100%); HIV tests done = 68 boys and 57 girls.

Conclusion: The benefit and value of a community-based partner has made a difference in the programmatic success. Anecdotal reports from children and caregivers was that the 7- day daily programme was intense. Caregivers also reported sustained positive changes in behavior of children post- camps. Additional post-camp follow-up was mandatory for all cases. HIV incidence peak among adolescent girls between 17 – 19 years. A recommendation for the residential programmes to include tailored interventions that focus on sexual reproductive health services the older adolescent girls to ensure reduction of risk of HIV acquisition.

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Evaluation of Treatment Outcomes of Patients Accessing Art Refill Services at Community Pharmacies (Cps) in Lagos
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Background: The UNAIDS 90-90-90 “Test-and-Treat” strategy for HIV Management has led to an increase in the number of asymptomatic People Living with HIV (PLHIV) receiving treatment at the health facilities, and an increase in facility congestion, impacting on the limited human resources and infrastructure. Nigeria has the second highest burden of HIV/AIDS in the world with an estimated 3,391,546 PLWHA in 2014. “Test-and-Treat” approaches to HIV services in resource- limited settings require new, more flexible models of care, capable of meeting the varying needs of increasing numbers of patients. Service models designed to address these differing needs in a client-centered framework have come to be known collectively as differentiated care. Differentiated care aims to enhance the quality of the client experience.

APIN Public Health Initiatives adopted Community Pharmacy ART refill as one of its differentiated care models. The World Health Organization (WHO) is promoting the use of community based ART in a global strategy to end HIV/AIDS by 2030. The community based ART approach is widely supported strategy for delivering HIV treatment services closer to the people and improving ART uptake, retention in care as well as good clinical outcomes including viral suppression.

Methods: A retrospective study conducted on 1050 devolved clients from 6 secondary health institutions, who were referred to community pharmacies in different geographical locations in Lagos state. Clients who had at least one documented viral load result post devolvement into the CPART program were included in the evaluation. Viral Load and drug pick up data of these patients were reviewed and analyzed using descriptive statistics. The treatment outcomes measured are viral suppression rate and retention in care at the community pharmacies.

Results: Findings showed that 97.5% of the devolved patients to the CPART model of differentiated care remained virally suppressed with 70.9% of the patients being undetectable while 2.5% were unsuppressed. The retention rate post devolvement to community pharmacies was found to be 98.1%.

Conclusions: The CPART refill model provides an impressively significant level of viral suppression and a high level of retention in care. From the research findings, patients remained adherent to drug pickups, with a corresponding high level of viral suppression. Higher viral suppression rates and patient retention rates were observed within the model compared to facility documented rate of 89.1% and 66.7% respectively in the state.

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Strengthening Capacity of Cross-Border Health Units (CBHU) to Use Technology for HIV Prevention and Treatment.
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Background/Introduction: Existing public health systems don’t account for transnational access across national borders. Mobile populations are more likely to be captured into healthcare systems late and are less likely to be retained at successive stages of HIV treatment cascade. Currently, there are no systems for data collection and reporting for managing mobile cross-border populations.

Materials & Methods: CB-HIPP reviewed community and facility data tools from 30 border health facilities. The project also harmonized inter-facility referral tools and linked HIV testing services (HTS) registers to project-designed profile forms used to collect mobility data among cross-border populations. CB-HIPP developed a database to manage cross-border data generated from the manual tools. The database is designed using a web app hosted on the cloud, running as a responsive web app on desktops, laptops, tablets, or smartphones.

Results: Sixteen health facilities from five cross-border sites in Kenya, Tanzania and Uganda that are participating in the cross-border health unit (CBHU) model have profiled mobile cross-border populations linked to services. The data is utilized by respective CBHUs during joint cross-border monthly meetings to enhance structured collaboration and inform discussions on cross-border service delivery to enhance access to services by mobile and cross-border populations.

Conclusion: There is need for EAC partner states to harmonize data collection tools and profile mobile and cross-border populations to provide timely data on demand and access to cross-border health services. A cross-border digital health platform building on the CBHU tools and database will enhance access to data and strengthen structured collaboration between EAC partner states to improve service delivery for mobile and cross-border populations.
Abstract

HIV Epidemic Control: Evaluation of Referral System in Nasarawa State

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Background: The burden of HIV infection in Nigeria has been enormous since the beginning of the epidemic. Epidemic control is the global focus at the moment and the Joint United Nations Program on HIV/AIDS brought about the 90-90-90 strategy to achieve this. The development of an effective and structured referral system operating through efficient institutional and community linkages is crucial in achieving the UNAIDS vision. This study therefore evaluates the referral process between HIV-screening center and Healthcare facilities in Nasarawa State, Nigeria.

Methods: This is a descriptive cross-sectional study where details of diagnosed and referred clients between June and December 2018 were extracted from screening sites and traced to hub health facilities in order to know the outcome of the referral. Thirty-eight randomly selected HIV-positive clients and thirteen healthcare workers in one comprehensive health facility were interviewed on barriers to successful referral system. Data was analyzed using STATA, proportion of completed referral was gotten and a frequency distribution was used to obtain the common barriers to complete referral.

Results: Among the 56 research clients that were newly identified and referred, 42 (75%) successfully arrived at the Hub Health facilities and were commenced on anti-retroviral therapy. According to HIV-positive clients, the common barriers of successful referrals were stigmatization (80%), poor communication between the referring HIV-screening centers and hub health facilities (60%) and fear of the unknown (40%). Additionally, the barriers identified by health workers were poor communication between the referring HIV-screening centers and hub health facilities (80%), knowledge gap about the disease process (70%) and lack of transportation-fare for the referred clients (60%).

Conclusions and Recommendations: The linkage rate of 75% is not enough to ensure successful epidemic control. Stigma and poor communication between health facilities were identified as common barriers to successful referral and linkages. Proper orientation is required to improve the communication system between the screening centers and hub sites. Awareness and sensitization of stakeholders would address stigmatization while capacity building would bridge knowledge gap of healthcare providers. Therefore, a structured referral system operating through an efficient community linkages is crucial in achieving the UNAIDS vision.

Enhancing capacity of Help line staff for HIV self testing, Is training alone adequate?

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Background: Only 38% of Nigerians living with HIV are aware of their status as at 2018. Nigeria in 2018 decided to operationalize HIV self-testing (HIVST) as a strategy to improve HIV case identification. The national HIV helpline is positioned as critical to operationalizing this strategy. The helpline is to provide adequate information on HIVST, pre & post-test counselling, referral and linkages. Thus the National Agency for the Control of AIDS (NACA) collaborated with UNICEF to build the capacity of staff of the National Call Center on HIV & related Diseases on certain domains of HIVST. The objective of this abstract is to review the impact of this exercise and discuss its relevance to the success of HIVST strategy.

Materials & Methods: This was a paired cross sectional survey before and after training. Knowledge was assessed in 10 questions along key domains on HIVST including - biology of HIV, mode of transmission of HIV, benefits on HIVST, procedure for HIVST, referral and linkages and counseling on HIV risky behavior. A score of 10 was assigned to each question. We assessed difference in scores using the paired T-test.

Results: Thirty people participated but 26 completed both pre & post assessments. At baseline, biology of HIV had the highest number of correct responses (100%) while HIVST procedure had the least number of correct responses (33%). There was marked improvement in the respondents’ knowledge of HIVST procedure with a mean difference of 5.38 which was statistically significant (p=0.032). There however was no question in which all participants responded correctly following the training exercise.

Conclusion: The National Call Center on HIV & related Disease has a national reach thus it is critical that its staff have adequate knowledge on all aspects of HIV/AIDS. The training exercise helped significantly but could not push knowledge improvement to 100% in any domain. Therefore there is the need to supplement such training exercise with job aids and cue cards to further strengthen staff knowledge base and ensure adequate standard responses at all times.
Cluster coordination meetings (CCM): a platform for health system strengthening in a resource limited setting


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Background: 3.2 million Nigerians are living with HIV (PLHIV) with only 30% currently on treatment. A key factor responsible for this is a weak health system. The government-supported HIV programme adopted the cluster approach within local government areas. Health facilities providing HIV services are divided into one Hub and several Spokes with the aim of strengthening formal links between lower and higher level health facilities and the community. Each cluster conducts cluster coordination meetings (CCM) monthly. The meeting is a platform for reviewing progress of the programme and facilitating support for implementation. Participants include HIV service providers, State Ministry of Health (SMOH), representatives of People living with HIV and local government officials. This study intended to assess the functionality of CCM as adopted for the programme in Taraba State.

Method/Description: Taraba State supported sites are grouped into 14 clusters. The monthly meetings of 6 clusters were assessed using a checklist of 24 questions to determine the category of the participants and the outcome of the CCM versus expectations. Each question had two possible outcomes, Yes (1) or No (0). Scores for each section was collated and compared with expected score. Stakeholders were also interviewed.

Result/Lessons Learnt: Attendance at clusters was an average of 53%. Attendance from the local government office and community stakeholders were very low while that from the SMOH and facilities were high. Poor attendance was attributed to inadequate communication on meeting schedule and funding of participants transportation. The coordination of the meetings was designed to be dependent on the SMOH but now meetings are coordinated by facility members showing ownership. 88% of the SMOH representatives in the clusters were aware of the expected activities and 80% of expected activities were being conducted at the clusters.

Conclusion: CCM are functioning as designed for the programme in Taraba State. It is gradually evolving to meet the needs of the clusters in the state which can further contribute to the sustainability of the model. In the phase of dwindling funds, the facility members use the platform for updates and feedback on programme implementation, submission of programme data, distribution of commodities and step-down training. The study however shows attendance levels far below expectation which needs to be promptly addressed.

Health System Strengthening: Identifying the funding gaps in HIV/AIDS service delivery in Lagos State, Nigeria.

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Background: Strengthening Health System for an effective HIV/AIDS response by optimization of funds across the six building-blocks of Health System (HS)- Service Delivery, Health Work force, Medical-Products, Health Information Systems, Health Financing and Leadership & Governance have a strategic role to play in strengthening of the general HS and the eradication of HIV/AIDS. While the increased attention being given to HIV/AIDS funding has focused on service delivery and Health Work force, it is worth noting that the fight against HIV/AIDS will not be won if other components of HSS are not properly funded. The National AIDS Spending Assessments classification (NASA-Classification) system developed to strengthen health systems, classifies three major sources of funding for HIV response which are, Public source of fund (Government), Private source of fund and International source of fund (bilateral and multilateral government), while other sources are classified as subclass.

The objectives of this paper is to assess the proportion (%) of funds (International, Public and Private) across the 6 building-blocks of HS and to examine the extent in which all these building-blocks were optimally funded.

Methods: National AIDS Spending Assessment Resource Tracking Tool (NASA-RTT) was used to examine financial data on HSS submitted to Lagos State AIDS Control Agency, when the state conducted the State AIDS Spending Assessment (SASA) 2016-2017 conducted in 2018, collecting data from over 40 institutions in Lagos State, Nigeria.

Result: Of the average proportion (%) of money expended combining the 3 sources of funds for HIV/AIDS according to the 6 building-blocks of HSS, Health-Service Delivery accounted for the vast majority of funds (73.37%) expended, while Medical-Product and Health-Workforce accounted for 12.65% and 12.16%, little or no priority was given to Health-Information System, Health-Financing and Leadership & Governance which accounted for a meagre 1.01%, 0.77% and 0.04% respectively of the total expenditure. It was observed in a further break down of the proportion (%) of funds by the three sources of fund that the international source of funding was the only source of fund for leadership and governance which was 0.04%. We also observed public fund contributed 1.02%, private 0.50% and International 1.50% to the total amount of money expended on health information system, while for Health-financing, public fund was 0.41%, private 0.85% and International 1.06%.

Conclusion: While it was observed that only the international funding source contributed funds to the six building blocks of the HS with a meagre amount for Leadership and governance with the public and private sources of funds contributing none. Our findings therefore argue that more funds should be expended on other aspects of HSS, particularly Health-Information System and Leadership & Governance which provides the basis for policy and regulation of all other HS so as to help sustain the gain made in other components, bringing about research question “how
Abstract

Background: HIV testing is only effective and efficient if all individuals diagnosed with HIV are subsequently initiated on HIV treatment. With an adult HIV prevalence of 14.6%, Zimbabwe is committed to the UNAIDS 90-90-90 global fast track targets. However, linkage between testing and treatment accounts for the greatest ‘leakage’ across the HIV service cascade. The shortage of human resources for health (HRH) has been identified as a major obstacle to the scale up and quality of HIV services in Zimbabwe. Our objective was to examine the effect of HRH support for PLHIV’s access to quality and sustained HIV treatment.

Methods: purposive selection of 27 high burdened health facilities in five districts of Manicaland province were provided HRH support (OI/ART nurses and primary care counsellors) in November 2016. An assessment was conducted in January 2018 at five facilities. Retrospective cohort data of adults (15≥ years) newly diagnosed HIV positive at the health facilities from July 2016 to September 2017 was abstracted and analysed descriptively using STATA v12. Nurse in charge perspectives were sought qualitatively to understand observed trends.

Results: General increasing pattern in linkages to HIV treatment from a low of 56% (99/177) from July-September 2016 to 72% (138/193) in January-March 2017. This further increased to an average of 81% and 82%, for April-June and July-September 2017, respectively. Greatest performance increase were seen at high volume facilities, where additional staff allowed for increased testing and treatment initiation in multiple service entry points. The improvement in linkages to treatment were attributed to: consistent availability of dedicated staff for HIV treatment services; improved efficiencies in the flow of clients in need of treatment after testing HIV positive; reduction in waiting times of the newly diagnosed clients to access counselling and initiate treatment and reduction of missed opportunities as staff was available to adequately provide information and quality counselling for clients.

Conclusions: Findings demonstrate that supporting HRH in low resource settings which are often overburdened is critical in contributing to Zimbabwe’s goal to ‘Treat All’ PLHIV with HIV lifesaving antiretroviral therapy after diagnosis. The evidence of improved linkages to HIV treatment indicate that the HRH support holds much promise for achieving the UNAIDS 90-90-90 targets specifically at high volume facilities with multiple service entry points for HIV diagnosis. Although the findings are subject to limitations including the lack of indicators measuring the quality and efficiencies reported, it demonstrates the importance of adequate supply of qualified, responsive and accessible HRH to provide the required HIV services. Findings have been disseminated and used to prioritise HRH placement at high volume facilities in Zimbabwe.

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Human resources for health increases linkage between HIV testing and treatment in Zimbabwe

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System Approach – Paradigm shift in health care access at the drop in centres

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Background: Achievement of global, regional, country, county, local areas and community health care needs towards universal health care requires paradigm shift in addressing system issues related to healthcare. WHO (2007) identified six building blocks which are essential to ensuring an interrelated, interconnected and an integrated system which address specific needs of each population health which contribute to overall attainment of universal healthcare (UHC). While attainment of UHC is key there is need to focus all the population in the attainment of this goals thus the need to inclusively involve Key Populations(KP) in ensuring the goal and objectives are met. Healthcare is an open system with a lot of interactions between the external and internal environment. It determines the output, impact and outcome of the system hence achieving targeted goals especially for KP towards attainment of 90-90-90 goal of HIV Prevention

Materials and Methods: An observation across Global Fund Supported KP Drop In Centres (DIC) with interest on service delivery, medical products, health information, health financing, governance, human resources and health infrastructure across 21 dices between a period of Jan 2018-December 2018.

Results: Interaction between all the health system building blocks within the 12 months’ period demonstrated a significant increase to the number of key population accessing healthcare services. This moved along with strengthening of the link between service uptake, access, reliability, coverage, medical products, policies, financing, information and infrastructure improved significantly

Conclusion: System approach to healthcare delivery is a model to enhance and ensure uptake of services towards attainment of Global, regional and country goals is achieved. The building blocks enhances access to quality services by the Key Population hence improving service uptake.
Prevalence and correlates of HIV and syphilis infection among female sex workers in four districts of Zambia: profiling co-occurring epidemics to inform prevention and treatment strategies

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Background: Female sex workers (FSWs) are at heightened risk of acquiring HIV and other sexually transmitted infections (STIs), but efforts to characterize disease prevalence and risk factors are hampered by recruitment and enumeration challenges. In Zambia, existing HIV and STI prevalence estimates for FSWs have been historically obtained from nationally representative household surveys and other studies restricted to specific geographic settings and smaller sample sizes. These data sources are inadequate for profiling disease burdens and risk factors at a population level, which is required to inform appropriate policy and programmatic interventions for FSWs. To address these evidence gaps, this study aimed to measure the prevalence of HIV and active syphilis infection, as well as determine risk factors for acquisition and transmission, among FSWs in four districts of Zambia.

Materials & 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 Livingstone (n=498), Lusaka (n=497), Ndola (n=496), and Solwezi (n=495) districts. Eligible FSWs completed an in-person behavioral questionnaire, proceeded by voluntary HIV and syphilis counseling and testing. Blood specimens were collected to confirm HIV and active syphilis infection for participants screening positively via on-site dual rapid testing. Pooled and site-stratified seroprevalence estimates and 95% Confidence Intervals (CIs) were calculated and weighted using the Giles Estimator, which adjusts for recruitment design effects using prior site-specific population estimates. Bivariate and multivariable logistic regression was conducted to identify socio-demographic and behavioral correlates of HIV and active syphilis infections in the final sample (N=1,986).

Results: Pooled HIV and active syphilis prevalence estimates across study sites were 49.7% (CI: 47.5–51.9%) and 19.4% (CI: 17.7–21.3%), respectively. Prevalence estimates for HIV and syphilis, respectively, were highest in Livingstone (53.0%, CI: 48.2–57.8%) and Solwezi (31.3%, CI: 26.8–35.8%). HIV and syphilis infection were individually and significantly (p<0.05) higher among FSWs who were 35 years or older, formerly married, did not attend/complete primary school, and lived in urban health facilities (The Chantal BIYA Foundation's Mother Child Centre (Chantal BIYA's foundation , Yaounde, Cameroon, 1Chantal BIYA International Reference Centre for research on HIV/AIDS prevention and management, Yaounde, Cameroon, 2Faculty of Medicine and Biomedical Sciences, University of Yaounde I, Yaounde, Cameroon, 3National HIV Drug Resistance Working Group, Ministry of Public Health, Yaounde, Cameroon, 4Faculty of Health Sciences (FHS), University of Bamenda, Bambili, Cameroon, 5University of Rome Tor Vergata, Rome, Italy, 6National Social Welfare Hospital, Yaounde, Cameroon, 7Mother-Child Centre of the Chantal BIYA's Foundation , Yaounde, Cameroon, 8University Health Centre , Yaounde, Cameroon, 9University of Milan, Milan, Italy, 10Mfu District Hospital, Mfu, Cameroon, 11Mbalmayo District Hospital, Mbalmayo, Cameroon, 12Nkomo Medical Centre, Yaounde, Cameroon

Background: Adolescents living with HIV are a key population that are disproportionately affected by the epidemics and remains largely ignored in evidence-based interventions. Of note, the high mortality rate among HIV-infected adolescents might be favoured by poor treatment response and HIV drug resistance (HIVDR) emergence, which prompt the need for identifying HIVDR associated-factors in order to implement corrective measures. We therefore sought to evaluate program quality indicators (PQIs) of HIVDR among HIV-infected adolescents receiving antiretroviral therapy (ART).

Methods: A study was conducted in the Centre region of Cameroon among adolescents (10-19 years) receiving ART in two urban health facilities (The Chantal BIYA Foundation’s Mother-Child Centre, the National Social Welfare Hospital) and in three rural health facilities (Mfu District Hospital, Mbalmayo District Hospital and Nkomo Medical Center). Using ART registers, patient medical records and pharmacy records, data were abstracted for seven PQIs: “on-time drug pick-up”; “retention in care”; “continuous drug supply”; “dispensing practices”; “viral load coverage”; “viral suppression” and “adequate switch to second-line”. Performance in PQI was interpreted following the...
WHO-recommended thresholds (desirable, fair or poor performance); and p<0.05 was considered significant.

Results: Among 967 adolescents (888 urban versus 79 rural) registered in all the clinics, data were available for 554 (323 in MCC and 221 in NSWH) in the urban and all 79 in the rural sites. Performance in the urban versus rural settings were respectively: “on-time drug pick-up” varied significantly (79% and 46%, p=0.00000006); “retention in care” was fair in urban settings (80% and 72%, p=0.17); “continuous drug supply” was poor in both sites (92% and 50%, p=0.004); “dispensing practices” was desirable (100% and 100%, p=1.000); “viral load coverage” was fairly acceptable in the urban settings (84% and 37%, p=0.0001); “viral suppression” was poor (33% and 53%, p=0.08); “adequate switch to second-line” was 35.3% and 42.1%, p=0.68.

Conclusion: Among adolescents on ART in Cameroon, dispensing practices are generally standard following the national ART guidelines. Adherence to ART program and viral load coverage are better in urban settings. However, in both urban and rural settings, frequent pharmacy stock outs, poor viral suppression and inadequate switch to second-line are driven factors of HIVDR-emergence. These driven factors of HIVDR-emergence in adolescents call for public health actions to improve transition towards adult care.

Viral Load Monitoring among FSWs enrolled in the LINKAGES Project in Malawi: Progress, challenges, and opportunities

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Background: Improved access to viral load monitoring is key in tracking progress toward the third 90 target. We present the results of efforts to improve access to viral load monitoring among female sex workers (FSWs) in Malawi under the USAID- and PEPFAR-supported LINKAGES project implemented by FHI 360.

Methods: FSWs were reached and offered HIV testing services (HTS) through various community-based approaches, including outreach and HTS at drop-in-centers (DICs). All HIV-positive FSWs were then linked to and enrolled in HIV treatment, including treatment at a LINKAGES-supported DIC. Beginning in October 2017, LINKAGES introduced intensified viral load monitoring. Peer navigators created demand for viral load testing at community hot spots, while health care providers at the facilities counseled FSWs who were eligible for viral load testing to be tested. At the facilities, case management tools and a standard operating procedure were developed to standardize processes and understand unmet need for viral load testing. FSWs were offered escorted referrals to viral load testing and reminders were provided at support group meetings. We compared the proportion of FSWs who accessed viral load testing during the 12 months before and after the introduction of intensified viral load monitoring in LINKAGES sites in Lilongwe, Blantyre and Mangochi.

Results: In the 12 months (October 2016–September 2017) before intensified viral load monitoring, 44 FSWs accessed viral load testing and 33 of the 44 FSWs (75%) had suppressed viral load. During the 12 months (October 2017–September 2018) of intensified viral load monitoring, 515 FSWs accessed viral load testing. Of these, 457 (82%) received their results and 426 (93%) had suppressed viral load.

Conclusion: The results illustrate the feasibility of increasing access to viral load testing through simple innovations and achieving viral suppression among key populations, including FSWs. More strategies are needed to ensure that FSWs have continuous access to viral load monitoring, especially those who are mobile or receiving treatment outside of the LINKAGES catchment area.

Understanding the HIV Pre-Exposure Prophylaxis Cascade: Evidence from High Risk Populations in Uganda.

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Introduction: Uganda has made considerable progress towards implementation of accelerated efforts to end the AIDS epidemic by 20201. In 2017, the Ministry of Health adopted Pre-Exposure Prophylaxis (PrEP) as a key biomedical HIV prevention strategy for individuals with substantial risk of HIV infection. The National guidelines recommend oral PrEP for KPs including sex workers (SWs), transgender (TG), men having sex with men (MSM), people who inject drugs (PWIDs) and persons in prison (PP). The guidelines further expand eligibility to include priority populations such as discordant couples (DCs), adolescent girls and young women (AGYW), fisher folks (FFs), persons in prison (PIP), truckers and migrant workers (MWs). Currently, PrEP is provided to these sub populations at the implementing sites as part of the minimum HIV prevention package for KP/PP. Since August 2017, PrEP has been implemented in a phased approach, beginning at sites with the highest key and priority populations (KP/PPs) burden. We assessed uptake, adherence and retention on PrEP, as well as HIV transmission among the target groups.

Materials and Methods: With support from the Center for Disease Control and Prevention, Makerere University School of Public Health designed an electronic web-based PrEP tracker and dashboard to provide real-time data for closely monitoring the program at five implementing sites in the central and midwestern regions of the country. A retrospective cohort analysis of data of KP/PP enrolled on PrEP since between October 2017 and October 2018 at the five implementing sites was performed. Data were extracted from the PrEP tracker. We calculated the percentage of eligible KP/PPs who accepted to take PrEP, those who were initiated on PrEP, those who made one follow-up visit post-PrEP initiation and the percentage of those who seroconverted.
Predictive factors of hepatitis B virus infection related to occurrence of hepatocellular carcinoma in Cameroonian patients

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Background: Worldwide, the development of hepatocellular carcinoma (HCC) is known to be influenced by several hepatitis B viral factors including viral loads, genotypes and genetic variations. Identification of risk factors is important for HCC surveillance. However, the effect of hepatitis B viral factors on HCC development remains poorly known in the Central Africa region. The present study aims to identify the role of hepatitis B virus (HBV) genotypes, basal core promoter (BCP) and precore (PC) mutations on HCC development in Cameroonian patients and to produce an overall landscape of nucleotide changes affecting HBV DNA during infections leading to HCC.

Methods: We performed a case-control study on patients with HBV-related HCC and matched controls without HCC but with chronic HBV infection. Genotypes and mutations spectrums were evaluated using a nested amplification and sequencing analysis focused on two HBV regions (BCP and PC) typically altered during hepatocarcinogenesis. All the analyses were performed using SPSS 16.0 statistical software. Categorical variables were compared applying Fisher Exact or Chi square tests and the odds ratios (ORs) were calculated using a conditional logistic regression analysis.

Results: Phylogenetic analysis revealed the co-circulation of HBV quasisubgenotype-A3 (QS-A3) and E in both groups. Interestingly, HBV QS-A3 was significantly more prevalent in patients with HCC (80.0%) than in controls (31.9%, P=4.5 E-7, OR=11.5, 95%CI 3.8-38.5) whereas the reverse was true for genotype E. Regarding HBV variations, mutation spectra and nucleotide changes were significantly more polymorphic in HCC than in controls patients. Remarkably, HCC patients infected with HBV QS-A3 were significantly more mutated compared to patients infected with genotype E (p<0.0001). In addition, G:C>T:A transversions, generally associated with aflatoxin B1 exposure in tropical regions, were significantly more prevalent in HCC patients infected either with HBV QS-A3 or HBV genotype E (P=2.2 E-05) when compared to controls. Mutations C1766T (BCP) and G1896A (PC) were found only in patients with HCC patients with the respective odds ratios, 95% confidence interval and p-values of 1.55 (95%CI : 1.09-2.2 ; p=0.007) and 2.13 (95%CI : 1.3-3.52 ; p<0.001).

Conclusion: Our results indicate that patient infected with HBV QS-A3 or with selected variants affecting BCP or PC mutations are at increased risk to develop HCC. In addition, viral genomes isolated for patients with tumor are more heavily altered than those found in controls individuals. Preferential targeting of these patients for antiviral treatment is of paramount important to reduce future HCC incidence in Cameroon.

Scale up of HIV services for KPs using drop in centres and community ART model in North Central Nigeria: Heartland Alliance International Benue experience

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Background: Nigeria is the most populous black nation in Sub-Saharan Africa and has the second largest burden of HIV globally with a prevalence of 3.0%. Programming for key populations(KPs) in resource limited setting can be very challenging with the attending harsh government policies meted on some of these KPs. About 60% of new infections in the Benue state occur among low risk heterosexual with the female sex workers having 37% prevalence and other sub populations less than 1%. Our study aims to evaluate the sub populations prevalence in high transmission hotspots using our one stop shop and community ART models.

Methods: Model of targeted testing was developed driven by the various sub population prevalence. Mapping of HIV transmission hotspots were done using information from previous testing data. Clinic teams provided direct patient care at the one stop shops and communities where hotspots are located. Retrospective cross sectional desk review of program data from October 2017 to September 2018 was done. Data was analysed using descriptive, poisson logistic regression and t-test on SPSS version 23.

Results: A total of seven transmission hotspots in the state were identified with 16,114 KPs (FSW, MSM, PWID and OVPs) tested at the hotspots and one stop clinics. HIV prevalence in the MSM
sub group is 22.2% as compared with the FSW with 5.1%. Statistical significance was observed between the average number of female positive PWID compared to their male counterpart (t=3.565, df=22, p<0.05) which revealed also the average number of positive male PWID (M=13.58) is more than that of their female counterparts (M=3.50). Using the poisson logistic regression, MSM as compared with FSW were expected to have a rate 0.19 times significantly lower for their level of viral load suppression (IRR=0.192, C.I=0.143-0.260, P<0.05). Male PWID as compared with female were expected to have rate 2.25 times higher for their viral suppression (IRR=2.25, C.I=0.143-0.260,p<0.05). Other vulnerable male partners compared to the female were expected to have a rate 3.11 times greater for their level of viral suppression (IRR=3.106, C.I=1.597-6.043, p<0.05).

Conclusion: Our findings showed that with increased scale up of HIV services, MSM subgroup have the highest prevalence among the other KP groups. Gender is strong determinant in the viral load suppression levels of these subgroups skewing towards the male. There is need to increase case findings of the sexual network of KPs in achieving the first 90 goal. Further research, possible qualitative to target other high risk sexual networks would be needed in resource limited settings.

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Contexte: En Afrique de l’Ouest la prévalence du VIH est en baisse constante chez les Travailleuses du Sexe (TS) depuis les 5 dernières années. Il est donc important de disposer de critères simples, pratiques et efficaces pour optimiser d’une part la recherche des cas VIH qui doivent être arrêtés aux soins et d’autre part les sous-groupes des TS VIH négatifs les plus à risque pour leur offrir prioritairement les interventions de prévention. C’est dans ce cadre que nous avons réalisé la présente analyse factorielle pour développer et valider un score de risque VIH chez les TS de la cohorte ARNS 1222 au Burkina Faso.

Méthodes: Nous avons utilisé les données du questionnaire comportemental de la visite d’inclusion de la cohorte ARNS1222 suivie entre 2003 et 2011 à Bobo-Dioulasso. A la visite d’inclusion et lors de chaque visite trimestrielle, ce questionnaire standardisé était administré à chaque TS pour collecter les caractéristiques sociodémographiques et comportementales. Lors de ces visites, les TS bénéficiaient d’un examen clinique et de tests biologiques (VIH, Herpès Simplex Virus de type2). Ce questionnaire comportemental comportait plus de 70 questions. L’analyse factorielle des données mixtes et la classification des variables a permis d’identifier les redondances dans ce questionnaire et de retenir les variables les moins corrélées. Une analyse factorielle discriminante a ensuite été utilisée pour évaluer le taux de bonne prédiction du questionnaire réduit pour l’infection VIH à l’inclusion et la séroconversion VIH durant le suivi dans la cohorte ANRS1222.

Une validation croisée a également été effectuée en utilisant ce questionnaire réduit pour prédire l’infection VIH à l’inclusion, et la séroconversion HSV-2 dans une autre cohorte de TS qui a été suivie à Ouagadougou entre 2009 et 2011.

Résultats: L’âge médian des TS à Bobo-Dioulasso était de 26 (IQR 22-34) et de 21 ans (IQR 19-23) à Ouagadougou. La prévalence du VIH était de 35,66% et 19/487 TS ont séroconverti pour le VIH à Bobo-Dioulasso. La prévalence du VIH était de 7,73% et l’incidence de 0/100 personnes-années à Ouagadougou. L’incidence de HSV-2 y était de 10.2/100 personnes-années. Le questionnaire comportemental de la cohorte ANRS1222 a été réduit à 3 variables qui : le nombre de clients par semaine, l’âge de la TS et niveau d’éducation (aucun = 0, primaire = 1 et secondaire ou supérieur = 3). Les coefficients linéaires associés à ces variables étaient de: 0,006, -0.130 et -0.035 respectivement. Au seuil moyen de 3,3 ce scoring permettait de bien prédire l’infection VIH chez une TS à l’inclusion dans les cohortes de Bobo-Dioulasso et de Ouagadougou à 65% et 66% respectivement. Ces trois variables permettaient également de bien prédire la séroconversion VIH chez les TS à Bobo-Dioulasso à 66% et la séroconversion HSV-2 à Ouagadougou à 82%.

Conclusion: Dans le contexte de ressources limitées, ces trois variables et notre scoring peuvent être utilisés pour optimiser la recherche des cas VIH chez les TS et d’améliorer les deux premiers 90 de la cascade des soins VIH.

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Burden of HIV and other STIs among transgender, gay, bisexual and other men who have sex with men (MSM) in Nairobi, Kenya

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Background: Gay, bisexual and other men who have sex with men are a key target population for HIV prevention and control in Kenya. Whilst male sex workers are the focus of ongoing research in Nairobi, HIV/STI prevalence has not been assessed among the broader MSM population since 2010. This study set out to assess prevalence of HIV and other STIs representative of all MSM in Nairobi.

Methods: Respondent-driven sampling (RDS) was employed to recruit 618 MSM. Eligibility criteria were age 18+, male gender (birth or currently), Nairobi residence and reporting of consensual oral or anal intercourse with a male partner in the
last year. Consenting participants undertook a computer-assisted survey including current experience of anogenital STI symptoms (urethral or rectal pain, discharge or ulceration). Participants tested for HIV (Determine®, First Response® & Xpert® HIV-Qual, syphilis [RPR/TPHA], hepatitis B and C [HBsAg and HCV ELISA], urine and rectal chlamydia (CT) and gonorrhoea [GC [Xpert® CTNG]]. Associations with prevalent HIV were assessed using multivariate logistic regression. Frequency and association measures were adjusted for RDS sampling using the RDS-II method.

Results: Only three participants declined rectal swabs, one completed HIV test only, and one declined all investigations. HIV prevalence was 26.4%(22.6-30.6) including 0.5%(0.2-1.5) detected solely by 4th generation testing. Prevalent HIV was independently associated with age, lower education, Kenyan birth, transgender identity and exclusive sex with men in the past 3 months (table). Prevalence of syphilis was 0.8%(0.3-1.9); hepatitis B 4.4%(3.4-6.9); hepatitis C 0.5%(0.2-1.5). 6.4%(4.3-9.0) of participants reported current symptoms consistent with urethritis. Prevalence of urethral GC and CT were 4.4%(2.9-6.7) and 7.3%(5.2-10.3) respectively. 8.6%(6.3-11.6) of participants reported symptoms consistent with proctitis. The prevalence of rectal GC and CT were 13.3%(10.4-16.8) and 8.7%(6.7-11.2) respectively. Overall, only 17.7%(9.2-31.2) with urethral CT/NG and 17.8%(10.7-28.0) rectal CT/NG were symptomatic.

Conclusion: HIV prevalence among MSM remains considerably higher than among other men in Nairobi, whilst the prevalence of syphilis and hepatitis C are relatively low. Chlamydia and gonorrhoea infections, particularly rectal, are common and frequently asymptomatic. Increasing the capacity of MSM-friendly and community-based providers to offer CT/NG screening should be prioritised.

Performance of HIV Risk Assessment Tools (HRAT) Used Among Female Sex Worker: Experience in Malian Rural Setting

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Background: To improve efficiency to achieve the first 90 of UNAIDS goals, the USAID and PEPFAR-supported LINKAGES program developed an HIV Risk Assessment Tool (HRAT) to identify people at high-risk for HIV. This approach contributes to improve HIV case finding and rapid ART initiation. We conducted an analysis of program data to determine HRAT performance when administered to female sex workers (FSW) in a rural setting in Mali. The aim of this analysis is to propose improvements to the HRAT with less risk elements and strong HIV case detection. A simplified HRAT will improve implementation on a routine basis on the field.

Method: Program activities were conducted in Segou region: Tominin, San, Bla, Markala and Macina. The HRAT risk score is constructed by adding one point for the presence of each of six risk elements: age < 25, duration in sex work < 2, number of sexual intercourse per week >= 20, sexual/physical violence experience, drug/alcohol use during sexual intercourse, and no condom use with boyfriend during last sexual intercourse. HRAT was administered to all FSWs reached during mapping activities. HIV risk profile (score) was classified as: Low (0), Middle (1-4) or High (5-6). HIV test was conducted using the national algorithm to confirm FSW’s status. The associations between risk factors and HIV status were estimated using a logistic regression. We constructed the ROC curve (sensitivity vs. 1-specificity) to assess different classification cutoffs for the risk score. A new HRAT score was constructed using only significant factors.

Results: Data form a total of 508 FSWs was collected for this analysis. HIV risk profile was: low (2.4%), middle (94.3%) and high (3.3%). HIV case finding was 9.8%. HIV prevalence was respectively 8.3%, 9.8% and 11.8% among low, middle and high HIV risk profile. ROC curve for each additional point in the HRAT presented as score (sensitivity, 1-specificity) were: 0 (0, 0), 1 (0.04, 0.03), 2 (0.26, 0.16), 3 (0.50, 0.47), 4 (0.89, 0.84), 5 (0.98, 0.98) and 6 (1.1). Four risk factors were significant at p<0.10: Age > 25 years (OR: 4.2 [1.7-10.2]), less than 2 years of sex work (OR: 1.7 [0.9-3.3]), experience of violence (OR: 2.9 [1.2-6.7]) and not using a condom (OR: 2.8 [1.3-5.9]). A new HRAT score was constructed using these four factors. ROC curve values for the new HRAT was: 0 (0.06, 0), 1 (0.48, 0.20), 2 (0.84, 0.62), 3 (1, 0.97) and 4 (1, 1).

Conclusions/Next steps: HRAT use among FSW in Malian rural setting is feasible. Statistical analysis in this population identified 4 risk elements with a reversed scoring for age as a risk factor as compared to the original HRAT scoring. The proposed new score had better risk identification characteristics than the currently used HRAT. The new proposed tool would likely improve HIV case identification.

Comprehensive HIV knowledge and uptake of treatment among female sex workers in four districts of Zambia: Lessons for attaining the 90-90-90 targets

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Background: In 2017, an estimated 18,000 females were estimated to be engaged in sex work in Zambia, and about half (48.8%) of them were HIV positive. To achieve the 90-90-90 targets, the government of Zambia introduced the ‘test and treat’ model in 2015 to increase uptake of HIV testing and treatment. Current evidence, however, suggests limited uptake of HIV testing and treatment services among female sex workers (FSWs). This study measures the association between comprehensive HIV knowledge and uptake of antiretroviral treatment (ART) among FSWs in Zambia.

Materials and Methods: This study focused on FSWs in four districts (Ndola, Lusaka, Solwezi and Livingstone), with a final sample size of 1,986. Respondent-driven sampling was used to recruit eligible participants, and face-to-face behavioural interviews were conducted with eligible FSWs. HIV knowledge
Abstract

was assessed from 13 questions measuring knowledge of basic HIV knowledge transmission and prevention modalities. Responses to each item were aggregated into a continuous knowledge index, with higher scores (range: 0–13) corresponding to higher knowledge. Descriptive statistics were calculated to assess the distribution of variables across study sites, and multivariable logistic regression was conducted in STATA to measure the association between comprehensive HIV knowledge and ART uptake among FSWs self-reporting HIV-positive status (n=435).

Results: Across study sites, a majority of FSWs were younger than 35 years of age (64.7%), formerly married (66.5%), and had less than a secondary school education (79.5%). HIV knowledge was high in the sample, with FSWs, on average, answering over 10 of 13 items correctly (median score: 11, range: 10–12). Most (72.6%) of FSWs living with HIV were currently on ART, and this did not vary significantly across study sites. Multivariable regression analysis – controlling for age, marital status, educational attainment, study site, and whether sex work was the participant’s primary source of income – revealed a statistically significant relationship between comprehensive HIV knowledge and ART uptake, with a 17% increase in the odds of current ART use for each additional unit increase in HIV knowledge comprehensive knowledge score (Adjusted Odds Ratio = 1.17, 95% Confidence Interval: 1.01–1.34).

Conclusions: Comprehensive knowledge was significantly and positively associated with ART uptake among sampled FSWs, and this relationship was not confounded by other covariates hypothesized to impact current ART use. These findings reinforce the potential role of educational interventions in shaping risk perceptions and promoting health-seeking behaviours, including engagement with HIV care and treatment services. While HIV knowledge is just one of many factors influencing outcomes along the HIV clinical cascade, achieving the ‘second 90’ could involve efforts to bolster HIV knowledge among underserved FSWs experiencing barriers to accessing HIV care and treatment.

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Index Case Testing is an effective case detection approach among the spouses and regular partners of men who have sex with men: Experiences from systematic and community-centric implementation in Andhra Pradesh and Maharashtra, India

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In India, the HIV prevalence among Men having Sex with Men (MSM) is reported as 2.69%; and an estimated 35.2% of HIV-positive MSM remain undiagnosed. Multiple and innovative approaches are required to close this gap. Index case testing is an evidence-based HIV testing and counseling (HTS) approach that is critical to achieve epidemic control by focusing testing coverage to improve diagnosis rates and HIV treatment enrollment. The National AIDS Control Program (NACP) implements HIV interventions for MSM through a Targeted Intervention (TI) program. The LINKAGES India project partners with the NACP to engage MSM who have enrolled themselves in the TI, as well as those who were not reached by TIs, for index case testing. We analyzed case detection among sexual partners of MSM through TI as part of program implementation. LINKAGES is implemented in six high HIV burden districts of Andhra Pradesh and Maharashtra.

In consultation with the government and other stakeholders, community friendly strategies for HIV screening, accompanied referral for confirmatory testing and linkage to ART centres were identified. A standard operative procedure for voluntary index case testing tailored to the local context was developed, adapting the WHO partner notification framework. It broadly included provider or client-initiated assisted partner notification through provider, contract and dual referral methods. A differential approach for MSM based on disclosure of either HIV status, sexuality, both or none were charted out. At the community level, data cleaning and strengthening of denominator of partner testing; and capacity building of outreach team on partner notification, risk mitigation, documentation was completed. Testing was performed through facility-based or community-based testing approaches such as testing at drop in centres or community events. Monitoring and evaluation tools were revised; and supportive supervision was provided.

Of the 784 HIV positive index MSM clients diagnosed during 2017-18, 376 spouses and 72 regular partners were reached through index testing. Overall case detection was 38.97% while it was 53.46% and 5.88% respectively among spouses and regular partners. Across the intervention sites, the case detection was in the range of 0 to 61.29% among spouses and 0 to 25% among regular partners. In Andhra Pradesh alone, positivity among spouses was 53.93%, 61.29% and 56.89 % in Krishna, Guntur and East Godavari districts respectively. In Mumbai district, spouse testing yielded 66.66% positivity. Positivity among regular partners was 0 % in Maharashtra state, while in Guntur district (Andhra Pradesh), it was 25%.

The findings reiterate that index case testing is an effective targeted-testing strategy. Wide variation of in the case detection rate across the geography and type of partners, demands adaptation of the voluntary partner referral framework at community settings, tailored to the local context. Segmenting partners based on differential disclosure by the individual MSM member of either his HIV status; or sexuality; or both; or none would help in designing testing strategies to optimize the uptake of index case testing services. The index case testing approaches may further be enhanced through risk referral network, self-testing and facilitating peer support among the partners of MSM.
Community Health Worker Led ART Delivery (CLAD) improved scheduled antiretroviral drug refill among men who have sex with men (MSM) in an identified HIV clinic, Lagos State, Nigeria.

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Background: Men who have sex with men are underserved and have limited access to quality HIV services. Stigma and discrimination are known predictors of poor linkage to care and retention in care among MSM. To overcome barriers to care, key populations (KP)-friendly community-based approaches have been proposed, which may be more accessible than facility-based HIV care. We implemented Community Health Worker Led Antiretroviral (ART) Delivery (CLAD) model in a community setting to promote drug refill among MSM originally accessing care in a regular HIV clinic, Lagos, Nigeria.

Methods: We implemented CLAD model in a HIV clinic from July to December, 2018. This model involved devolvement of HIV positive MSM on ART to KP friendly community-based organization for their monthly drug refill. In the community, lay healthcare workers refilled antiretroviral for MSM and in addition, offered counselling, symptom check and condoms during drug refill visit. Tools were filled and submitted to technical staff at the facility for medical record update. Peers of MSM were also engaged to provide escort services and collection of drugs by proxy.

Ninety three (93) MSM were initiated on ART in the clinic prior to the CLAD model intervention in July 2018. 24 (25%) of these patients were active in care (picked up drugs within the last 3 months) and 69 (75%) were inactive. Thirty-six (36) patients made up of 24 active patients and 12 patients traced back to care from the inactive group were enrolled into the CLAD model and monitored for 6 months during the intervention period. We assessed adherence to scheduled drug refill appointment pre and post-intervention. A paired T-test was performed to determine the difference between the frequency of scheduled drug refill before and after CLAD model intervention.

Results: The mean age of MSM recruited into the CLAD model was 25 years ± 4.4 SD. There was a significant difference in the mean number of months of drug refill by MSM between the 6 month period prior to the commencement of the CLAD model (M = 1.4 ± 0.7 SD) and after (M = 4.7 ± SD = 1.2); t (35) = 13.3, p < 0.001. This provides evidence that the CLAD model was effective in promoting drug refill among MSM.

Conclusion: The CLAD model was found to be effective in improving drug refill appointment among KP attending a regular HIV clinic. We strongly recommend specialized client-centred approach to improve drug refill among MSM.

Missed opportunity for Pre-Exposure Prophylaxis (PrEP) among Post-Exposure Prophylaxis (PEP) users practicing risky sexual behavior at a large urban clinic in Uganda.

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Background: Uganda Ministry of Health recommends PrEP as an effective additional biomedical prevention option for HIV-negative people at substantial risk of acquiring HIV infection and PEP as an emergency ART treatment to reduce the likelihood of acquiring HIV after potential exposure taken within 72 hours. However, many people at substantial risk of HIV infection who would benefit from PrEP are using PEP. We examined the unmet need for PrEP among people who practice risky sexual behavior but seek for PEP.

Methods: Carried out a retrospective review of PEP records at the Infectious Diseases Institute (IDI) clinic from January 2013 to May 2018. Mainly extracted patients’ demographics (sex, age, occupation, marital status); PEP related variables (nature of exposure, HIV status of source person, patients’ eligibility for PEP and HIV test results after the exposure incident) and 3) risk sexual behavior practices (unprotected sex with unknown HIV status partner, unprotected sex with infected person). We used descriptive statistics to describe patients’ characteristics using medians (interquartile range, IQR) and frequency distributions and assessed for associations using the chi-square test.

Results: Overall, 469 individuals sought for PEP at the IDI clinic in the study period. The median (IQR) age of clients was 30 (25-32) years, majority were males (60.3%), and not married (57.8%), 1.3% were not eligible for PEP (3- HIV positive; 3-reported to clinic 72 hours after exposure). Of the PEP seekers, 24% (111/469) experienced occupational exposures while majority 358/469(76.3%) non-occupational. Among the clients enrolled for PEP, 153/358(42.7%) were accessing it due to risky sexual behavior practices (97/153(63.4%) unprotected sex with unknown HIV status partner; 56/153(36.6%) unprotected sex with infected person) indicating unmet need for PrEP in the subgroup. We observed a higher percentage of adults- aged above 24 years (45.5%) practicing risky sexual behavior compared to adolescents (29.5%) [P-value=0.022]; however, there were no gender difference by risky sexual behavior practices.

Conclusion: A high proportion of PEP seekers were practicing risky sexual behaviors indicating unmet need for PrEP especially among adults compared to adolescents. The study recommends linking for PrEP for persons accessing PEP indicating engagement in risky sexual behaviors at health facilities.
Abstract

Breaking cultural barriers to reach hard to reach MSM in Ghana. A case-study of Traditional healers and their patients

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Background: The prevalence of HIV among men who have sex with men (MSM) in Ghana is 18.1%, a little over 16 times that of men in the general population which was 1.1% in the most recent Ghana Demographic Health survey. Despite efforts by key population-friendly organizations to reach HIV positive MSM and enroll them into care, some still remain hard to reach. Cultural belief systems and practices such as the preference for traditional healing practitioners over formal health services are often one of the key barriers to HIV service uptake by HIV positive persons, including MSM, in Ghana. In response, Maritime Life Precious Foundation (MLPF), under the USAID Care Continuum project, implemented by JSI Research and Training Institute, rolled out an intervention to reach traditional healers and their patients who are MSM to improve ART initiation among them in the Western region of Ghana. The purpose is to reach hidden traditional healers (TH) who are HIV positive and not on treatment due to belief and practice. This innovative peer-to-peer approach was implemented from January to September 2018 in the Sekondi Takoradi Metropolis (STMA) and Shama districts of Ghana. This abstract presents the outcome of the intervention of TH peer-to-peer counseling approach.

Materials & Methods: The “TH Peer-to-Peer Approach” involved identifying and training TH, who are the leaders/head of shrines, as Lay Counselors (LC). The TH also doubled as a field officer and a peer educator for the project and partnered with other peer educators and case managers to provide STI and HIV testing services (HTS) to other THs and their patients. The TH in turn became the channel to propagate the new knowledge to their patients and also facilitate HTS and retention in care for those who test positive, with the help of a case manager. Data was collected through routine M&E data system of the Care Continuum project. A comparative analysis of pre-and post-intervention data (9 months pre and post) on total TP reached and tested and enrolled into treatment was conducted using descriptive and analytical framework to generate the results.

Results: In all, a total of 15 shrines (9 in STMA and 6 in Shama) were visited. Comparative analysis of the pre- and post-intervention results revealed higher numbers of THs tested, and higher proportion of positive cases and a much higher rate of enrollment into treatment in the post-intervention period. In the 9-month period prior to the intervention (January-September 2017), 29 MSM THs and their patients were reached and tested for HIV through the “door-to-door strategy with 34.5% testing positive and 20% enrolled into treatment. During the period of the intervention (January-September 2018), a total of 147 THs and their patients were tested, of which 58 (39.5%) tested positive. Almost all (98.3%) of the positive cases were successfully enrolled onto treatment.

Conclusion: The use of MSMs who are THs as lay counsellors or peer educators is a feasible and effective way to reach their colleagues and networks.

Constraints and Facilitators of Adherence to Antiretroviral Therapy and Retention in HIV Care by Adolescent HIV Patients in South-Eastern Nigeria

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Background: Adolescents who represent the future leaders have been identified as the age group with the highest and increasing burden of AIDS-related illnesses and death. Previous studies in other countries recorded poor adherence to antiretroviral therapy (ART) and low retention in HIV care. This study, therefore, aimed to assess adherence level of the adolescents with HIV to ART and their retention in HIV care in south-Eastern Nigerian HIV treatment hospitals. Factors affecting their adherence to ART and retention in care were assessed.

Methods: The study employed mixed method with concurrent triangulation. Multistage sampling technique was used to select the HIV treatment hospitals. Relevant data from eligible HIV adolescent folders were collected using a well structured proforma. A face to face in-depth interview with non-adherent adolescents and their caregivers and key informant interview with healthcare staff, using validated questionnaires were conducted in English or Igbo as preferred by the interviewee and audio taped. Notes were taken by the research assistants who were also formally introduced to the interviewee, while the interview lasted. The qualitative data served to complement the quantitative data obtained. Quantitative data were analyzed descriptively using SPSS version 20 (Chicago, IL). Relationship between the major demographic characteristics and adherence were analyzed using Chi square. Quantitative data were analyzed using thematic content approach, guided by the Grameheim and Lundman framework. Responses from IDIs and KIs were systematically read to identify the meaning unit which is a string of the text that expressed a single coherent thought, up to the point that the coherent thought changed. The meaning units were coded using a describing cue related to the content of the meaning unit. Codes concerning the same subject were grouped together into categories. The interview guides were used as a point of departure for grouping information, deductively. Information obtained during the IDIs and KIs were analyzed and merged according to the codes and themes. Original data was reassessed after analysis in order to detect any concepts or information that may be missed.

Results: Out of the 147 adolescents assessed, only 34.7% of the adolescents achieved ≥95% adherence and 72.2% were retained in care within the study period. Adherence level was not affected by gender, age range (10-15 years or 16-19 years) and route of transmission (vertical or horizontal) and was not statistically different in the three states used for the study. Poverty, caregivers’ attitude, psychological influence, stigmatization, lack
of disclosure, inadequate health personnel and lack of motivation to change were major factors that emerged as constraints. Major facilitators to adherence identified were presence of political will, financial assistance, early disclosure, support groups, adolescent clinic and living with HIV positive parents or guardians.

Conclusions: HIV adolescents in south-east Nigeria have a huge challenge with ART adherence. Retention in care by this group could improve further. There is need to develop service delivery interventions to improve adolescents’ adherence to ART and retention in care in Nigeria using identified constraints and facilitators.

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Prevalence and Characteristics of HIV Infection Among Female Sex Workers in Lubumbashi (D.R. Congo)

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Introduction: This study aimed to determine the prevalence and risk factors of HIV among female sex workers (FSWs) in Lubumbashi.

Methods: A cross-sectional study was conducted among FSWs presenting for the first time at the sexually transmitted infections (STIs) clinic of Katuba, Lubumbashi, between April 2016 and December 2017. Information on the participants’ socio-demographic characteristics, sexual behaviors, and HIV serology results were collated and analyzed using a multiple logistic regression to identify factors associated to HIV infection among FSWs.

Results: Information on 1555 sex workers was analysed in this study, the prevalence of HIV was 8.2%. The median age of the participants was 26 years (IQR: 20–34). Of the 127 HIV positive sex workers, 74% have been in the business for two years or less, 97% sell sex as their main income, 74% have more than 5 sexual intercourses per week, 95% reported using condom, 73% reported having history of STIs, 70% reported using alcohol before sex and 97% reported having three or more sexual partners per week. After adjusting for potentials cofounders, Age, Sex work as main income, years of selling sex, condom use, and alcohol use before sex were found to have a significant effect on HIV infection among sex workers.

Conclusion: These findings highlight the vulnerability of FSWs to HIV infection and the necessity of immediate interventions to strengthen HIV prevention through behavioral change strategies and making available Pre-exposure Prophylaxis (PrEP) for FSWs in Lubumbashi.

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Usage du Préservatif Chez les Hommes Ayant les Rapports Sexuels Avec les Hommes a Yaoundé (Cameroun): Mythe ou Réalité ?

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Introduction: Le préservatif est un des moyens efficaces de prévention des IST/VIH au sein de la population générale, et particulièrement des populations clés. Au Cameroun, selon le rapport IBBS 2012, la prévalence du VIH chez les hommes ayant les rapports sexuels avec les hommes est de 44% et 24% respectivement à Yaoundé et Douala. La même étude a révélé qu’au moins 56,1% de HSH à Yaoundé déclaraient avoir déjà eu un symptôme d’IST contre 72,2% à Douala. Selon le système national de surveillance comportemental, 54% de jeunes HSH entretiennent des rapports sexuels anaux non protégés. Nous avons voulu au travers de cette enquête, évaluer l’efficacité du port du préservatif et de déterminer les obstacles liés à sa non utilisation chez les HSH résidant à Yaoundé.

Methodologie: Nous avons mené une étude transversale auprès de 100 HSH âgés d’au moins 21 ans, de Novembre à Décembre 2015, recrutés selon la technique « boule de neige ».

- Dix pairs éducateurs chargés de la mobilisation au niveau de la communauté ont été recrutés au sein de 03 associations identitaires de la ville de Yaoundé.
- La fiche de consentement était obligatoirement signée et les données recueillies par un questionnaire administré en face à face.

Resultats: Au total, 100 HSH ont été recrutés, dont 72% avait un âge compris entre 20 et 25 ans. Les élèves/étudiants représentaient 56% de l’échantillon, 69% étaient biseuxuels. Pour ce qui est du rôle pendant le rapport sexuel, 51% étaient strictement actifs, 45% passifs, et seulement 4% versatils. L’anamnèse révélait que 69% étaient connus positifs à l’infection à VIH parmi lesquels, 75% sous trithérapie antirétrovirale. Au cours des 06 derniers mois, 7% n’avaient du tout pas utilisé le préservatif, 69% l’utilisaient irrégulièrement et seulement 24% l’avaient systématiquement utilisé. Par ailleurs les lubrifiants à base d’eau étaient couplés à l’usage de préservatifs masculins dans 65% de cas. L’intérogatoire a permis de noter que 50% de HSH avaient eu des signes et ou symptômes évocateurs d’IST chez au moins un des 12 derniers mois. Les rapports sexuels « pressés », la perte d’érection, le désir du maintien de la confiance au sein du couple étaient les principales raisons de sa non utilisation.

Conclusion: Cette étude permet de comprendre que l’utilisation du préservatif chez les HSH n’est pas systématique malgré les efforts consentis par les politiques et partenaires dans la prévention du VIH et autres IST. Il est impératif de comprendre davantage les fondements, et les réalités de la sexualité chez les HSH. De nouvelles stratégies de prévention telle la PREP sont absolument nécessaires au Cameroun.
Facility optimization: use of safe spaces to increase access to HIV testing services among MSM in Kisumu County, Kenya

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Abstract

Background: Key populations (KPs) in Kenya have a substantially increased risk of HIV compared to the general population. Though Kenya has embraced the use of safe spaces within drop-in centers (DICs) as a means of providing HIV prevention services to KPs, gaps remain in the centers’ use. The LINKAGES/Kenya program—led by FHI 360 and supported by USAID and PEPFAR—implemented a facility optimization rapid response initiative to enhance DIC attendance in Kisumu County, Kenya.

Methods: Facility optimization is a multifaceted strategy that was piloted at a DIC serving men who have sex with men (MSM) in Kisumu, Kenya. Peer educators (PEs) mobilized their peers daily with each PE assigned a specific day for their peers to access services at the DIC. Contact was made through telephone conversations, social media, and one-on-one interactions at hot spots. At the DIC, KP members were provided with health education and offered HIV testing services (HTS). In consultation with KP members, the DIC implemented thematic days, which included PrEP days, coffee Mondays, and movie Fridays. During these days, a dedicated PE and clinician provided health talks and HTS. Informal interviews were held with MSM to determine reasons for visiting the DIC. Descriptive statistics were used to summarize uptake of DIC services.

Results: From August through September 2018, 15 PEs mobilized 606 MSM to visit the DIC, of whom 582 (96%) received an HIV test—a 74% increase over the number tested at the DIC in the preceding two months. Of those tested, 121 (21%) received an HIV test for the first time. Twenty-four MSM (4%) were newly diagnosed with HIV, representing a four-fold increase compared to those diagnosed in the preceding two months. The majority of the men indicated that theme days, particularly movie Fridays, were a key attraction to accessing the DIC; 30% received an HIV test after watching a movie on Fridays.

Conclusion: Use of safe spaces at the DIC greatly increases access to HTS and identification of HTS-naïve MSM. Community participation plays a key role in uptake of DIC services and should be encouraged in KP programming.

Geographical distribution of key populations in Nigeria- Lessons learnt from Programmatic mapping in 10 states.

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Abstract

Background: HIV prevalence is high amongst key populations (KPs) in Nigeria. HIV prevalence amongst Men who have sex with Men (MSM) is (22.9%), 19.4% amongst brothel-based FSW, 8.6% amongst Non-brothel based FSW and 3.4% amongst People who inject drugs (PWIDs). A ‘mode of transmission study’ revealed that 38% of new infections in Nigeria are attributable to KPs. To ensure KPs receive interventions, we need to determine the distribution and size of this population. To this end, programmatic mapping was conducted in 2018 to provide insight on geographical locations where KPs are found so that targeted HIV interventions can be designed.

Methodology: Three KP groups (FSW, PWID, MSM) were mapped in 10 states covering all LGAs in each state. Programmatic mapping approach which involved two sequential data collection steps referred to as level one (L1) and level two (L2) was adopted. During L1, information was collected from some secondary key informants (KIs) about the geographic locations/spots where KPs congregate, the characteristics of the spots (public place, brothel, lodge, etc.) and an estimate of the number of KPs who can be found there. L1 interviews were conducted at major markets, parks, streets, recreational gardens, malls, etc, over a 25 day period. During L2, KI interviews were conducted at spots identified in L1. In L2, interviews involved primary key informants (FSWs, IDUs, MSM, pimps, madams etc.) who validated information collected during L1 over a period of 20 days.

Results: 32,556 KI interviews were conducted in L1. 16,563 active spots (8877 FSW spots, 4349 MSM spot, 3837 PWID spots) were identified in 10 states. Kaduna state had the highest FSW spots (1,629) while Taraba state had the least (45). This study revealed that 80% of FSW spots in Kaduna state are streets. 91% of MSM spots in Kano state are streets and homes while 65% of PWID spots in Kaduna state are streets.

Conclusion: With information on geographical locations of KPs, Nigeria can ensure that HIV intervention including prevention, treatment and care is provided where it is most needed.
Précarité et frein à l’accès aux soins des HSH séropositifs à Dakar : une étude sur le Reste-à-Charge d’une consultation de routine

**Contexte:** Les HSH au Sénégal vivent souvent dans des situations d’isolement et de précarité, liées au contexte d’homophobie sociale et de pénalisation de l’homosexualité. La séropositivité au VIH représente un risque supplémentaire de discrimination et d’auto-stigmatisation. Elle accroît les difficultés d’accès aux soins, d’autant que les dispositifs de protection sociale sont encore rares au Sénégal.

L’objectif de cette étude est d’évaluer le Reste-à-Charge (partie de la dépense que les patients ont à payer après intervention des dispositifs de protection sociale), lors d’une consultation de routine dans les services de prise en charge du VIH.

Cette étude est réalisée par l’association ADAMA, dans le cadre du programme UNIAHHEL-Sénégal de l’IRD/CRCF.

**Méthodologie:** Enquête transversale par questionnaire anonyme et volontaire, auprès de HSH vivant avec le VIH, à Dakar et en région, entre décembre 2018 et janvier 2019, recueil d’informations socio-démographiques et sur les coûts relatifs à la dernière consultation médicale.

**Résultat:** L’étude a porté sur 60 HSH vivant avec le VIH, 60% à Dakar et 40% dans les régions. L’âge moyen est de 30 ans (mini 18 – maxi 51). Tous sont traités par ARV, avec une durée médiane de 5 ans (maximum 17 ans). Le revenu mensuel moyen est de 143 USD, 75% travaillent dans le secteur informel. La moitié des personnes adhèrent à une association, 80% n’ont pas de protection sociale, 12% sont affiliées à une mutuelle de santé communautaire, 5% à une assurance (des fonctionnaires ou de l’employeur). Le coût moyen calculé (fruits médicaux + frais de déplacement) hors médicaments ARV, charge virale et CD4, est de 40 USD (mini : 3 – max : 106).

Il se répartit en: bilan biologique 43%, achat de médicaments 42%, consultation 6%, imagier médical 5%, déplacement 4%, La dépense est couverte par : patient 90% (≈ 36 USD) ; structure 10% (≈ 12 USD). Le Reste-à-charge moyen est ≈ 36 USD (médiane : 35 USD). Aucun patient n’a bénéficié d’un appui financier de l’association.

Cinq personnes, sur les 7 affiliées à une mutuelle de santé et une personne sur les 5 affiliées à une assurance ont bénéficié d’une prise en charge partielle. Les principaux motifs de non recours sont la complexité des procédures et la crainte de révélation du statut sérologique et/ou de l’orientation sexuelle. 20% des patients repoussent la date de leur rendez-vous pour des raisons financières.

**Conclusion:** Le Reste-à-Charge important des consultations de routine pour les HSH vivant avec le VIH (≈ 36 USD/patient/consultation) constitue un frein à l’accès aux soins. Il représente environ un quart du revenu mensuel moyen. Les dispositifs de protection sociale sont quasi inexistant et aucun ne couvre les frais de déplacement. L’inadaptation des procédures de ces dispositifs limite le recours à la prise en charge. Malgré la gratuité des médicaments ARV et/ou de certains examens biologiques, la majeure partie des dépenses demeure à la charge des HSH, alors que cette population vit dans la précarité et bénéficie peu des réseaux de solidarité familiale.
Abstract

Individual Sex Worker Risk and Vulnerability Assessments — A microplanning approach in Johannesburg, South Africa

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Background: Sex workers bear a disproportionate burden of HIV and sexual reproductive health problems in South Africa. It is estimated that over 50% of South African female sex workers have HIV. To achieve epidemic control, it is crucial to prioritise sex workers who are at highest risk of contracting or transmitting infection. There is a dearth of evidence to indicate that sex workers reached with HIV and health care services are indeed those at highest risk. This paper presents findings from one of a significant number of sex workers are at heightened risk of epidemic control. Primary prevention modalities can be directed at sex workers with a medium to high risk profile.

Methods: To enhance peer outreach to sex workers, the Wits Reproductive Health and HIV (Wits RH) Key Populations programme adopted microplanning — a strategy which utilises a set of tools to analyse data at a grassroots level. The risk assessment tool enables peer educators to identify the risk and vulnerability factors of each sex worker. Between April and September 2018, peer educators conducted risk assessments. The 5-item tool categorises risk and vulnerability of acquiring HIV or other STIs as 1 (high risk) or 0 (no risk). Questions included (i) age, (ii) length of time in sex work (iii) client numbers per day, (iv) condom use, (v) alcohol/drug use and experiences of violence. Sum scores determined sex worker as 0 (low risk), 1 (medium risk), 3-5 (high risk). The risk assessment scores were captured in Google Forms and analysed using Microsoft Excel.

Results: Risk assessments were conducted with 1 856 sex workers aged 20 – 43 years from 80 sex workers hotspots in Johannesburg. 38% accessed health care services from the Wits RH Esselen Street Sex Worker Clinic. Our sample highlights a significant number of sex workers are at heightened risk of acquiring HIV/STI infections. 11% were <25 years old. 41% reported inconsistent condom use. 40% reported alcohol/drug abuse and experiences of violence. Overall 13%, 67% and 20% were categorised as low, medium and high risk, respectively.

Conclusion: Risk assessments provide a quantifiable method to identify sex workers who are at highest risk of HIV and SRH problems. Peer educators are able to monitor each individual’s progress and can prioritise outreach. This has potential for strengthening targeted services to key populations in South Africa. Outreach, tracking and tracing services can be directed to link and retain in care the sex workers with greatest potential for epidemic control. Primary prevention modalities can be directed at sex workers with a medium to high risk profile.

Evaluation des services Adaptés pour les Populations clés au Burkina Faso

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Contexte: En Afrique de l’Ouest, la prévalence du VIH reste élevée dans les populations clés (PC). Au Burkina Faso, pour améliorer l’accès des PC à la prévention et aux soins, le Programme Sectoriel Santé de lutte contre le Sida (PSSLS) a renforcé les capacités de 27 cliniques desservant les PC. Ces services adaptés (SA) sont repartis sur les 13 régions du pays et sont gérés par des ONG ou des centres de santé publiques, mais leurs activités et qualité n’ont pas été évaluées.

L’objectif de cette étude était de décrire les services offerts par les SA et d’en évaluer les critères minimaux de qualité.


Les critères minimaux de qualité impliquaient la présence de personnel clinique formé, d’au moins une animatrice communautaire, d’une salle d’attente et salle d’examen clinique discrète, de matériel audiovisuel pour la prévention du VIH, d’une table d’examen avec source de lumière et de lavabos, des consommables de base, d’un système d’enregistrement adapté des PC et une fréquentation moyenne supérieure ou égale à 100 visites des PC par mois.

Résultats: Les 10 SA enquêtés offraient des services aux Travailleuses du sexe et 3 offraient aussi des services pour les Hommes ayant des rapports Sexuels avec d’autres Hommes, mais aucun SA n’en offrait aux détenus et aux Utilisateurs de Drogues Injectables. En plus des services de dépistage et prise en charge du VIH et des IST, 6 SA offraient le service de planning familial, 7 la prise en charge par les antirétroviraux, 5 le dépistage des co-infections.
The social issues of addiction treatment in Africa: Perceptions of injecting drug users in Senegal

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Introduction: Injecting drug users (IDUs) in Africa often seek care for their addiction in a context where some health systems are still slow to offer them services and where national policies are often hostile to putting opioid substitution drugs into circulation. In Dakar, the Centre de traitement intégré des addictions (Cépiad), an addiction treatment center, was created in December 2014, offering integrated medical and social care, including methadone substitution therapy, delivered to outpatient IDUs. What are the social effects of setting up a treatment system for injecting drug users in West Africa?

Objective and Method: This presentation will describe and analyze the experience of treating injecting drug addiction in a medical facility in Senegal. The data come from surveys conducted as part of doctoral research in anthropology (interviews, focus groups, observation-participation) with drug users between 2012 and 2017. They were transcribed and cleaned and then underwent thematic analysis using ATLAS.ti software.

Results: Drug users in Dakar with extended experience consuming “illicit” products have created a world “on the edge” through consumption practices and ways of managing their drug addiction and relationships to products. They have developed and experimented with withdrawal practices (self-medication, voluntary incarceration) far from medical and social circuits, which they deem unsatisfactory. Cépiad gives injecting drug users access to long-term treatment and provides an alternative recourse to health services that supplements previous therapeutic routes. Drug users greatly appreciate the methadone treatment delivered at Cépiad and find it appropriate to their situation. This treatment allows them to regain their “self-esteem” and reassert their social roles (presence in the home, marriage, professional re-entry and advancement, return to religious practices). Inclusion in the methadone program, however, raises criticisms of its compulsory, almost-daily outpatient delivery system; treatment duration; and sexual side effects. Previous advocacy by IDUs for substitution drugs availability has shifted to a demand for lower methadone doses resulting in a permanent program exit and an end to addictions.

Conclusion: The Senegalese experience of access to methadone appears to be the first stage in shaping West African trends in treating addiction for injecting drug users. IDUs have various representations of the function and effects of methadone, based on their expectations of a “miracle drug.” Caregivers, attentive to IDUs’ demands, adopt flexible behaviors for some aspects by readjusting the treatment according to specific criteria to manage IDUs’ confidence in the treatment. These aspects should be taken into account when adapting systems in other sites.

Efforts towards the provision of integrated harm reduction interventions for People Who Inject Drugs (PWID): The Nigerian Experience

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Background: PWIDs in Nigeria is estimated at 3.4% with PWID contributing 9% of the annual new infections. PWIDs share injecting equipment due to ignorance of the risk involved and bonding with other drug users. Sharing contaminated injecting equipment is a high risk behaviour for HIV. The national response has continued to generate evidence at all levels to stabilize ongoing facilitation of proactive multi sectoral coordination of the prevention response. National Agency for the Control of AIDS (NACA) has identified the provision of harm reduction as a way forward in HIV prevention programming for PWID in Nigeria. This abstract showcases the strategies that NACA is putting in place towards providing Harm Reduction services.

Description: Implementation of the full component of the 9 WHO comprehensive interventions for PWID is part of Nigeria’s plans towards ending new infection. Harm reduction (HR) is an evidence-based approach to HIV prevention, treatment and care for PWID and is strongly supported by WHO and other UN agencies. Needle Syringe Programme (NSP) and the Opioid Substitution Therapy (OST) which are great programmes are the 2 components not currently being implemented in Nigeria. NACA has continued to engage stakeholders as part of the process to implement HR. This requires a process that includes stakeholders involvement.HR has been mainstreamed into all thematic areas with ongoing conversations at Technical Working Groups. NACA initiated and developed an advocacy toolkit for HIV prevention Programming for PWID. This toolkit was developed with the support of Stakeholders and skills built on the use of the toolkit with results achieved. These stakeholders include Law Enforcement Agencies (LEAS), Government Ministries, Departments and Agencies (MDAs), CSOs, PWID community members and PWID led organizations.

Lessons Learned: Provision of harm reduction services requires a process of stakeholders buy-in to ensure the success of the
Rétention et suppression virologique chez des femmes infectées par le VIH initiant un traitement antirétroviral en prévention de la TME du VIH à la maternité de l’hôpital bon berger de tshikaji en République Démocratique du Congo

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Introduction: Depuis 2015, l’option B+ est en vigueur au Congo Kinshasa dans la perspective de l’élimination de la TME du VIH. Les défis majeurs de l’eTME du VIH restent d’une part la rétention des femmes après la mise sous TARV durant la grossesse ou après l’accouchement dans les services de maternité et d’autre part la suppression virologique qui est associée à un risque minime de transmission mère-enfant. Aucune évaluation n’a été faite à ce jour en Guinée sur ces deux aspects. Le but de ce travail est d’évaluer la rétention à 6 et 12 mois et le niveau de suppression virologique chez des mères infectées par le VIH sous TARV suivies à la maternité de l’hôpital bon berger de tshikaji à Kananga au Congo

Méthodologie: Etude rétrospective à partir des dossiers de suivi des femmes infectées par le VIH prises en charge à la maternité de bon berger. Nous avons inclus dans notre analyse les patientes testées positives au VIH et référées à la maternité pour initiation d’un traitement ARV entre 2016 et 2017. Les variables d’intérêts : la rétention à 6 et 12 mois à la date du 30 novembre 2017 et la charge virale plasmique à 6 mois ou plus. Les femmes déjà sous TARV référées à la maternité pour le suivi de leur grossesse ont été exclues de notre étude.

Premiers résultats: Au total, 346 femmes sont suivies à la maternité ; 67 femmes étaient déjà sous ARV au moment de leur référence à la maternité ; 279 femmes ont initié un traitement ARV à la maternité en prévention de la transmission mère-enfant du VIH; 65,09% (179/275) ont débuté leur traitement ARV entre 2016 et 2017; les variables d’intérêt étaient sous Duvir-EFV, 29,30% sous subripla ; Au 3 mois, 71,74% (198/276) des femmes étaient toujours dans le suivi ; le taux de rétention à 6 mois était de 56,56% (155/274) ; à 12 mois, il était de 31,50% (86/273). La rétention à 6 mois était significativement plus importante chez les patientes ayant initié leur traitement ARV en 2014 (62,01%) que celles en 2015 (45,83%), p=0,009. La charge virale a été prescrite chez 40 patientes dans le cadre de leur suivi virologique.

Conclusion: Le taux de rétention à 12 mois demeure faible à la maternité (31,50%) ; ce contexte de l’épidémie de la FVE pourrait être une des causes de cette faible rétention. La charge virale reste peu utilisée pour le suivi des femmes issues de la PTME même en milieu hospitalier. Travailler à maintenir le plus longtemps possible les femmes sous ARV dans les files actives constitue un des défis de l’eTME au Congo Kinshasa.

Family Planning use & fertility intention of Female sex workers living with HIV/AIDS in Anti retro viral therapy at FGAE clinics of Adama, Ethiopia.

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Significance/Background: Evidence show that HIV prevalence among sex workers is 12 times greater than the general population(UNAIDS 2014) on top of WHO, 2011 estimates of the extent of sex work vary considerably and are generally higher in urban areas, port cities and on major highways & In a number of African countries the rate of unintended pregnancy among women living with HIV range from 51 to 84% and family planning has a major impact on improving the overall health of a woman as well as that of her children by delaying first births. Despite these benefits, in sub Saharan Africa, family planning in PLWHA is not widely used.

Main question/hypothesis: 1 What is the proportion of women who have intention to use Family planning service while using ART in FGAE sex workers& model clinic? 2. what proportion of women have fertility desire from clients coming for ART service? 3. What type of Family planning methods intended to use among ART users in FGAE ?

Methodology: The study conducted in the two clinics among the study site one of the clinic was opened to address sex workers and it was established in 2011 GC and since its establishment more than 4000 Sex workers have visited the clinic and it is providing integrated SRH service for this special groups.

The study employed was cross sectional institutional based and the data was collected from March 21 to April 4, 2018. 183 female sex workers coming for ART service in during the study period were included in the study.Data entry, cleaning and analysis was done by SPSS version 21. Descriptive statistics: frequencies, percentages, cross tabulation, graphs and tables were performed. Then factors that affecting family planning intention were assessed by the Chi-square test. Results were considered statistically significant for p < 0.05.

Results/key Findings: A total of 183 female sex workers who are taking ART were included. The study showed 71.2% had intention to use FP service with 66 % among them prefer inject

Conclusions: NACA will continue to work with stakeholders to roll out the developed plan.

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programme. Pilot centres will be rolled out in 2018 which will provide a learning experience on provision of HR services in Nigeria.

Conclusion/Next steps: The Government bodies, CSOs and development partners are interested in OST&NSP implementation in Nigeria since this is the global direction for reduction in new HIV infections. NACA will continue to work with stakeholders to roll out the developed plan.
able followed by 30% permanent method and the rest condom and about 21% of them want to have additional children of whom 36.5% of them want more than three children. Only 20.2% of them were used family planning methods previously. Out of this women who were using at least one method of contraception, 72% of the methods used family planning methods previously. Out of this women who were using at least one method of contraception, 72% of them were using contraceptives followed by implant (15%) and least was 4% condom. Besides, 64% of them didn’t know about emergency contraceptives. The major factors contributing for family planning intention was the no of children respondents have (chi square = 10.84(4) p < 0.036), educational status (chi square = 10.47(2) p < 0.005)

Conclusion: The family planning utilization intention of female sex workers coming to our clinics for ART service was high (72.1%) and the most preferred method was injectable, followed by permanent and last preferred was condom & for family planning intention variable associated were educational status, and no of children respondents have during the study period.


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Background: HIV infection has remained unacceptably high among key populations in Nigeria despite a significant reduction in the national HIV prevalence. Several reasons have been attributed for this disparity including a poor risk perception, sexual risk-taking, and social stigmatization. Men having sex with men (MSM) are a known high-risk group for HIV infection in Nigeria. This study therefore assessed sexual risk-taking among MSM in Abeokuta, Ogun State, Nigeria.

Method: A cross-sectional descriptive study was carried out among 51 MSM residing in Abeokuta, Ogun State, selected via snowball sampling. Data were collected using a validated, semi-structured, interviewer-administered questionnaire and analyzed using SPSS 20.0. Relevant descriptive and inferential statistics were calculated with level of significance (p) set at <0.05. Strict confidentiality was ensured and participation was fully voluntary.

Results: The mean age of respondents was 23 ± 4.5 years; 19.1% had a form of tertiary education and 3.5% had no formal education. About a third (31.2%) were skilled workers. Majority (73.2%) of respondents had multiple sexual partners; 16.2% had a recent sexually transmitted infection; only 13.2% used water-based lubricants; 46.5% were heavy alcohol drinkers; 10.1% did not use a condom at last sex; 80% of sexual encounters were transactional. About 65% of respondents were involved in sexual risk-taking, of which 38% was high risk. Age (p=0.036), educational status (p=0.019), occupation (p<0.001) and poor risk perception (p<0.001) were associated with sexual risk-taking.

Conclusion: Sexual risk-taking was common among the MSM studied in Ogun State and associated with poor risk perception and socio-demographic characteristics. Concerted efforts at reaching MSM communities with sensitive and appropriate messages will help achieve the desired behavior change.

Factors Influencing Low Condom Use Among Female Sex Workers: a Case Study from Urban Kampala-Uganda

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Background: Consistent and correct condom use is a key tool in the control of HIV infections among sex workers. Programme data highlight laxity in consistent condom use in Uganda where sex work is illegal, immoral and socially unacceptable thus practiced with high risk to HIV/STDs. We sought to determine reasons for inconsistent condom use among female sex workers (FSWs) in Kampala, Uganda.

Methods: We conducted a cross-sectional study across GHWP health facilities in Makindye division, Kampala between May and June 2014. Purposive sampling was used to select self-acknowledged FSW’s. FSW’s were included if they were aged 18 or more, signed an informed consent form and were attending clinic for the first time. Reported no sex in the prior three months was an exclusion. Semi-structured questionnaires were used to collect data on demographics, willingness, frequency and reasons of inconsistent condom use over three months. Individual interview and Focus Group Discussion (FGDs) were used to collect data on qualitative. Descriptive data analysis was done for quantitative data and thematical analysis for qualitative data. The study was approved by Medical Research Council (MRC) / Uganda Virus Research Institute (UVRI) science and ethics committee, Uganda National Council of Science and Technology and Office of the President of Uganda.

Results: A total of 200 FSWs enrolled in the quantitative study and 24 in the qualitative study. The median age group was 26-35 years (range 18-49 years). Majority FSWs were semi-literate (n, 71.3%). Most FSWs had engaged in commercial sex for 6months-5years (n, 72%) and not in any steady relationship (n, 89.5%). 98 FSWs inconsistently used condoms with 2% reporting rare condom use. Reasons for inconsistent condom use were regular clients (n, 62%), client refusal (n, 38%), sex style (n, 3%), use of a trusted family planning method (n, 1%), alcohol intoxication, higher pay for unprotected sex (n,13%), unavailability (n, 3%). The findings were confirmed in the FGDs where similar themes were noted.

Conclusion: Inconsistent condom use among FSWs in this study was largely due to regular clients’ reluctance to use condoms, clients’ refusal and misconceptions. This is worrying as low rates of condom use among sex workers contribute to over 10% of new HIV infections. Interventions over laxity of Condom use and HIV prevention should target the clients, as they are the main users of male condoms.
Social Dynamics of Knowledge of HIV/AIDS Among Street Children in Two Metropolises in Nigeria: Implications for Preventing the Spread of HIV/AIDS

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Street children represent one of the categories of special population resulting from the rapid urbanization and economic meltdown affecting many families in developing countries. This vulnerable population is hardly remembered in professional discourses on preventing the spread of HIV and AIDS. In sub-Saharan Africa, an estimated 60 percent of all new HIV and AIDS infections occur among young people. This means that street children are particularly in grave situation because, without adequate knowledge about HIV and AIDS, their lifestyles and condition make them more susceptible to the infections of STIs, HIV and AIDS.

This study focused on the dynamics of knowledge of HIV and AIDS among street children in Nigeria. The study was carried out in Lagos and Ibadan metropolises, Nigeria. A sample size of 2,000 respondents were selected for the quantitative study, while 50 in-depth interviews (IDIs) and 20 focused group discussions (FGDs) were conducted for the qualitative aspect of the study. The study investigated the influence of selected household variables and street environment variables on knowledge of HIV and AIDS.

Results showed a high level of sexual activities among street children in both locations. Qualitative data revealed that a significant number of them were raped in their first sexual experience. There were high levels of irregular use of condom and existence of some misconceptions about mode of transmission of HIV and AIDS. Among environmental variables, drug use and alcohol consumption were found to be significantly related to knowledge of HIV and AIDS. On household variables, tests showed that marital dissolution, family type and parents’ marital status were related to knowledge of HIV and AIDS; but the relationships were reported only among participants in Lagos.

The study calls for programmes targeted at street children to enhance their knowledge of HIV and AIDS. Also, efforts should be made to reintegrate street children back to normal life with their families or to government facilities, as their circumstances demand.

Différences générationnelles dans le vécu des HSH âgés de plus de 30 ans au Sénégal

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Contexte et objectifs: Au Sénégal, depuis une quinzaine d’années, des associations réunissant des Hommes ayant des relations sexuelles avec des hommes (HSH) luttent contre la stigmatisation et pour défendre leurs droits. De nombreux programmes en faveur de HSH sont soutenus par les autorités sanitaires et les ONG mais la situation des HSH, en particulier des seniors, reste peu documentée. En 2017 et 2018, le réseau national des populations clés (RENAPOC) et l’association Prudence Plus ont mené une enquête auprès de HSH âgés de plus de 30 ans pour explorer le vécu des personnes sur le plan familial et social et les différences générationnelles.

Méthodologie: L’enquête a été menée par questionnaire auprès des HSH âgés de plus de 30 ans, membres associatifs ou non, vivant à Dakar, sa banlieue et dans les villes de Touba et Mbacké. Le questionnaire a été élaboré par le RENAPOC avec l’appui de la Division de lutte contre le sida et les IST (DLSI) du Ministère de la santé et de l’action sociale, Dakar et la DLSI du Centre Régional de recherche et de formation à la prise en charge clinique de Fann (CRCF) de Dakar.

Résultats: L’enquête a concerné 57 personnes. L’âge médian est de 48 ans (min 34-max 72), 49% sont mariés, 44% adhèrent à une association, généralement les plus jeunes et les plus âgés. La tranche des 40-49 ans comporte le plus faible taux d’adhésion lié à la peur de dévoiler l’orientation sexuelle. La vie sexuelle évolue avec l’âge. La discrétion est la principale préoccupation. Deux tiers des personnes pratiquent le sexe transactionnel, en particulier les plus jeunes en raison de la précarité et les plus âgés qui ont des difficultés pour trouver des partenaires. Chez les personnes mariées, la sexualité fait l’objet d’une « double vie », parfois difficile à gérer.

Dans les familles, la divulgation de l’orientation sexuelle a souvent été involontaire. Les cas de rejet, de stigmatisation et d’expulsion du domicile sont fréquents. Le mariage choisi ou imposé représente souvent une normalisation, surtout après 50 ans.

La majorité des personnes ont rencontré des difficultés de prise en charge médicale, atténuée par l’aide fournie par les associations ; 42% ont un accès difficile aux moyens de prévention, avec des disparités selon les tranches d’âge, les 40-49 ans ayant le plus faible accès ; 84% des personnes ont une expérience de stigmatisation, 60% ont eu affaire avec la police.

Conclusion: Cette étude révèle une situation préoccupante pour l’ensemble des HSH et d’importantes différences générationnelles. Le type de difficultés varie avec l’âge. Les résultats de cette étude permettront de définir des stratégies spécifiques pour une meilleure efficacité des programmes.
Key Population: HIV/AIDS Burden Among key population in Liberia: Trend Analysis from June 2016-2018

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Background: HIV prevention information and services for key populations in Liberia are weak. Key populations are considered to be a major driver for the epidemic in Liberia. The National Strategic Plan has prioritized HIV programs for key populations (KP). Liberia has a generalized HIV epidemic, with a prevalence of 2.1% among the general population of 4.2 million (LDHS, 2013). Key population include; Men who have sex with men, (MSM), Female Sex Workers (FSW), Transgender (TG), People who inject drugs (PWID) Long distance drivers, prison populations and people in the mining industry. KP sizes remain unknown as all informed opinions had concluded that the Liberia most at risk populations (MARPs) Size Estimation Study 2011 significantly under-estimated the size of KP. In 2017, the National AIDS Commission (NAC) with support from National AIDS Control Program and PSI Liberia carried out the key population size estimation study to fast-track the HIV/AIDS burden among key population in Liberia.

Materials and Methods: Size estimation method was used to conduct the study; Unique object multiplier: chains with a metal tag, unique to each key population group: Men who have Sex with Men (MSM), People Who Inject Drugs (PWID) and Transgender (TG) through their community leaders and peer educators prior to the start of the data collection. Social events: for FSW, MSM, TG, and PWID. These social events were pageants, parties and social gatherings. The data was organized by Key Population community and by county.

Results: Result shows Liberia population is at 4,420,177 with the estimated number of people living with HIV at 40,000, prevalence rate is 2.1%. HIV prevalence rate among key population; People Who Inject Drugs are at 4,088 (28.5%), Men who have Sex with Men at 74,674 (19.8%), Female Sex Workers at 163,031 (9.8%) and Transgender at 1,741 (4.9%) respectively. The recruitment process for MSM, TG and FSW: There were some limitations of the study; participants were recruited from all over the county of the study sites instead of only the capital cities. This approach likely resulted in more representative estimates for the study areas.

Conclusion: Given the estimates, the current scale and reach of HIV interventions among key populations in Liberia are important in designing strategies for more interventions for HIV prevention, information and service provision, in particular testing and ensuring treatment. These results are now being used to guide policy makers and key partners in developing strategies to monitor the trend of HIV and AIDS among key population and to respond effectively in reducing the spread of the disease amongst the general population in Liberia.

Factors Affecting the Utilization of PMTCT Service Among Pregnant Woman Attending For ANC Service:- The Case Of Adama Fgae Model Clinic

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Background: Ethiopia is one of the countries in the sub-Saharan Africa that have a generalized HIV epidemic with about one million people living with HIV/AIDS. In 2010/11, the HIV incidence was estimated at 0.29% with an adult prevalence rate of 2.4% (1.9% among males and 2.9% among females) [5]. Women account for the larger proportion (59%) of people living with HIV/AIDS. Mother-to-child transmission (MTCT) is an important source of HIV infection among Ethiopian children. To achieve the goal of reducing the number of infants with HIV, there has been a rapid scale-up of ART therapy and HCT services in the country since 2005 [6].

Main question: Mother-to-child transmission (MTCT) of HIV remains a major public health problem and continues to account for a substantial proportion of new HIV infections among pregnant women. This study try to answer 1, what are the factors affecting the utilization of HCT?, 2. What factors affecting the utilization of ART service among HIV positive pregnant woman and their partners?

Methods: The study was conducted at FGAE model clinic found in Adama cities Ethiopia. The study employed quantitative data to analyses the outcomes of the intervention. To this effect, secondary data generated by the clinic was consulted. These sources include, quarter statistical report and annual performance reports (year 2018).

Key findings/Results: A total of 2664 pregnant mothers were attended the clinic for ANC service for year 2018, all pregnant mothers were received HIV pretest counseling. Out of them, only 2475 (92.9%) of them were tested for HIV. Among those refused testing (189), 34.5% were due to fear of test result. Among those tested, only 2393 (96.7%) were received their test result. Among pregnant woman who received their test result, 26 (1.09%) was found HIV positive. Among HIV positive woman only 22(84.6%) were started ART and the remaining 15.4% didn’t due to denying of the result and wanted to get retesting. Only 20 (76.9%) of HIV positive woman notify their partners, the remaining 23% didn’t disclosed their result by fear of losing their marriage. Among notified partners, only 18 (69.2%) were attended the clinic and received HIV testing. Among partners tested for HIV, 17 (94.4%) were positive and 1 partner found discordant. Among HIV positive partners, only 13 (76.4%) were started ART and the remaining didn’t due to denying of the result, wanted to stay in pre ART and wanted to be healed by prayer and holy water. Regarding on number of HIV exposed infants receiving HIV confirmatory (antibody test) by 18 months’ 24(92.3%) infant became HIV negative and discharged and 2 HIV Positive infant were linked to ART. linked to ART.

Conclusion: Among 2664 ANC clients, only (92.9%) of them were tested for HIV which still shows the challenge PMTCT service. Those 15.4% HIV positive woman and 23.5% their partners,
Abstract

Les besoins et attentes des femmes consommatrices de drogues injectables (FCDI) à Dakar/Sénégal

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Contexte: En 2011, les femmes consommatrices de drogues injectables (FCDI) identifiées par l’enquête UDSEN étaient moins nombreuses que les hommes (69/507) et sont plus touchées par le VIH. En 2019, elles sont toujours minoritaires parmi les patients suivis au Centre de Prise en Charge Intégrée des Addictions (CEPIAD), premier centre de soins pour les CDI de l’Afrique de l’Ouest offrant la méthadone. Depuis 2016, le projet CODISEN/CODISOC auquel notre thèse est associée évalue ce modèle pilote.

Matériel et Méthode: Cette présentation vise à décrire les perceptions et les attentes spécifiques des femmes par rapport à la prise en charge addictologique, médicale et sociale. Des observations et des récits de vie répétés et approfondis ont été menés entre 2016 et 2019 avec 10 femmes et 10 hommes au CEPIAD et 10 femmes qui ne fréquentent pas le CEPIAD. Une analyse de contenu de type inductif, nous a permis de dégager les thématiques importantes.

Résultats: Les entretiens menés au CEPIAD, montrent qu’il y a peu de différences de perceptions entre les hommes et les femmes quant à la prise en charge au CEPIAD. Les femmes autant que les hommes apprécient globalement l’offre de soins (méthadone, sensibilisation, activités d’autonomisation, prise en charge des comorbidités (VIH, hépatites). Elles souhaiteraient néanmoins une meilleure prise en charge sur le plan gynécologique. Une fois qu’elles se sentent stabilisées par la méthadone, elles partagent l’attente principale de leurs homologues masculins: la réinsertion professionnelle. Elles expriment le souhait de formation et de soutien pour la mise en place d’une association de femmes CDI. Elles désirent également un appui pour rédiger des projets et mener des activités génératrices de revenus.

Conclusions: Cette méthodologie d’intervention a permis d’atteindre 114 PSC dans les zones urbaines, pérurbaines et dans la banlieue dakaroise en 2018. Les entretiens menés au CEPIAD, montrent qu’il y a peu de différences de perceptions entre les hommes et les femmes quant à la prise en charge au CEPIAD. Les femmes autant que les hommes apprécient globalement l’offre de soins (méthadone, sensibilisation, activités d’autonomisation, prise en charge des comorbidités (VIH, hépatites). Elles souhaiteraient néanmoins une meilleure prise en charge sur le plan gynécologique. Une fois qu’elles se sentent stabilisées par la méthadone, elles partagent l’attente principale de leurs homologues masculins: la réinsertion professionnelle. Elles expriment le souhait de formation et de soutien pour la mise en place d’une association de femmes CDI. Elles désirent également un appui pour rédiger des projets et mener des activités génératrices de revenus.
ETUDE DE LA NOTIFICATION DU STATUT VIH AUX PARTENAIRES ET À LA FAMILLE CHEZ LES HSH SÉROPOSITIFS À DOUALA, CAMEROUN

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Introduction: La notification du statut VIH revêt d'une certaine importance dans la prise en charge des PVVIH. On peut plus facilement impliquer la famille dans la prise en charge, et prendre des mesures de réduction de risque dans la relation du PVVIH avec son ou ses partenaires. Cependant la notion de double stigmatisation par rapport à l'orientation sexuelle et au VIH nous a fait nous interroger sur la notification du statut VIH des HSH à leur famille ou à leur partenaire.

Méthodologie: Nous avons développé des fiches de renseignement que nous administre aux personnes suivies pour le VIH à Alternatives-Cameroun, la majorité étant HSH. Sur cette fiche, entre autres informations, nous notions la personne dans la famille de la PVVIH que cette dernière a choisie pour être contactée en cas de nécessité. Il était demandé si cette personne-contact était notifiée ou non du statut de la PVVIH.

Nous avons ensuite noté le nombre de partenaires du PVVIH qu’il a notifié de son statut, et parmi ceux-ci, combien ont été dépistés. Nous avons exploité 204 questionnaires, parmi lesquels 177 pour les HSH et 27 pour les hétérosexuels.

Résultats: De tous les participants, 98% ont pu donner le contact d’une personne de leur famille. La personne contact est, dans 63% des cas, une personne de sexe féminin dans la famille. Parmi elles, figuraient en tête la mère (41%), puis la sœur (38%). Les personnes de sexe masculin notifiées étaient masculines dans 37% des cas, et parmi elles, venaient en tête le frère (68%), puis le père (12%). Le frère ou la sœur sont donc désignées comme personne contact dans 47% des cas, et le parent, père ou mère dans 31% des cas.

Dans 61% des cas, la personne-contact n’était pas notifiée du statut. Cette proportion est juste de 26% pour les hétérosexuels. Parmi les PVVIH n’ayant pas notifié leur statut à la personne contact, ils sont seulement 19% à l’avoir fait à une personne autre, contre 5% chez les hétérosexuels.

Les HSH séropositifs notifient leur statut de préférence à la personne contact de sexe féminin (56%), qu’à la personne contact de sexe masculin (36%). En ce qui concerne la notification aux partenaires, 56% des PVVIH HSH ont notifié leur statut à au moins un partenaire, contre 85% pour les hétérosexuels. Parmi les partenaires notifiés, 87% se sont fait dépister, contre 78% chez les hétérosexuels.

Conclusion et recommandations: Il semble plus difficile pour les HSH que pour les hétérosexuels de notifier leur statut VIH, notamment aux membres de la famille et aux partenaires. La double stigmatisation rendrait plus compliqué le partage du statut VIH.

ANALYSE DE L’APPROCHE DU DÉPISTAGE DES PARTENAIRES DES PVVIH HSH À DOUALA, CAMEROUN

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Introduction: En Avril 2018, nous avons implémenté une activité appelée tracking des partenaires des cas séropositifs, cette activité a captivé notre attention. Nous avons donc tenté d’évaluer la portée de cette activité en termes du taux de séropositifs dépistés, par rapport aux approches classiques de dépistage.

Description: L’activité consiste à travailler pour un Conseiller psychosocial et un pair éducateur à travailler ensemble pour rechercher les partenaires de cas dépistés positifs. Le Conseiller a sa disposition une cohorte de PVVIH dont il assure le suivi. C’est dans cette cohorte qu’il recrute les cas index, c’est-à-dire ceux dont les partenaires seraient dépistés. L’objectif de cette démarche est présenté au cas index. Lorsqu’il adhère on lui propose soit de notifier son partenaire lui-même, soit nous le faisons avec son consentement. Il donne alors les numéros de ses partenaires. Dans un délai de 30 jours nous notifions le partenaire sans indiquer de quelle source nous tenons son contact, dans le but de garder la confidentialité sur le statut du cas Index. Nous appelons le partenaire en question, le « contact tracking » ; nous nous identifions ainsi que la structure. Nous nous présentons comme agents de santé sous la tutelle d’un grand hôpital public de la place, l’hôpital Laquintinie. Nous lui proposons nos différents services en insistant sur le dépistage. Si le client est d’accord nous allons vers lui pour le service accepté, ou alors il vient vers nous. S’il est dépisté positif en communauté, nous l’encourageons via un autre counselling à se faire prendre en charge dans un centre y afférent et là il refait un autre test de confirmation et la mise sous traitement ARV et le suivi suit son cours. Il est à noter qu’avec cette nouvelle personne dépistée positive, le processus recommence.

Lecons Apprises: Dans cette nouvelle activité nous avons réussi à aider plusieurs personnes à connaître leur statut sérologique et se faire prendre en charge dans le but de limiter la propagation de l’infection à VIH. Nos clients sont 58% à notifier au moins un partenaire, et parmi les partenaires notifiés, 89% se sont fait dépister. Au sortir de cette activité nous avons eu un taux de séropositivité de 24%, ce qui est plus élevé que les dépistages avec d’autres approches, où ce taux est de 20% pour la même période.

Prochaines Étapes: Le dépistage des partenaires, avec l’approche de notification par conseiller interposé, a montré son efficacité. Nous comptons continuer cette activité car elle permet d’atteindre et accompagner les personnes séropositives qui ne connaissent pas leur statut, et les aider à se faire prendre en charge. Pour ce faire en 2019, nous comptons dépister 75% des partenaires de nos PVVIH.
Perceptions et usages des outils de Réduction des Risques chez les consommateurs de drogues injectables à Dakar, Sénégal

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Introduction: Pour atteindre l’objectif de « fin de l’épidémie » de VIH, il est essentiel de proposer aux populations clés des interventions de soin acceptables. Au Sénégal, depuis 2015, un dispositif pilote de traitement des consommateurs de drogues injectables (CDI) a été mis en place. Il s’articule autour du Centre de prise en charge intégrée des addictions de Dakar (CEPIAD) qui mène des actions de réduction des risques (programmes méthadone et échange de seringues) et de prévention (distribution de préservatifs). Cette présentation décrit les perceptions des CDI à propos des outils de ce dispositif et analyse leurs usages et mésusages.


Résultats: La méthadone, dispensée gratuitement, est perçue comme un produit qui permet d’éviter les dépenses liées à l’achat de drogues et de pouvoir se consacrer à sa famille, à son travail ou projets. La restauration de l’état de santé à une répercussion sur l’apparence physique et le bien-être (= être beau et = costaud). La méthadone inspire aussi confiance, car étant le résultat de la recherche scientifique, utilisée dans les pays occidentaux, elle est considérée comme sans danger. D’autres voient dans la méthadone un outil de prévenir contre le VIH dans un contexte où il n’existe pas encore de solution pour les sortir de l’addiction. Un trafic de méthadone est observable les vendredis qui correspond au jour où ils reçoivent leurs doses pour le week-end où certains expérimentent l’arrêt de la prise de méthadone pour préparer leur sortie définitive du programme.

La double distribution de méthadone et de préservatifs est perçue comme paradoxale. Certaines personnes qui se sont mariées après leur stabilisation grâce au programme méthadone, estiment qu’elles ont une vie sexuelle ordonnée et qu’elles n’ont pas besoin de préservatif. D’autres indiquent que le traitement méthadone a réduit leur libido et ne ressentent plus l’envie d’avoir des rapports sexuels ; certains ont recours à la consommation de crack comme substitut au plaisir sexuel. La distribution de seringues est aussi perçue comme contradictoire : elle est considérée comme une « incitation » à la consommation de produits injectables alors que les tests urinaires pour détecter les drogues, réalisés périodiquement au CEPIAD, sont vécus comme un contrôle utilisé pour sanctionner des personnes ayant, parallèlement à la méthadone, consommé d’autres produits. Certains en prennent pour faire plaisir aux équipes de terrain qui les distribuent, d’autres les redistribuent à des parents diabétiques pour leur injection d’insuline.

Conclusion: La méthadone est globalement valorisée pour ses effets bénéfiques et son image moderne. La distribution des seringues et du préservatif sont parfois mal comprises. La mise en œuvre de ces programmes, pour être efficace, doit être accompagnée d’explications claires pour que les CDI adhèrent à leurs objectifs.

Why treatment does not work: findings of one year project survey about IDUs treatment in Quetta, Pakistan

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Background: There are around 11 Drug treatment centers including govt; sector providing treatment to IDUs, DUs but the relapse ratio still sustaining at 87%. It is reported that there are more than 39,000/- addicts, IDUs living across Quetta city areas including women.

Project/activity: Community Development & Entrepreneurship Foundation a NGO in collaboration with local drug treatment center carried out a one year project based survey in 2016 to see the factors involved in relapse ratio. Total 700 drug users were interviewed mostly from indigenous tribes including Dari Hazaras 20%, Pasthons 46%, Panjabi 8% and Afghan migrants 26%. The survey allowed for a clear comparison and defines groups at risk.

Results: During the survey intervention, 700 drug users were recruited/interviewed mostly received treatment more than once. Relapse ratio of 87% shows that it is nourishing despite treatment and detoxification services. The factors identified involved including personal frustration, domestic violence, joblessness; family disrespect, lack of sustainable economic support and social status/ownership.

Lesson learned: Harm reduction services needs to be sensitized by local CBOs. More community based interventions such as sports, social, cultural, and recreational activities to be initiated and a regular awareness campaign to IDUs and general public. Drug users need sustainable health care series for knowledge building and better understanding. Government is has a central role to play.
Accelerated HIV case finding & bridging the gap in anti-retroviral therapy enrolment among prison inmates: A breakeven in achieving the 90-90-90 UNAIDS targets among key populations in Western Nigeria


**Background:** The clock is steadily ticking towards 2020 when the UNAIDS 90-90-90 global target in the fight against HIV/AIDS is hoped to be achieved. The hypothesis tested is the significant association between youthful age and HIV test outcome. The aim of the study was to engage in an accelerated HIV case finding and ensure enrolment into care among key populations in Western Nigeria fulfilling the first & second 90 of the UNAIDS targets.

**Methods:** Lay Adhoc Staff/volunteers were purposely selected and trained. Consentign prison inmates had their blood samples taken and tested following the country’s HIV serology National testing algorithm, using the recommended HIV testing kits. Those who tested positive went through a retesting process in the laboratory and confirmed positive. Post-test counselling was then conducted.

**Results:** A total of 771 prison inmates were tested across the four prisons (Male 765, Female 6) with a mean age ± SD is 31.25 ± 9.47 years. Ten of them (Male 9, Female 1) were confirmed new positives with a mean age ± SD is 31.40 ± 6.24 years, yielding a positivity rate of 1.3%. Eight of the ten positives are in their youthful age (<35 years). Odd’s ratio shows that youthful age have higher association with HIV test outcome (OR: 2.81, CI: 0.80 – 9.47 years). Ten of them (Male 9, Female 1) were confirmed

**Conclusions:** This mode of HIV testing service (HTS) has proved to reach a key population yielding more positives in much fewer numbers of people tested and in a short period of time with 100% linkage with better resource/health financing outlook. Community ART Differentiated Service Delivery (DSD) Model is in line for the patients to sustain the gains in the effort to achieve the 90-90-90 fast track UNAIDS targets.

Female sex workers and HIV acquisition in Côte d’Ivoire: the burden of precariousness and working conditions (ANRS 12361 PREP-CI)


**Background:** Female sex workers (FSW) are a population at high risk of HIV acquisition. New tools to diagnose recent infection may be used to better describe risk of HIV acquisition in this group. The ANRS 12361 PREP-CI project aimed to estimate HIV incidence and describe risk factors among FSW in Côte d’Ivoire.

**Methods:** The study was conducted between September 2016 and March 2017 among FSW aged ≥18 years old in Abidjan and San Pedro. Two rapid tests for recent HIV infection (Determine®, Alere and Vikia®, bio Mérieux) were offered to FSW; in case of positive result, a dried blood spot was collected and window period of infection determined using a test for recent infection (EIA-RI) adapted to the Ivorian context. A standardized sociodemographic questionnaire was then administered to FSW by female peer educators, completed with qualitative interviews and focus groups with 60 FSW.

**Results:** 1000 FSW (400 in San Pedro and 600 in Abidjan) with a median age of 25 years (interquartile range:21-29) were included in the study and screened for HIV. Of these, 39 were diagnosed with HIV, 7 of which were newly infected (mean duration of infection was 113 days), corresponding to an HIV incidence of 2.3% [95% confidence interval: 1.6 - 3.1%]. The incidence was higher in San Pedro (3.3% [2.4-4.5]) than in Abidjan (1.6% [1.1-2.2]); this can be explained by qualitative data in which FSW in San Pedro expressed difficulties (distance, time, costs...) in accessing health care services and prevention methods, particularly regarding condoms. HIV infection was also associated with vulnerability: the incidence was higher among those who charged ≤ 2000 CFA francs per intercourse (3.3% vs. 0.7%), those who performed on the streets or in hotels (5.4% and 4.2%, respectively, vs. 3.9% in brothel and 0.8% in bar/drinking spot), and among those who had more than 5 clients the last working day (6.1% vs. 1.8% among those who had under 5 clients) and who could be more difficult to identify and refer to HIV prevention services by female peer educators. Finally, FSW under <25 years old were at higher risk of infection (2.8%) than older ones (1.8%), and HIV incidence was associated with other sexually transmitted infections (STI) (2.5% in those who had ≥ 1 STI in the last 12 months vs. 1.9%). Contrary to expectations, an extensive sex work experience did not reduce exposure to HIV, when we compared FSW who had been working for more than 3
years with the ones who had newly arrived in the sex work industry (2.5% vs. 2.0%).

Conclusion: This study is one of the first to estimate HIV incidence in Côte d’Ivoire among FSW. This key population is much more exposed than the rest of the general population (2.3% vs. 0.06% estimated by UNAIDS). New infections seem to be concentrated among younger FSW in precarious situations and working in remote areas, such as San Pedro area. These vulnerable subgroups should therefore be a priority target for prevention programs such as pre-exposure prophylaxis (PrEP) as recommended by WHO.

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Reaching the unreached: Use of HIV self-testing kits to identify hidden HIV positive Key populations in Kenya

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Background: In Kenya, approximately half of all HIV infected persons are unaware of their status. Key populations (KPs) are disproportionately affected by HIV and contribute to a third of all new infections annually. Despite various strategies to improve HIV testing among men who have sex with men (MSM) and female sex workers (FSW), annual testing rates have remained at approximately 50%. LINKAGES Kenya—a large HIV prevention program serving KPs—used HIV self-testing (HIVST) to improve HIV case finding among MSM and FSW in Kenya.

Methods: Outreach workers, peer educators (PEs) and healthcare workers were trained on use of HIVST kits. Drop-in centers (DIC) were supplied with HIVST kits through their individual county teams. Once received, kits were distributed through: a) PEs to reach KPs in their cohorts who had not previously received an HIV test, b) MSM accessing HIV testing services at the DIC to give to their partners who had not accessed an HIV test, and c) HIV positive KPs to give to their partners who were unwilling to accompany them for an HIV test. Persons receiving the HIVST kits were provided with a telephone contact for a staff clinician and informed that they would need to return for confirmatory testing if results were positive or inconclusive. Healthcare workers also followed up via phone calls to determine if kits were used. Descriptive statistics were used to summarize testing outcomes.

Results: From October through December 2018, 13 DICs received a total of 4,726 HIVST kits, of which 930 kits (20%) were distributed. Thirty-nine people accessed the DIC for confirmatory HIV testing due to inconclusive or positive results. Six (15%) were confirmed positive—three MSM and three FSW. All but one FSW were linked to treatment. Main challenges reported were difficulty by PEs in understanding how to use the kits and difficulty by healthcare workers in contacting KPs to ascertain kit use.

Conclusions: HIV self-testing aids in identification of HIV positive KPs and is a feasible strategy to support case identification. Further training of KPs and peer educators to understand the self-testing procedures is needed to reduce false positive and inconclusive results.

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Partner notification services optimize HIV case identification and linkage to treatment among Key populations in Kenya

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Background: Despite constituting less than 1% of the population, key populations (KPs) in Kenya are disproportionately affected by HIV and contribute up to one-third of new HIV infections in the country. However, identification of HIV-positive KP individuals continues to be a challenge, with the national KP program reporting case identification rates of 2% per annum. LINKAGES Kenya, a USAID- and PEPFAR-funded KP project, implemented the partner notification services (PNS) strategy to identify and link to treatment HIV-positive KP individuals in Kenya.

Methods: Health care workers (HCWs) from 11 implementing partners across eight counties were trained on PNS. Data were analyzed to identify and flag HIV-positive KPs within the program, with priority given to newly identified HIV-positive KP individuals or KP individuals with high viral loads (above 1000 copies/ml). The HIV-positive KP individuals were contacted and asked to return for a visit or were followed up at routine visits during which they were asked to disclose their social and sexual contacts over the preceding 12 months. HCWs, in collaboration with the HIV-positive index individuals, made efforts to offer an HIV test to contacts identified. Descriptive statistics were used to summarize case identification outcomes.

Results: From October 2017 to November 2018, 19 HCWs screened and offered PNS to 288 HIV-positive members of KPs (223 men who have sex with men [MSM], 65 female sex workers [FSWs]). The majority of MSM (70%) were ages 15–29 years, while the majority of FSWs (46%) were ages 30–49 years. A total of 587 contacts (544 male, 43 female) were elicited, of whom 72 were a) PEs to HIV positive individuals (69 males, three females). Of the 507 contacts eligible for HIV testing, 71% were tested for HIV (338 males, 21 females), of whom 51 (14%) were newly identified as positive (37 males, 14 females), representing a fivefold increase in case identification compared to the previous year. All but two males were successfully linked to treatment.

Conclusions: The use of PNS substantially increased HIV case identification among KPs. PNS should be scaled up in KP programs to attain the global 95-95-95 goals and for public health impact.
Alcohol and Tobacco Consumption Among Key Populations in Togo in 2017: a Cross-Sectional Study

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Background: Alcohol and tobacco use are important contributors to the HIV epidemic as they could affect HIV prevention efforts as well as HIV treatment and medication adherence. Few studies in West Africa have explored the patterns of alcohol and tobacco consumption among key populations. The aim of this study was to assess the determinants of alcohol and tobacco consumption among the three main key populations groups: males who have sex with males (MSM), female sex workers (FSW) and drug users (DU) in Togo.

Materials and Methods: A cross-sectional bio-behavioral study was conducted in 2017 using a respondent-driven sampling (RDS) method, in eight towns of Togo. Socio-demographic and behavioral characteristics were assessed using a standardized questionnaire. The Alcohol Use Disorders Identification Test (AUDIT) and a subset of the Tobacco Questions for Survey were used to assess alcohol and tobacco consumption, respectively. The Kessler-psychological distress scale (K10) was used to assess psychological distress. A blood sample was taken to test for HIV. Data were analyzed using descriptive analysis and a logistic regression model.

Results: The prevalence of alcohol consumption, hazardous/harmful consumption and binge drinking was 64.8%, 38.4%, and 45.5%, respectively. Current tobacco use was reported by 30.6% of participants and HIV prevalence was estimated at 12.5%. DU (female and male DU) were more likely to engage in binge drinking compared to other key populations (aOR=2.9; 95% CI = [1.2-7.9]); p= 0.05 and aOR=2.0; 95% CI= [1.4-2.8]; p=0.001, respectively. Participants who were identified as having hazardous/harmful alcohol consumption had almost three times the odds of tobacco consumption than those with no risky consumption (aOR=2.6; 95% CI= [2.0-3.4]; p=0.001). Hazardous/harmful alcohol consumption was three times more likely among participants with severe psychological distress compared to those with no psychological distress (aOR= 3.3, 95% CI= [2.2 – 5.1]; p=0.001). Finally, being 25 years old and older (aOR=1.3; 95% CI [1.1-1.6]), tobacco use (aOR=2.6; 95% CI= [2.0-3.4]), being HIV positive (aOR=0.7; 95% CI [0.5-0.9]) were significantly associated with both hazardous/harmful alcohol consumption and binge drinking.

Conclusions: Alcohol and tobacco use and abuse are highly prevalent among key populations. There is an urgent need for the integration of mental health and substance abuse reduction interventions into HIV prevention programs geared toward key populations, particularly those living with HIV.

Views and experiences of HIV positive inmates and their access to health services in Southern Malawi.

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Background: Globally, the prevalence of HIV amongst prison inmates is high, yet comprehensive interventions to address HIV in prisons have been limited. In Malawi, HIV prevalence is around 35% in prisons compared with 10.6% in the general adult population. We investigated views and experiences of Malawian HIV positive inmates with HIV/AIDS services within prisons and explored challenges they may face in accessing those services.

Materials and Methods: This was a qualitative study in two urban and four rural prisons in Southern Malawi. We conducted in-depth interviews with 6 female and 33 male HIV positive prison inmates between January and February, 2017. We used a digital recorder to capture data that we transcribed and translated. Content analysis approach was used to analyze data.

Results: In the urban prisons, male prison inmates reported that they had access to the HIV/AIDS services and felt that the health services were just similar to those offered outside the prisons. However, female prison inmates in the two urban prisons reported that they were often denied timely access to the clinic by prison staff and would only be allowed to access health services when they already were very sick. In the rural prisons, where a clinic was not available inside the prison, inmates reported they could access health services including HIV testing either through outreach services or when they had requested from the prison staff to be escorted to the healthy facility. Inmates in urban prisons believed that availability and access to HIV/AIDS services had improved due to the support of non-governmental organizations (NGOs) with full time staff supporting prison clinics. Five prison inmates who had been in urban prisons for more than 20 years described that in the years before the involvement of NGOs, many prison inmates were dying on a daily basis because they did not know their HIV status and were not on HIV treatment. Inmates from one of the urban prison reported that HIV risk behavior such as sharing of razor blades and sex among some prison inmates takes place. Lastly, inmates in all prisons felt that prison space is too congested leading to increased spread of tuberculosis, and that poor sanitation as well as poor food is being provided to them, which do not go well with HIV drugs.

Conclusion: Only male inmates in urban Malawi prisons reported good access to HIV/AIDS services, which they attributed to
involvement of NGOs. Increasing access to HIV services for female prisoners and inmates in rural prisons, addressing HIV risk behaviors in prisons, reducing overcrowding, and improving sanitation and nutrition are priorities for prison health care in Malawi.

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Quarterly HIV testing and counselling in MSM in West Africa: adherence and associated factors (Coh MSM ANRS 12324-Expertise France)

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Background: Quarterly HIV testing and counselling (HTC) is recommended for key populations, including men who have sex with men (MSM), but data on its feasibility are lacking. We therefore assessed the adherence to quarterly HTC, its associated factors in MSM in four West African countries.

Methods: We conducted a prospective cohort study in 2015-2018 in community-based clinics in Bamako (Mali), Abidjan (Côte d’Ivoire), Ouagadougou (Burkina Faso), and Lomé (Togo). Eligibility criteria were as follows: men aged 18 years or older, reporting at least one episode of anal intercourse with another man within the previous 3 months, and being HIV-negative. MSM were offered a quarterly comprehensive HIV intervention including clinical examination, testing for HIV, diagnosis and treatment of sexually transmitted infections, peer-led support, condoms and lubricants. Data on sociodemographic characteristics and sexual behaviours were collected at enrolment using a standardised questionnaire. Adherence to HTC was calculated at each quarterly time point. Factors associated with adherence to quarterly HTC were identified using a multivariate multilevel logistic regression analysis.

Results: We enrolled 628 MSM: 249 (39.6%) in Bamako, 138 (22.0%) in Abidjan, 125 (19.9%) in Ouagadougou, and 116 (18.5%) in Lomé. The median age was 23.4 years (interquartile range [IQR]: 22.0–24.9). Median follow-up time was 32.2 months (IQR 28.2–34.9). Overall, the adherence to quarterly HTC was 70.9% (95% confidence interval [CI] 69.7–72.2). From month 3 to month 30, adherence to quarterly HTC was 82.2%, 80.5%, 76.5%, 78.0%, 73.5%, 67.1%, 56.2%, 50.7%, 48.6%, respectively. This decrease over time was significant (adjusted odds ratio [aOR] 0.90 per month, 95% CI 0.89–0.91, p<0.001). Adherence to quarterly HTC was significantly higher in Bamako and Lomé than in Abidjan (aOR 5.60, 95% CI 2.9–10.8, p<0.001 and aOR 6.10, 95% CI 2.7–14.0, p<0.001, respectively). By contrast there was no significant difference between Ouagadougou and Abidjan (aOR 1.25, 95% CI 0.59–2.63, p=0.560). In addition, no individual medical, social or behavioural factors were identified.

Conclusions: Quarterly HTC appears feasible in West African MSM. Support interventions are however necessary for sustaining the adherence in the long term. These interventions should take into account the local context.

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Linkage to Care among HIV-Infected men who have sex with men and female sex workers in Coastal Kenya: towards 90-90-90

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Background: Linkage to care is a critical step in achieving the global 90-90-90 HIV targets. Kenya has a mixed HIV epidemic picture with men who have sex with men and female sex workers disproportionately affected by the epidemic. While the universal test and treat strategy has been adopted in the country, only a small proportion of HIV positive men who have sex with men and female sex workers are enrolled into care. Knowledge of patterns of linkage to care is important in assessing progress of the 90-90-90 strategy. We explored HIV linkage to care among newly diagnosed men who have sex with men and female sex workers in Coastal Kenya.

Materials & Methods: 1,570 men who have sex with men and 6,953 female sex workers were tested for HIV either at hotspot based outreaches or at designated 6 drop-in centers in Mombasa, Kwale and Taita Taveta Counties of Coastal Kenya from October 2017 to September 2018 as part of routine package of interventions for key populations. Those that tested positive were counseled on the benefits of immediate antiretroviral therapy initiation and offered treatment. Those that declined care were followed up by drop-in center clinicians via phone calls, linked to peer navigators and invited to psychosocial support groups to encourage embracement of treatment. Reasons for declining care were outlined by clinicians.

Results: 22 men who have sex with men tested positive for HIV, a positivity rate of 1.4%. Of these, 10 (45.4%) were successfully initiated on ART. 117 female sex workers tested positive for HIV, a positivity rate of 1.7%. Of these, 86 (73.5%) were initiated on ART. More HIV positive female sex workers were willing to start antiretroviral therapy compared to positive men who have sex with men. Perceived stigma, lack of family support due to the secretive nature of sex work and increased mobility were key contributors to the decision not to be linked to care.

Conclusion: Despite appropriate counseling and the offer of treatment at key population friendly drop-in centers after a HIV positive diagnosis, there is still clear reluctance among key population members to start treatment immediately. While adoption of escorted referral systems, engagement of peer navigators in follow up and invitation to psychosocial support groups aids in linkage to care, additional robust strategies that can be scaled up need to be modeled for the 2nd 90-90-90 goal to become a reality.
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Uptake of HIV testing services among female sex workers and men who have sex with men in Coastal Kenya

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Background: Reaching female sex workers (fsw) and men who have sex with men (msm) with HIV testing services (HTS) is essential for epidemic control of HIV to be achieved. Those that do not identify as being a member of either vulnerable group however make it especially difficult to reach them. Incorporation of safe spaces at drop-in centers and peer-led approach for outreaches are two instrumental ways to make HIV services more accessible and acceptable to current and potential new peers. We explored uptake of HTS at both drop-in centers and peer-led outreaches among fsw and msm in Coastal Kenya.

Methods: 6,262 fsw and 1,187 msm were reached with HIV prevention services at either 6 designated drop-in centers or peer-led outreaches in Mombasa, Kwale and Taita Taveta Counties of Coastal Kenya from October 2018 to December 2018. They were offered HTS as part of routine package of interventions for key populations. Data was collected in standardized national tools and analyzed using SPSS 20.

Results: 43.4% (2,717) of fsw and 55.9% (664) of msm reached with HIV prevention services were tested for HIV. Of the 2,717 fsw tested for HIV, 21.5% (585) fsw were tested at the drop-in centers with 12 being diagnosed positive, a yield of 2.1% while 78.5% (2,132) fsw were tested at peer-led outreaches with 33 being diagnosed positive, a yield of 1.5%. Of the 664 msm tested for HIV, 53.5% (355) msm were tested at the drop-in centers with 5 being diagnosed positive, a yield of 1.4% while 46.5% (309) msm were tested at peer-led outreaches with 2 being diagnosed positive, a yield of 0.6%.

Conclusion: Uptake of HTS among fsw and msm reached with HIV prevention services remains sub optimal. More fsw accessed HTS at outreaches while more msm accessed HTS at drop-in centers. This could be attributed to security concerns for msm during outreaches. Despite the prevalence of HIV among fsw and msm being high in Kenya, 29.3% and 18.2% respectively, low yield was registered. This could partly be due to inadequate testing of the cohort or inadequate reach of fsw and msm.

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Specialized or integrated care? Choices regarding treatment site for HIV and viral hepatitis by injecting drug users in Dakar (Senegal)

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Context: Since 2015, Dakar Integrated Addiction Treatment Center (CEPIAD) offers care and harm reduction for HIV, HBV and HCV, including methadone. CODISEN project is evaluating this pilot program and includes an anthropological study. From 2017, CEPIAD has been providing Antiretroviral Treatment (ART) to HIV-positive patients in order to facilitate access.

Objective/Method: The aim of this presentation is to describe patients’ choices and perceptions regarding integrated care (hepatitis testing and ART provision) in order to understand the acceptability of this strategy. Observation and repeated in-depth individual interviews were conducted at CEPIAD between 2016 and 2018 with 4 healthcare professionals and with injecting drug users (IDUs), 8 of whom are HIV-positive, 5 HCV-positive, and 8 HBV-positive. Data were recorded and transcribed, and a thematic analysis was performed based on Dedoose software.

Results: IDUs whose HIV-positive status was detected at CEPIAD get their ART treatment there. Those who were already diagnosed HIV-positive before joining CEPIAD continue to obtain ART from the facilities where they were previously treated (in three departments based in the same hospital as CEPIAD or in another hospital), despite the possibility of treatment provision offered by CEPIAD. Interviews with patients reveal both their reluctance to change their treatment place and reasons for doing so. Some prefer to remain in their previous treatment facility in order to maintain valued therapeutic relationships. Others wish to “be transferred” to CEPIAD in order to avoid the risk of stigmatization as IDUs in their treatment facility. Indeed, IDUs identify some departments inside Fann Hospital with HIV and hepatitis treatment, and therefore fear being seen in these as this might reveal their health status to other IDUs who are supported by CEPIAD. The stigmatization of HIV and HVC among IDUs is fuelled by misconceptions about their modes of transmission, leading to fear about being infected by peers. Interviews and observations show that this stigmatization, whether it is perceived or enacted, limits participation in CEPIAD activities such as community meals, talks, etc.

Conclusion: Although this study is based on a small number of subjects, it provides hypotheses concerning the determinants of acceptability for integrated care, and recommendations that must be validated by more extensive research. IDUs who live with an infectious disease face a double stigma (perceived and/or enacted) as both (previous) drug users and as PlwHBV, PlwHBV, PlwHCV. The choices made by IDUs appear to be influenced by the risk of categorization associated with sites of care, and reveal a stigma among IDUs that is still poorly documented. To promote care acceptability, it seems necessary: to offer IDUs several options for site of treatment; to protect confidentiality on treatments delivered at CEPIAD; to provide more information to IDUs about transmission risks and routes; and to raise awareness about the stigmatization of people living with HIV and hepatitis.

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Leveraging social networks of men who have sex with men and transgender persons to optimise HIV intervention approaches: An experience from LINKAGES India

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Background: The social and HIV-related risk networks of men who have sex with men (MSM) and transgender (TG) people in India are intertwined. As a result, approaches that leverage the voluntary participation of MSM and TG network members to connect peers to HIV testing and other services may have synergistic benefits. LINKAGES India, in collaboration with stakeholders, implemented a network referral strategy called the enhanced peer outreach approach (EPOA) among MSM in an attempt to improve service access among both MSM and previously underserved TG people in their networks. The EPOA employs a peer-led coupon-based referral system where primary seeds initiate the network referral.

Methods: We analysed program data from an EPOA conducted in Krishna district during July-October 2017, targeting MSM and TG people. We estimated the means and standard deviations (SD) for continuous variables and proportions for categorical variables. We compared the proportions across population groups using chi square test or Fisher’s exact test for low expected cell counts; and used the ‘chi square for trend’ analysis to assess the trend of distribution across multiple waves of peer mobilization.

Results: The EPOA, initiated by 16 MSM as primary seeds, reached 337 clients [MSM-271 (80.4%); transgender persons-66 (19.6%)] through five peer-mobilization waves. Mean age of the population was 28.33±7.65 (MSM-28.57; TG-27.27). The 337 clients included 239 MSM referred by MSM (71%); 32 MSM referred by TG people (9%); 50 TG persons referred by MSM (15%); and 16 TG persons referred by other TG people (5%). The cross-referral (MSM referred by TG person and vice versa) was increased from 9% in the initial recruitment wave to 24% in the final wave and the trend in increase was significant (p<0.05). Overall, 75.8% of transgender clients (n=66) were mobilized through MSM clients. Overall, the MSM to TG person referral was significantly higher compared with TG person to MSM referral (15% vs 10%, p<0.05). The number of TG people referring other TG people significantly increased across the waves and the trend in increase was significant (p<0.001). Of the 271 MSM and 66 TG persons mobilized, 19.2% and 18.2% respectively were diagnosed HIV-positive. Of the 16 primary seeds, three were HIV-positive and 13 were HIV-negative. The network of three HIV-positive seeds comprised 64.4% (217) of the total EPOA participants with 23% (50) HIV positivity compared to that of 13 HIV-negative seeds who mobilized 35.6% (120) of EPOA participants with 11.67% (14) HIV positivity (p<0.05).

Conclusion: The findings have demonstrated opportunities to engage some TG network members through MSM social networks, given the overlapping nature of these networks in India. The transgender network was penetrated more during the later waves of EPOA highlighting the need for resilient and continuous peer mobilization efforts. Adaptive approaches embracing the local social structure of the community; and engaging HIV-positive primary seeds strongly connected in their local social network are recommended to optimally target the population, maximising the benefits of reach and test approaches. It is required to further explore these synergetic networks in delivering ongoing prevention intervention and peer navigation.

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Loss to follow-up among Zambian female sex workers: are we retaining high-risk women for HIV vaccine trials?

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Background: Female sex workers (FSW) are a high-risk group for HIV infection and hence often targeted for inclusion in HIV vaccine trials. HIV incidence studies are a good way to identify at-risk candidates for vaccine trials but are subject to loss of follow-up (LTFU), which can bias resulting estimates. Thus- in HIV incidence studies- it is important to compare the characteristics of participants who remain against those who drop out to determine if the HIV risk differs between groups. We investigated the factors associated with LTFU among FSW in Zambia.

Methods: This prospective HIV incidence study ran for five years between September 2012 and September 2017 with the goal of identifying high-risk women for future HIV vaccine trials. Community health workers and peer sex workers at the Zambia- Emory HIV Research Project recruited FSW from known hotspots in Lusaka and Ndola. Enrolled FSW were followed up at month 1, month 3 and every three months thereafter. Staff sent reminder text messages and paid home visits to FSW who were late for their visits. Participants were considered LTFU if they missed two consecutive quarterly follow-up visits or if their last visit took place more than six months before the administrative censoring date. We used a cox proportional hazards model to compute adjusted hazard ratios (AHR) of LTFU with 95% confidence intervals (CI).

Results: 385 FSW were eligible for survival analysis, 182 (47%) of whom were LTFU. The rate of LTFU was 24.8 per 100 person-years. The odds of LTFU were significantly increased for FSW who: attained secondary school education or higher (AHR: 1.42, 95% CI: 1.07-1.88), were not working for the project (AHR: 2.26, 95% CI: 1.62-3.17), and participated in social networks (AHR: 1.58, 95% CI: 1.1-2.23).
95%CI: 1.04-1.96) versus primary or none; and began sex work
above the legal age of consent (AHR: 1.70, 95%CI: 1.14-2.56)
versus as minors. FSW who saw 5 to 9 (AHR: 0.57, 95%CI: 0.34-
0.97) or greater than 10 (AHR: 0.53, 95%CI: 0.31-0.89) new
clients per month were less likely to be LTFU than those who saw
none.

Conclusion: We found a high LTFU rate among Zambian FSW.
Women who remained in the study had lower educational
attainment, entered sex work at a young age and had high client
volume. This implies that we retained high-risk candidates for
future HIV vaccine trials. Retention strategies for sex workers
should consider sociodemographics, sexual history and sexual
behaviour as risk factors for LTFU.

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Are Integrated Approaches for Delivering Reproductive Health
Services to Key Populations Feasible in Settings of Stigma and
Criminalization? Lessons from A HIV Project In Nigeria.

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Background: Key populations (KPs) - commercial sex workers
(CSWs), men who have sex with men (MSM) and people who
inject drugs (PWID) — are disproportionately affected by HIV
and at the same time have a higher prevalence of HIV than the
general population with estimates of 14.4%, 23% and 3.4% for
the respective KP categories. While there are no accurate
estimates of KP populations as a sub-set of the 1,050,000
Nigerians currently receiving anti-retroviral therapy (ART),
evidence suggests that impediments to accessing ART include
stigmatization and criminalization. Typical ART delivery models
have been one-stop-shops delivering reproductive health services
including HIV/AIDS but these models have been criticized because of high startup costs and sustainability.

Method: In December, 2018, a retrospective desk review for the
12-month period from October, 2017 to November, 2018 was
conducted for the Global Action Towards HIV/AIDS Epidemic
Control in Sub-National Units in Nigeria (4GATES) Program in 4
states in Nigeria. 4GATES program delivers HIV/AIDS prevention,
care and treatment services to about 58,000 persons living with
HIV including KPs. The review was to ascertain program
coverage, inclusion and receptiveness to KPs among ART centers
supported by the program. De-identified data for KPs receiving
HIV testing and ART services was reviewed and health facilities
were mapped.

Results: Ten HIV testing and treatment centers (representing
11% of the 91 hospitals supported by the 4GATES program) were
delivering HIV testing and ART services to KPs using an integrated
model. The nine centers included 3 tertiary facilities and 6
secondary level facilities including two faith based health facility.
In the period under review, over 802 HIV tests were done for KPs
with 28 reactive cases (3.5% yield) and 23 of them were
commenced on ART (initiation rate of 82.1%). These hospitals
did not run one-stop shops for KPs but reported their success
strategies to include patient-friendliness workshops for staff,
having KP friendly clinical staff for KPs with high levels of self-
stigma, running after-hours and weekend clinics and working
with KP peer educators and community based KP support groups
which strengthened health seeking behavior and followed up
with members for enhanced retention.

Conclusion: Investments in training health care workers about
patient receptiveness and HIV stigma reduction as well as pro-
actively creating a "safe clinical space" for KPs can improve
acceptability and retention in ART programs persons who feel
stigmatized because of their sexual orientation and/or practices.
Integrated clinics for key populations are not just possible but
can produce better performance outputs while building on
existing clinic systems which do not need special staffing or
activities to improve access to reproductive health services for
KPs.

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Potential distribution outlets of HIV oral self-test kits for access by Key
Populations in Ghana: A qualitative exploratory study

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Background: HIV self-testing (HIVST) is a strategy that has the
potential to eliminate disparities in access, uptake, and facilitate
early HIV diagnosis and treatment to drive the "Test and Treat"
policy which is central to the 90-90-90 agender. Available
statistics indicate high differential in HIV prevalence rate
between key populations (female sex workers -FSW (7%) and
men who have sex with men -MSM (18.1%)) and the general
population (1.6%). Key populations (KP) are also underserved
with HIV related services due to stigma and discrimination driven
by sociocultural, religious and legal factors. The paper explores
the main distribution outlets of oral HIVST kit most preferred by
KPs in Ghana. This comes on the heels of new national agender
of rolling out HIVST in the country.

Method: Data are drawn from a feasibility and acceptability of
oral HIV self-testing study among key population (MSM and
FSWs) in Ghana conducted under the USAID Ghana
Strengthening the Care Continuum Project. Focus group
discussions (FGDs) and in-depth interviews (IDIs) were
conducted with FSWs and MSM, and case managers/peer
educators, and IDIs with policymakers, healthcare providers and
staff of organizations working with FSWs or MSM, from two
regions in Ghana (Greater Accra and Brong-Ahafo). A total of 24
FGDs (8 with case managers/peer educators, 8 with FSWs, and 8
with MSM) and 76 IDIs (20 national and regional policymakers,
16 healthcare providers, 16 staff of key population
organizations, 16 FSWs and 8 MSM) were conducted. FSWs and
MSM were of HIV negative or unknown status and were
actively creating a "safe clinical space" for KPs can improve
acceptability and retention in ART programs persons who feel
stigmatized because of their sexual orientation and/or practices.
Results: The results identified a wide spectrum of potential preferred access point that KPs will like to receive HIVST kits. Though there are no significant differentials in the most preferred access point for HIVST kit by KP types, individual preference were evident. The three (3) most preferred access points from KPs are KP-friendly organization/CSOs, Drugstore/Pharmacy and Health facility. Others also mentioned non-conventional points of distribution like Supermarket, Social Media and Helpline Counselor (HLC). In terms of least preferred, some KP mentioned health facility followed by KP-friendly organization. Service Providers and Policy Makers also mentioned the same access points in the order of the KPs with Supermaker and HLC the very least mentioned. The most preferred access point remains the KP friendly organizations followed by health facility for all KPs, Service Providers and Policy Makers. Younger KPs (16-19 years) preferred Drugstore/Pharmacy followed by Hospital/health facilities while their older counterparts (20+ years) preferred KP-friendly organization before Drugstore/Pharmacy.

Conclusions: KPs will most preferred KP-friendly organization as the access point for HIV self-testing kits. Given the existence of HIV related stigma and discrimination in the society, authors argue for a strategic tailored distribution of HIVST kits targeting KPs for successful rollout.

Exploring the nexus between sex work and drug use among young females in urban informal settlements of Accra Ghana

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Background: Young females aged 15-24 are the most affected in the global HIV epidemic and often bear the brunt of other reproductive health problems. Adolescent female sex workers who use drugs are particularly more vulnerable. Evidence from the work of Hope for Future Generations (HFFG), a local non-governmental organization (NGO) indicates that drug use and female sex work is increasing particularly in urban poor informal settlements in Ghana. Yet, there is a deficit of reliable and rigorous context-specific data to inform appropriate interventions in this area. As part of the USAID, Care-Continuum project, HFFG, therefore, commissioned an explorative qualitative study to better understand the relationship between sex work and drug use among young females in urban slums of Accra Ghana.

Materials & Methods: The study employed qualitative methods to examine the individual level and structural factors that influence sex work and drug use among young females, in urban slums of Accra. Six Focused Group Discussions and three In-depth Interviews, were conducted from January to May 2018 in three purposively selected slums – Kokomba, Agbogbloshie and Malata in the Greater Accra region. Participants were recruited through snowballing and ranged from 15 to 19 years and were engaged in female sex work at the time of the study. Participants provided informed consent. Content analysis was used to arrive at the results.

Results: A lot of the FSWs started as “kayaye” (head porters) and were economic migrants from the Northern parts of Ghana and later engaged in sex work. Most of the participants indicated that they started sex work by age 14. Drug-use was pervasive among FSWs in the study. Apart from money as compensation for sex work, many adolescent sex workers exchanged sex for drugs. They also said that under the influence of the drugs, they lack the agency to negotiate safe sex including condom use. The gateway to the use of narcotic drugs is alcohol and tobacco consumption with the most commonly used drugs being marijuana, “mixture” (cough syrups mixed with caffeinated drinks) and more high-level prescription drugs such as tramadol. Although participants were aware of injecting drugs, none of them had used them or seen anyone using.

Conclusion: The study highlights the complex relationship between sex work and drug use among young females and the consequent vulnerability to HIV infection and other reproductive health problems. Crafting targeted, context-specific interventions for all sub-populations including young adolescents will enhance Ghana’s chances of achieving and sustaining gains toward eradicating HIV as a public health concern.

Experiences and Perspectives of Adolescents Seropositive for HIV/AIDS and Key Informants

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While pediatricians are expected to provide care for children until the age of 18 years, in Ghana, patients are usually transferred to adult services at 12 years of age. This leaves a gap in care, for the crucial period of adolescence, where there is lack of specialized clinics, particularly for adolescents with chronic conditions. Thus, this study aimed to explore the experiences and perspectives of HIV-infected adolescents and key informants. The study was conducted at the Adolescent HIV clinic at the Fevers Unit of the Korle-Bu teaching Hospital, Accra, Ghana. Utilizing an implementation research design, thirty HIV positive adolescents (12 to 19 years old) attending the Adolescent HIV clinic at the Fevers Unit were purposively recruited and interviewed. Also, ten staff of the Fevers Unit, comprising of two doctors, one pharmacist, three nurses and four counsellors, as well as ten caregivers (parents and guardians) were interviewed.

The findings of the study at the pre-intervention stage indicated that many of the adolescents experienced psychological challenges. Besides, for fear of being stigmatized, adolescents and their parents/guardians did not disclose the HV status of the adolescents. In addition, some adolescents and their families had financial challenges obtaining their medications. Furthermore, it was found that adolescents included in this study received support from both their parents/guardians and health providers. Evidence showed that the healthcare providers were appreciated for the services they offered the adolescents and their parents/guardians.
We concluded that many of the adolescents had psychological challenges that suggest the need for therapeutic or psychosocial support. In addition, fear of stigma underpinned adolescents and their parents/guardians decision to conceal the HIV status and this has implications for treatment, among others.

Based on the findings of the study, we recommended the inclusion and provision of intensive psychosocial interventions for HIV infected adolescents. This is crucial because psychosocial interventions have been found to improve emotional wellbeing, as well as medical outcomes for adolescents seropositive for HIV/AIDS. Furthermore, HIV/AIDS public educational campaigns should be strengthened in order to reduce HIV/AIDS related stigma. Additionally, financial support from the governmental and non-governmental organizations is essential. Moreover, the provision medications at the pharmacy at the Korle-Bu Teaching hospital would safeguard the privacy of adolescents.

Viral Suppression among HIV Patients who receive SMS Reminders for Clinical Appointments: Experience from USAID Boresha Afya Program in Southern Tanzania

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Background: Successful HIV care and treatment essentially depends on adherence to life-long Antiretroviral Therapy (ART) requiring regular clinic appointments for medication refill, HIV Viral Load (HVL) sample collection and adherence counseling. Missed clinic appointments is one of the challenges faced by HIV care and treatment centers in Tanzania, leading to treatment interruption, poor adherence, persistent HVL and ultimately poor patient outcome. Forgetfulness has been identified as one of reasons causing patients to miss their appointments. In this study, HVL suppression rate of patients who successfully received Short Message Services (SMS) reminders for clinic appointments was compared with overall program suppression rate.

Methods: In April 2017, the program deployed SMS reminder system in 50 health facilities and scaled up to 190 facilities by end of September 2018. Patients received SMS message three days before their appointment date and in the morning of their appointment reminding them to attend clinics as scheduled. Analysis of routine collected patient data from electronic patient database (CTC2 database) and SMS reminder database was done for July-September 2018 period. Data analyzed was from S high volume facilities in 3 program supported regions. Using STATA, data analysis of patients aged 15 years or more who successfully received SMS reminders was done for the outcome of viral suppression and comparison with the overall program viral suppression was done.

Results: Out of 3,470 patients analyzed, females were 2, 232 (64%) and males were 1,238 (36%). Females tested were 1,049 and males tested were 611. Overall, viral suppression rate among patients on SMS reminder system was 90% (1,501/1,660) which was higher than program viral suppression rate of 85% (p =0.00001). Suppression rate among female patients was 91% (955/1049) while that of males was 89% (546/611), which were also high compared to program suppression rate of 86% (p=0.0000) and 84%(p=0.0008) among females and males respectively.

Conclusion: Use of SMS reminder to ensure patients adhere to their clinic appointment dates improves adherence to treatment, viral suppression and ultimately patient outcome. Achieving viral suppression is key to achieving HIV epidemic control. There is need to scale up SMS reminder services coverage in order to ensure better patient outcome.

Dolutegravir Containing Regimens May Need Optimization for African Youth Failing Art.

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Introduction: Chronically infected adolescents and young adults, receiving antiretroviral therapy (ART) struggle to maintain virologic suppression. In sub-Saharan Africa youth who are viremic on ART, have a high frequency of drug resistance mutations (DRMs) and limited affordable therapeutic options. The integrase strand inhibitor (INSTI) dolutegravir (DTG) combined with tenofovir (TDF) and lamivudine (3TC) (TLD) is a new single tablet regimen (STR) proposed for use in public ART programs in Africa. Among viremic youth failing ART in Harare, we analyzed DRMs and evaluated the potential effectiveness of the regimen.

Methods: We established a cohort of HIV-1 infected youth on long-term 1st and 2nd line ART with confirmed virologic failure (VL>1000 copies/mL). A genotypic analysis of isolated plasma virus was conducted and susceptibility scores to TLD and current 2nd and 3rd line therapies were calculated.

Results: Plasma virus from 160/185 (86%) participants was sequenced; 112(70%) on 1st line and 48 (30%) on 2nd line regimens. Median (IQR) age was 18 (15-19) years, and median duration on ART(IQR) was 6(4-8) years. Median (IQR) viral load was 4.51 (4.05-4.93) log10 copies/mL. DRMs were present in 94% and 67% of 1st and 2nd line failures respectively (p<0.001). The lower rate of DRMs on 2nd line therapy suggests PI use may reflect poor adherence and poor tolerance. Dual class resistance to NRTIs and NNRTIs was detected in 96 (60%) of 1st line failures; PI DRMs were detected in a minority (10%) of subjects failing 2nd line regimens. A total genotypic susceptibility score (GSSS) s2 that may potentially result in PI or DTG monotherapy, was observed in 11% and 42% of 1st line failures switching to current PI based 2nd line therapies and TLD respectively. The substitution of AZT for TDF in TLD could optimize 2nd line therapy to achieve a GSSS>2. The proposed TLD regimen has
predicted high levels of efficacy (TGSS>2) among 2nd line treatment failures.

Conclusion: Current recommended PI based 2nd line therapies may provide effective treatment for viremic youth failing 1st line ART, but are poorly tolerated and demonstrate low rates of adherence. In 1st line failure, TLD in the absence of genotyping may not be an optimal choice. Drug resistance data will inform strategies for the implementation of TLD as 2nd and 3rd line ART, while novel combinations and/or new agents are needed for this hard to treat population that requires decades of ART.

Lean on Me: Improving Patient Retention and Viral Suppression Through the “Me4U” Enhanced Adherence Calendar in South Rift Region, Kenya

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Background: In the era of “Test and Start”, ensuring timely initiation of and subsequent adherence to ART requires more than just conventional approaches. Several factors have been shown to be critical to ensure that patients starting ART are retained in care with subsequent achievement of viral load suppression (VLS). FHI 360 has been supporting HIV care and treatment in South Rift region of Kenya through the APHIAPLUS and Afya Nyota ya Bonde projects. Like many other projects in Sub-Saharan Africa, retention was noted to be a major challenge, especially within the first three months following ART initiation. The project instituted individualized patient follow up by case managers using a scheduled, intensive adherence Me4U calendars targeting newly enrolled ART clients, those with suspected treatment failure, and defaulters. We evaluated the effectiveness of this case management intervention on viral suppression.

Methods: We reviewed retrospective data from 30 facilities which instituted case management by use of the Me4U calendar in FY18. The Me4U calendar is an individualized patient follow up plan. Each client’s calendar lists appointments and follow-up visits for different adherence and retention follow up services. It also lists dates when calls and home visits are scheduled to be made, and when short text message reminders are sent to clients. The calendar is included in each client’s file, to assist providers to quickly identify missed events, and is updated during each visit by different service providers. We explored changes in VLS, measured as the percent of patients with VL <100 copies/mL among all patients who received a routine viral load test during the period under review. Paired t-tests were conducted to compare VLS pre-intervention (10/2016 - 09/2017) and post-intervention (10/2017 - 09/2018), before and after the introduction of the case management and the Me4U calendar.

Results: A total of 53,350 viral results were included in this analysis across the 30 facilities (25,196 pre-intervention and 28,154 post-intervention). Overall, VLS rate increased from 77±3.4% in the pre-intervention period to 87±3.5% in the post-intervention period, a statistically significant increase of 9.4% (95% CI 8.2%-10.6%, p<0.001). VLS rates also increased in all 30 facilities, with increases ranging from 5-17 percentages points.

Conclusion: A programmatic intervention that included using standardized tools such as the Me4U calendar to support timely, comprehensive case management including targeted, scheduled enhanced adherence counselling and identification and timely follow up led to improvement in viral load suppression. Further studies should help to disaggregate retention and suppression data by age and gender and include qualitative data from clients and providers on the effectiveness and acceptability of the “Me4U” adherence calendar as part of case management.

Profils de Mutations de Résistance du Vih-1 Chez les Patients en Echec Virologique Dans Sept Centres Peripheriques de Prise en Charge Dans Les Regions de L’ouest du Burkina Faso.

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Introduction: Le traitement antirétroviral (ARV) chez les patients en échec virologique sélectionne des mutations de résistance qui s’accumulent au cours du temps. Dans la présente étude, nous avons déterminés les profils de mutations de résistance du VIH-1 aux ARV chez les patients en échec virologique dans les centres périphériques de prise en charge dans les régions de l’Ouest du Burkina Faso.

Objectif: Etudier les profils de mutations de résistance du VIH-1 aux ARV chez les patients en échec virologique dans les centres périphériques de prise en charge dans les régions de l’Ouest du Burkina Faso.

Méthodologie: Des échantillons de plasma de patients en échec virologique avec une charge virale (CV) ≥ 1000 copies/mL, ont été collectés en 2016 dans des centres périphériques de l’Ouest du Burkina Faso. Les échantillons ont été testés au laboratoire de virologie du Centre MURAZ de Bobo-Dioulasso par la technique ANRS. Les gènes de la protéase (PROT) et de la Reverse Transcriptase (RT) ont été ciblés. Après l’extraction de l’ARN du VIH-1, une RT-PCR a été effectuée suivie d’une PCR nichée. Les échantillons positifs à la PCR ont été séquencés à l’aide du 3130 Genetic Analyzer. Les séquences obtenues ont été assemblées et corrigées sur le logiciel DNAStar et soumises à la base de données de l’université de Stanford. Les mutations obtenues ont été enregistrées et analysées sur Stata v.13.

Résultats: Sur 70 échantillons testés, 63 (90%) ont donné des séquences. Les génotypes rencontrés étaient : CRFO2_AG (47%), CRFO6_cpx (39%), CRFO9_cpx (8%), A (5%) et autres (1%). La prévalence globale des mutations majeures de résistance aux
ARVs était de 84,12% (53/63). Sur 62 séquences de la RT obtenues, 53 (85,48%) ont présenté des mutations majeures de résistances pour les inhibiteurs de la RT (IPT). Parmi ces mutations majeures, 77,42% représentaient les INRT, 83,87% les NNRT et 47 (75,81%) les IPT+INRT. Et sur 62 séquences obtenues pour les PR, seulement 2 ont présenté des mutations majeures de résistances aux inhibiteurs de la PR (IP), ce qui représente 3,22%. Les mutations les plus fréquentes étaient : M184V (79,25%); T215Y/F (49,06%); M41L (28,30%) pour les INRT et K103N/S (43,40%); Y181C (32,08%); A98G (28,30%) pour les INRT. Dans la présente étude, 94,34% des échantillons ont présenté des résistances à la NVP, 83,02% à la 3TC et la FTC et 73,58% à l’EFV.

Conclusion: Cette étude menée dans les centres périphériques de prise en charge de l’infection à VIH dans les régions de l’Ouest du Burkina Faso montre de nombreuses mutations majeures de résistance aux ARV avec profil de mutations variables. Le test génotypique de résistance est une nécessité pour une bonne gestion thérapeutique des patients en échec virologique. Mots clés: VIH-1, échec virologique, mutation, résistance, génotypage.

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Generating Evidence For Differentiated Models Of Care Approaches In Improving Health Outcomes For Adolescents Living With HIV In Nigeria: Baseline Needs Assessment Findings.

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Introduction: The HIV epidemic among adolescents living with HIV (ALHIV) differs from that among adults. Adolescents and young people account for up to 42% of new HIV-infections globally. They also have the highest rates of sexually transmitted infections (STIs), and poor indices with regards to meeting UNAID’s 90-90-90 targets. Available evidence suggests that mobilizing adolescents and young people into support groups and other group-counselling and information sharing platforms, are a great opportunity for providing specific needs-based interventions that improve health-outcomes for ALHIV.

This paper document findings of a baseline needs-assessment conducted among ALHIV enrolled in HIV-care in a PEPFAR/USAID funded-project “SIDHAS” supported health-facilities in Kano state, North-West, Nigeria.

Methodology: Records of ALHIV (15 – 19 years), accessing HIV-care between October 2017 to November 2018 in fifteen (15) Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) supported sites in Kano state were analysed. Clinical and folder audits were conducted to determine baseline clinical status of ALHIV. Eligible ALHIV were mapped into 3 clusters using the hub and spoke model and enrolled into Support-Groups established within the facilities. Knowledge-assessment was conducted among ALHIV, using a standardized 14-part questionnaire from the Positive Connections Guide translated into local Hausa language, to determine their baseline-knowledge on HIV-management.

Focus group discussions (FGDs) were also conducted among caregivers of ALHIV and service-providers to determine challenges faced by adolescents in accessing HIV-care in supported facilities. Adolescent-specific case-managers and facility-staff were trained on Adolescent and Youth Friendly Services (AYFS) and facilitating routine Support-Group activities for enrolled ALHIV, using the “Positive Connections Curriculum-Leading Information and Support-Groups for ALHIV”.

Results: A total of 418 ALHIV (148-males; 270-females) were enrolled to access HIV-care. With 289 active on ART (69% retention), 220 were on first-line ARV-regimen while 69 were on second-line ARV-regimen. Of the 207 ALHIV who had viral-load tests done (72% viral-load coverage), 120 were virally suppressed (58%-viral-suppression rate) and 87 had unsuppressed viral-load results (42%). Fifty-eight (58) ALHIV (22-males; 36-females) had had their HIV-serostatus disclosed to them (85%-disclosure), hence received consent from their caregivers and spouses to enrol and participate in the baseline- assessment. Of the 36 females who participated in the baseline-assessment, 6 were married, 1 pregnant and 2 breastfeeding.

The mean pre-test/baseline knowledge-assessment score was 9.7 (SD= 1.69) out of a maximum score of 28. FGDs conducted showed limited AYFS provided in the facilities, difficulty of ALHIV to access health-services during school-days, long waiting time during clinic-visits and negative side-effects of medications making ARV-adherence difficult. Consequently, 23 case-managers and 13 facility-staff were trained on AYFS and as focal-persons to facilitate planned routine ALHIV-support group meetings and activities.

Conclusion: Baseline needs-assessment findings revealed poor HIV-management knowledge, poor retention, limited viral-load coverage and poor viral-suppression rates among ALHIV enrolled in care. To improve health outcomes, there is need to provide quality age-appropriate HIV-serostatus disclosure support for caregivers and other treatment-supporters, adolescent and youth-friendly services and adolescent-specific differentiated models of care including support group activities to the varying categories of ALHIV taking into consideration, the unique complexities that depicts the vulnerable period of adolescence.

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Background: A growing proportion of patients on protease Inhibitor (PI) based second-line regimens have confirmed virologic failure (VF). The Kenya national guidelines for
antiretroviral therapy (ART) recommend drug resistance testing (DRT) for all patients who fail PI based regimens. We aimed to describe the patterns of HIV drug resistance mutations among adherent patients and failing (PI) based second line therapy in a national HIV program.

Methods: The National HIV Clinical Support Centre is a unit set up within the National AIDS and STI Program in Kenya whose role is to support management of complicated HIV conditions. The Centre receives and coordinates the review of complex clinical cases for patients failing second line PI regimen from public and private facilities for purposes of DRT recommendation. DRT is used for PLHIV determined to have excellent adherence through standard enhanced adherence sessions yet still fail to achieve viral suppression. A retrospective descriptive analysis of data for the patients referred for consultation between 2016 and 2018 was conducted. We reviewed demographic and DRT data obtained retrospectively from DRT reports.

Results: Data for 66 patients failing second line ART was analyzed; 53% (35/66) were female, the age range was 6 to 58 years, and median age was 36 years (IQR 18-47.5). 100% (66/66) patients had successfully gone through standard enhanced adherence sessions. Lopinavir/ritonavir was the most commonly used PI with 77% of patients (51/66), followed by Atazanavir/ritonavir at 12% (8/66) patients; while information on second line ART regimen was missing for 13% (9/66) patients. The median duration on second line regimen was 4 years (IQR 3-5). Overall, 6% (3/66) of patients had at least one drug resistant mutation (DRM). The prevalence of drug class mutations was 81% (54/66) for NNRTI, 77% (51/66) for NRTI and 50% (33/66, 95%) for PI. The most common PI mutations were I54V at 27% (18/66), V82A at 26% (17/66), M46I at 23% (15/66) and L76V at 18% (12/66). 95% (63/66) patients had more than one major PI mutation. Based on the resistance mutations, 86% (57/66) patients had full or partial susceptibility to DRV/r, 54% (36/66) to ATV/r and 56% (37/66) to LPV/r. 30% (18/59) of the patients used second line for over 5 years.

Conclusion: Half of PLHIV with confirmed virologic Failure on PI regimen who had undergone the recommended adherence sessions still had susceptibility to their current PI regimen. This data suggests that standard enhanced adherence sessions are still a gap and need to be strengthened for patients with failing PI based regimens.

Examsing the social determinants of depression in Africa: the AFRICOS cohort study

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Background: People living with HIV (PLWH) have higher rates of mental health conditions, such as depression, than the general public. The prevalence of depression in HIV/AIDS patients has been reported in different studies ranging from 22%–45%, which suggests that depression is widely prevalent among HIV-positive patients. Depression is associated with decreased adherence to antiretroviral therapy (ART), complicating treatment of PLWH and increasing risk for onward transmission to HIV-uninfected partners. In resource-limited settings, depression is likely to be under-diagnosed and may impede achievement of UNAIDS 90-90-90 goals. The social determinants of depression are social, economic and health conditions people are born into and live. PLWH continue to face a number of social challenges, like physical injury/harm, HIV status disclosure, HIV stigma, suboptimal living conditions, and displacement from home. These social determinants influence the person’s ability to manage and live with HIV/AIDS increasing the risk of spreading the infection and progression of infection to AIDS.

We evaluated factors associated with depression among PLWH across four countries in sub-Saharan Africa.

Methodology: The African Cohort Study (AFRICOS) prospectively enrolls adults at PEPFAR-supported facilities overseen by five HIV care programs in Kisumu West and South Rift Valley (SRV), Kenya; Uganda; Tanzania; and Nigeria. All enrollees underwent screening for depression using the Center for Epidemiologic Studies Depression Scale (CESD) upon enrollment. A cutoff of 16 was used to indicate depression and has good sensitivity and specificity. Social determinant variables assessed were collected through a questionnaire. Descriptive statistics were used to characterize the study population and prevalence of depression across study sites. Logistic regression was used to calculate adjusted odds ratios (AORs) for pre-specified factors potentially associated with depression at the enrollment visit.

Results: As of December 1, 2018 a total of 2853 HIV-infected participants were enrolled in AFRICOS. Overall, 20% met the CESD threshold for depression, ranging from 15% in SRV, Kenya and Nigeria to 26% in Kisumu West, Kenya (p value <0.0001).

In the adjusted model, greater odds of being depressed was associated with being female (AOR: 1.31, 95% CI:[1.06,1.63]), increased age 30-39 years AOR: 1.13, 95% CI: [0.84-1.51],40-49 years AOR: 1.31, 95% [0.09-1.76], compared to 18-29 years, having greater than five people living in household (AOR:1.02, 95% CI[0.84-1.24]), compared to having less than 5 people in
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household, HIV status disclosure (AOR:1.09, 95% CI[0.77-1.55]), experienced HIV stigma (AOR:1.86,95% CI [1.41-2.44]), injured or physical harm AOR:1.41, 95% CI[1.09-1.81]).

Conclusions: In this cohort, depression was relatively common and independently associated with adverse social experiences, such as violence and HIV-related stigma. Clinicians should be aware of the high prevalence of depression among PLWH, particularly older women. Achievement of optimal HIV outcomes and UNAIDS 90-90-90 goals in sub-Saharan Africa may require proactive screening and treatment for depression and other mental health conditions.

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Comparison of Achievement of Retention and Viral Load Suppression Performance in Facilities with and without Support to Supplement Government – Supported Health Care workers

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Background: Human Resources for Health is one of the WHO six core components or “building blocks” for health systems strengthening. Adequate number and availability of appropriate cadres of staff is core to achieving the PEPFAR 95-95-95 goals, as health service providers are key to provision of comprehensive, quality HIV care and treatment services. Assuring adequate number of providers is becoming an increasing challenge in the environment of reduction in PEPFAR funding. Persistent challenges remain in achieving PEPFAR objectives with only government-supported health workers (HW). High levels of provider attrition, turnover/realignment among facilities, and multiple competing priorities that government supported HW’s must address have contributed to an environment that requires implementing partners to use project funds to supplement government supported staff. We aimed to evaluate the impact of providing additional project-supported staff in APHIA Nyota ya Bonde supported facilities in South Rift Kenya on achievement of select PEPFAR performance indicators.

Methods: We reviewed retrospective data on staffing support and viral load suppression (VLS) for the 2018 fiscal year in 136 ART sites across seven counties. The project has been supporting HRH in 119 of these sites with additional health care workers to provide HIV care and treatment services based on identified needs. We used linear regression models to investigate the relationship between number and cadre of additional project-supported staff at each facility and viral suppression rate, with data from 01/10/2017-30/09/2018). STATA 15 was used for data analysis.

Results: Project-supported facilities had 654 additional seconded staff including 284 case managers, 137 health records and information officers (HRIOs), 91 nurses, 88 clinical officers, 60 adherence counsellors, 30 laboratory technicians, 26 pharmaceutical technologists, and 12 nutritionists. Across facilities, 48,626 viral load results were completed and included in the analysis. Mean VLS rate was 80.6±6.95% overall, with a minimum of 42% and a maximum of 94%. Linear regression analysis showed that addition of project-supported staff was associated with increased VLS rate; each additional staff member was associated with a 0.7 percentage points increase in VLS rate (p <0.001). When exploring VLS by cadre using simple linear regression, significant increases in VLS rate were seen with additional clinical officers (3.7% per addition, p=0.001), HRIOs (3.5% per addition, p=0.001), pharmacy technicians (4.2% per addition, p=0.03), adherence counselors (2.9% per addition, p=0.01), and case managers (1.6% per addition, p=0.001).

Conclusion: This analysis has demonstrated that secondment of different cadre of project staff to government supported health facilities improved VLS rates. Future work should build on these results to more rigorously examine potential causal relationships and explore further how addition of different cadres affect workload and clinical outcomes.

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Impact of point-of-care pharmacist counseling at late refills of antiretroviral therapy: A Study Following the Early Warning Indicators of World Health Organization Recommendations

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Background: With increasing global use of antiretroviral therapy (ART), World Health Organization (WHO) has developed HIV drug resistance (HIVDR) Early Warning Indicators (EWIs) to optimize prevention of HIVDR. Recent studies have reported on time pharmacy refills, the fourth EWI, to be the strongest predictor of clinic-level viral load suppression. The primary objective of this study was to assess the impact of pharmacist counseling at the point of late ART refill. We also sought to determine the percentage of patients who picked up prescribed antiretroviral drugs on time as described by WHO, common reasons and predictors for late refills.

Methods: A cross-sectional study was conducted among 751 Malaysian HIV-infected individuals receiving ART from November 2017 until February 2018. Patients with late refills were actively absorbed for a counseling session. Follow-up pharmacy refills 6 months post counseling was evaluated using medication possession ratio (MPR). MPR of more than 90% were categorized as optimal refill adherence according to published conventions. Paired T-test was used to test the effectiveness of counseling at late refills. Multivariate regression models were used to examine predictors of late refills.

Results: Of 751 HIV-infected patients, 91% had on time refills. Patients with late refills were predominantly male (85%), Malay ethnicity (45%) and age 35 years old and above (65%). Mean duration on ART was 4 years. Being outstation accounted for the highest reasons for late refills (32%) followed by 23% due to work commitments. Identifying patients with late refills and...
Prevalence of advanced HIV disease among patients initiating Antiretroviral Therapy at referral level ART clinic in the era of Test and Treat

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Introduction: Early antiretroviral therapy (ART) reduces the risk of opportunistic infections and mortality in HIV infected individuals. Therefore, World Health Organisation recommend early ART initiation in all HIV infected individuals regardless of their CD4 count or WHO staging, commonly known as test and treat strategy. Malawi, a high HIV burden country in Sub-Saharan Africa with national prevalence of 10.6% and annual incidence of 0.37, implemented this strategy in 2016. Despite this, some patients are still presenting with advanced HIV disease (CD4 < 200 cells/µl or WHO stage III/IV condition) at the time of ART initiation.

Objective: To determine the proportion of patients presenting with advanced HIV disease at time of ART initiation at Umodzi Family Centre, a referral level ART clinic at Queen Elizabeth Central Hospital in Blantyre, Malawi.

Methods: A retrospective cross-sectional analysis of the patients initiating ART at Umodzi Family Center from January to December 2018 was done. Data was collected from Electronic Medical Records and registers. All patients initiating ART from the age of 5 were included regardless of whether they transferred out, died, defaulted or still in care. The proportion of patients presenting with stage III or IV WHO condition and/or those who had CD4 count <200 cells/µl was calculated. Since baseline ART CD4 count is not mandatory anymore, it was done only when the resources were available. There was no systematic selection of the patients who should have baseline CD4 count.

Results: During the observation period, a total of 3388 patients started ART; 1944 (57.5%) were female. 20.1% of patients had stage III or IV condition (26.0% male vs 13.8% female). The majority of the patients (72.8%) who had stage III or IV condition were between 25 and 49 years. A total of 1420 CD4 count tests were done representing 41.9% of all new patients. 30.8% of the patients had CD4 count < 200 cells/µl (41.9% male vs. 22.9% female). 58.6% and 24.7% of the patients had CD4 count < 100 cells/µl and < 50 cells/µl respectively.

Conclusion: Despite implementing test and treat strategy in Malawi, a significant number of patients especially men are still starting antiretroviral therapy at an advanced stage of HIV infection. These findings have policy implications and underline the need for new interventions specifically targeting men in order to find them early and link them to care as quickly as possible.

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Acceptance and Utilization of Antiretroviral Therapy Services among HIV+ Persons Living With Disabilities in Gusau, Zamfara State, Nigeria

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Background: Management of HIV+ persons remains a major public health challenge in Nigeria. HIV/AIDS Agency reports that ≤0.5% of over 2million inhabitants of Zamfara State are HIV+, with significant effects on the Persons Living With Disabilities (PLWDs). Studies on utilization of HIV Treatment Centres by PLWDs in Zamfara are relatively rare while the social group groans with the challenges of social acceptability in the utilization of the Anti-retroviral therapy (ART).

Objectives:
1. Determined, in statistical terms, the proportion of HIV+ PLWDs accessing ART in designated Health facilities.
2. Examined the challenges of patronage of HIV treatment centres by HIV+ PLWDs
3. Examined factors determining the acceptance and utilization of ART among HIV+ and HIV- PLWDs

Methods: This survey was conducted between January 2017 to June 2018 in three Senatorial Districts (SDs) in Zamfara State, Northwest Nigeria. A social survey of descriptive-type adopted dual methodological approach of data collection. Two ART Centres were selected, on purpose, from each of (SDs) totaling six Centres.

A two-year medical record (2014 – 2016) of patients per specific demographic-parameters (disabilities inclusive) patronizing the six ART Centres were obtained, from where 105 HIV+ PLWDs currently accessing ART were purposively selected as respondents in category A. In category B, 120 sexually-active PLWDs aged ≥18 years who might not have done HIV test were simple-randomly selected from the SDs, making a total sample of 225 PLWDs for the study. The instrument, a semi-structured questionnaire titled ‘Acceptance and Utilization of Antiretroviral’ contained open-and-closed-ended questions. Data were analysed at the univariate and bivariate levels using SPSS while qualitative data were discussed in content.
Results: About 7.8% of HIV+ persons patronizing ART were PLWDs with varying socio-demographic parameters (mean-age=35years, male, 22% and female, 78%). ART Utilization was hindered by Monetization (44%) and Discrimination against PLWDs (54%) and Social Ostracism (75%). Socio-cultural impediments, physical impairment, unfriendly public policies, improper-information-flow and neglect of PLWDs influenced (non)acceptance and (non)utilization of ART. Pearson-Moment-Correlation-Coefficient results (-0.98), confirms negative significant relationship between socio-cultural beliefs and ART utilization.

Conclusion: Making ART services available will help reduce HIV-related morbidity and mortality and assist PLWDs to carry out their social responsibilities.

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Keeping the negatives negative- A PrEP service delivery to key populations in Muchinga, Luapula and Northern Provinces of Zambia

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Background: Zambia has made tremendous strides in getting people on ART and thus preventing thousands of deaths, however new HIV infections remain a challenge. The annual incidence of HIV among adults ages 15 to 59 years in Zambia is 0.66 percent: 1.0 percent among females and 0.33 percent among males, approximately 46,000 new cases of HIV annually among this age group. This calls for a dual strategy. While working to achieve the UNAIDS 90-90-90 targets, there is need for dual that while you hand scale up treatment, you also optimize strategies to preventing new infections through combination prevention services such as Voluntary Medical Male Circumcision (VMMC), increase condom use, administering pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) targeting populations at high-risk. PrEP as an intervention that can be used in epidemic control especially among KPs or populations not always empowered to negotiate condom use. PrEP gives people at risk control over their lives.

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Association between HIV patient referral and time to antiretroviral therapy commencement in Northern Cote d’Ivoire: A retrospective analysis

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Background: In Cote d’Ivoire, some individuals are diagnosed HIV positive in one health facility or community but referred to other health facilities to commence antiretroviral therapy (ART). The purpose of this analysis was to determine whether there was an association between patient referred to start ART and the time to ART initiation.

Methods: A retrospective review of charts of adults (≥15 years) diagnosed HIV positive and initiated on ART between September and November 2018 was conducted at 153 health facilities supported by Health Alliance International (HAI) in three regions (Bounkani-gontougo, Gbêke and Hambol) of Cote d’Ivoire. We considered patients referred to start ART as those diagnosed HIV positive in the community or a non-HAI supported health facility, but referred to an HAI-supported health facility to start ART. The duration from HIV diagnosis and the start of ART was considered as time to ART initiation. Multivariate logistic regression was used to examine the association between HIV patient referral and time to ART initiation.

Results: Data for 1,307 adults (≥15 years) diagnosed HIV positive during the study period and initiated on ART were included in the analysis. The median age of the patients was 37 years (IQR: 29-46), 68.2% were females while 31.8% were males. Our analysis found that 15.2% of the HIV diagnosed individuals who were initiated on ART at HAI-supported health facilities were diagnosed in the community or from a non-HAI-supported health facility. Of the 1,307 patients initiated on ART, 91.8% received same-day ART initiation, 7.3% were initiated on ART 1-14 days after HIV diagnosis and 0.9% were initiated 15 days or more after HIV diagnosis. After adjusting for confounders in multivariate analysis, HIV positive individuals initiated on ART 1-14 days after diagnosis were significantly more likely...
Abstract

(AOR=3.45; 95%CI, 2.16-5.50, p<0.001) to have been referred from the community or a non-HAI supported health facility. Those aged 50 years and above (AOR=0.61; 95% CI, 0.37-0.98, p=0.042) or aged 30-49 years (AOR=0.67; 95% CI, 0.47-0.96, p=0.031) were significantly less likely to have been referred from the community or a non-HAI supported health facility. HIV diagnosed individuals who were initiated on ART in the Hambol region were more likely (AOR=2.05; 95%CI, 1.30-3.25, p=0.002) to have been referred from the community or a non-HAI supported health facility compared to those in the Gbeke and Poro-Tchologo-Bagoue regions.

Conclusions: Our analysis concludes that individuals diagnosed HIV positive in the community or a non-HAI supported health facility but referred to commence ART at an HAI-supported health facility received delayed ART initiation. The finding underscores the need to strengthen the referral and counter referral system for individuals diagnosed HIV positive in the community or non-HAI supported health facilities who are referred to HAI-supported health facilities to commence ART.

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Suppressed viral load among persons on antiretroviral therapy – a case for clinical judiciousness and comprehensive monitoring for persons living with HIV

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Background: The UNAIDS 90-90-90 treatment targets have led most HIV delivery programs to focus on viral suppression as the ultimate outcome of antiretroviral therapy (ART) with clients’ clinical condition being of secondary concern. Several studies, however have documented a discordance between virological and immunological outcomes in some patients and research points to poorer clinical progression in patients with discordant outcomes. We review discordance between viral load and clinical staging among patients on ART to contribute to the evidence on this topic.

Methods: A retrospective review of clinical records of 110,226 persons living with HIV aged 15 years and older from 379 facilities in 13 of Nigeria’s 36 states was conducted. We categorized viral load (VL) values into suppressed (<1000/ml) and unsuppressed (>1000 copies/ml) and compared this to WHO clinical staging at the last clinic visit when viral load samples were collected.

Results: Of the 110,226 patients that had viral load documented, 104,101 (94.4%) had a WHO clinical staging condition documented and 89,980 (81.6%) had a CD4 count at the last clinical visit. Both CD4 and clinical staging at last visit were documented for 85,299 patients. CD4 was <200 in 52.7% of patients at baseline and this reduced to 17.9% at last follow-up clinic visit. Of the 85,299 patients, 70.4% were viraly suppressed and 10.2% had WHO stage III or IV illness at the time of the VL which was after a mean 56 months (IQR 92–33 months) on ART. Of those with clinical stage III or IV conditions, 66.3% had suppressed viral loads (p<0.000).

Conclusion: Some patients who are virally suppressed on ART remain at risk of life threatening opportunistic infections as close as 18% in this review were still immunosuppressed even after a suppressed viral load and 10.2% had an OI which put them in Stage III or IV. Following viral suppression, continued clinical vigilance is needed to identify those at risk of ongoing morbidity and mortality. It remains important for clinicians to pay attention to the whole patient and not just triage care based on laboratory viral load results.

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Optimizing Health Facility HIV Service Delivery through Intensive Site Support: Experience in Southern Tanzania.

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Background: Facility HIV care and treatment services are pivotal in the global effort towards epidemic control. Various service delivery points (SDPs) in the facility serve as ‘entry point’ since are accessed by sick persons. In view of the 90-90-90 strategy, Tanzania is behind in 1st 90 (52%). USAID Boresha Afya Southern Zone project supports 599 health facilities to provide comprehensive HIV care and treatment services. To improve HIV case Identification and ART initiation, project embarked on ‘Intensive Site Support’ termed “Surge”. We evaluated outcomes of ‘Intensive Site Support’ in facilities in Lindi, Mtwara, Morogoro, Iringa and Njombe regions in Tanzania.

Methods: Performance of FY 2018 quarter 2 data of 599 sites was analyzed and gaps were identified. Using Pareto principle, health facilities contributing 80% of HIV positive clients were selected. Project facility backstop teams consisting of technical and M&E staff were formed. The project and health facility staff optimized HIV testing specially OPD & IPD, reviewed files for sexual partner testing, viral load, Enhanced Adherence counseling (EAC), missed appointments and tracked for services. Data was collected daily, entered into project database (PRODMIS). WhatsApp group was formed to update field challenges, best practices and lessons learnt. Semiannual data was collected, analyzed and compared performance between October 2017-March 2018 and April-September 2018 for HIV testing, index testing, HIV positive, ART initiation and HVL coverage.

Results: There was 2 folds increase in HIV testing from 484,396 to 927,834, HIV positive identified by 1.2 folds from 17,509 to 21,025, ART initiation by 1.3 folds to 19,831 and linkage from 86% to 94%. Same day ART initiation from 42% to 62% and multi month scripting by 1.3 folds from 82,109 to 107,068. Index
testing increased by 3 folds from 9,146 to 31,204, HIV clients identified through index by 4 folds from 414 to 1,688 and HIV viral load samples collected were 85,092 by 1.6 folds.

Conclusions: Intensive site support increased HIV testing, index testing, HIV positive identification, ART initiation and linkage. It improved same day ART and multi-month scripting as part of differentiated care and increased HIV viral load coverage. This should be conducted periodically considering that it’s labor intensive.

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Likelihood Periodic Retention of Accelerated ART Patients in Southern Tanzania

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Background: Appropriate antiretroviral therapy (ART) initiation and retention in care are important for better outcomes in HIV/AIDS patients. Multiple clinical consultations, laboratory tests, ART eligibility screening and preART sessions cause delays in ART initiation and create burden to patients resulting in loss of some patients before ART initiation. Consistent with the global shift, The Tanzania National AIDS Control Program (NACP) in October 2016 released a circular which adopted the WHO guideline advocating acceleration of ART Initiation regardless of clinical and immunological stages. In this study, periodic retention of Accelerated ART patients in facilities supported by USAID Boresha Afya Southern Zone project in Lindi, Mtwara, Morogoro, Iringa and Njombe regions of Tanzania were examined.

Methods: Sensitization of health workers and clients on benefits of early ART initiation was done by trained HIV mentors and program staff. Weekly supervisions and mentorships were provided to ensure implementation and reporting were in line with the national guideline.

Using retrospective data from DHIS2, new HIV patients initiated on ART at 599 sites from October 2016-September 2017 reviewed after one year in October 2017-September 2018 and data was analyzed. Likelihood retention of 3, 6 and 12 months ART initiation within two weeks categorized as 0-14 days (accelerated ART initiation) and above 14 days (non-accelerated ART initiation) were analyzed using Cox regression, controlling age, sex and marital status.

Results: A total of 16,598 (33% Male and 67% Female) HIV patients were initiated on ART. Children under 15 years were 1,068 (6.2%). Among all patients 6581 (38%) were single, 8986 (52%) married and 1,752 (10%) were divorced/separated. Patients on accelerated ART initiation were 10,576 (64%). Likelihood retention among Accelerated ART patients at 3, 6 and 12 months were 10%, 4% and 3% more than non-accelerated ART patients respectively (p<0.001).

Conclusions: Retention of Accelerated ART patients is achievable. Early retention monitoring and provision of appropriate case management support as part of differentiated care to clients is highly recommended to continue maintaining patients on ART thus achieving desirable clinical outcome.

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Uptake and Utilization of Viral Load Test Results for Improved Patient Management in Selected Health Facilities in Central Uganda

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Introduction: The achievement of the global treatment goals to help end the AIDS epidemic by 2020 necessitates virologic suppression in 90% of the people receiving ART. The World Health Organization (WHO) recommends the “test and treat” strategy which requires all people living with HIV (PLHIV) to start ART. As more PLHIV initiate ART, the need to sustain them on treatment is critical to achieve virologic suppression (Viral load < 1000 copies/mL). In Uganda, VL monitoring started in 2014, initially targeting children, pregnant and lactating women and adults with manifestations of clinical and immunological failure. The current national guidelines recommend VL monitoring for all patients (children, adolescents, adults and pregnant women) on ART for at least 6 months. The guidelines further highlight the need for intensive adherence counselling (IAC) among patients with a non-suppressed VL and outlines a comprehensive adherence plan to support these patients. We assessed the uptake and use of VL results for improved patient management in selected facilities in central Uganda.

Materials and Methods: This was a retrospective cohort analysis of data abstracted from records of HIV infected patients on ART between September 2017 and April 2018 at 14 health facilities in 3 districts of the central region of Uganda. Uptake and utilization of VL results for improved patient management was determined by computing the following: (i) the proportion of clients who received a VL test; (ii) the proportion of non-suppressing (NS) patients who received the 1st intensive adherence counseling (IAC) within one month of receipt of results, (iii) the proportion of NS patients who completed IAC and (iii) the proportion of NS patients who had a repeat VL test after completion of IAC.

Results: A total of 4,112 records of HIV infected patients were reviewed. The proportion eligible clients who received a VL test were only 1,675 (40.7%). Of these, 844 (50.4%) did not suppress. The proportion of non-suppressing clients who initiated IAC within one month of receipt of results was 289 (34.2%). Only 190 (22.5%) clients completed IAC and only 104 (12.3%) clients received a repeat VL test after completing IAC.

Conclusion: The findings of this study show that the uptake of VL testing and use of VL results for improved patient management is very low. Designing interventions to increase uptake of VL monitoring and use of VL test results for improved patient management should be made a priority.

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Tracking HIV patients combining phone calls and home visits yields higher proportions of return to care after missed scheduled visits.

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Background: Missed scheduled HIV appointments lead to increased lost to follow up, suboptimal virological response, resistance to antiretroviral therapy and mortality. Achieving optimal levels of retention in HIV care programs can be challenging when missed appointments occur. We evaluated proportions of return to care by using two tracking approaches among HIV positive patients that missed their scheduled visits at Infectious Disease Institute (IDI) clinic, Uganda.

Methods: We retrospectively reviewed records of patients who were contacted by phone call 7days after a missed visit and if they did not return a home visit made 21days after the scheduled clinic appointment. Data were extracted from the clinic electronic medical record system. Extracted information included gender, age, mode of contact, reason for missing scheduled visits and their respective return outcomes between August 2017 to August 2018. Patients’ characteristics were described using medians (interquartile range, IQR) and frequency distributions. Tracking was done by phone call, home visits or both. Proportions of return to care after patient tracking were stratified by method of tracking and compared using chi-square test.

Results: IDI clinic has a total of 8,682 active patients, 1,766 (20.3%) ever missed a scheduled visit during this period however, 193/1766 (10.9%) were excluded due to lack of phone contacts. Of 1,573 patients traced, majority were females 880(55.9%), married 801(51%) with median (IQR) age of 41(33-49). Over 15109(969%) of these patients were on ART with a median (IQR) duration of 6(3-10yrs) on ART. 1,233(69.8%) were traced by phone call only while 340(19.3%) by both home visit and phone call. On tracing 108/1573 (6.9%) patients were reported to have died while 70/1573 (4.4%) indicated to have self-transferred to another clinic.

Overall, 1309/1395(94%) returned to care after tracing. 1006/1081(93.1%) traced by phone call alone and 303/314 (96.5%) by both home visit and phone call (p-value=0.026).

Conclusions: Combining both home visit and phone call yields higher proportions for retention.

Recommendation: The findings emphasize use of multiple methods versus mono methods (phone call or home visit only) in the bid to ensure continued retention of HIV patients in care to achieve the “90-90-90 UNAIDS” goals.

Tenofovir-Associated Renal Toxicity in a Cohort of HIV Infected Patients in Ghana

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Background: Tenofovir disoproxil fumarate (TDF) is a nucleotide analogue recommended in international HIV treatment guidelines. The association of TDF with renal dysfunction has remained an area of interest. Purpose of study was to estimate the long term effects of TDF on renal profile in a cohort of HIV patients in Ghana.

Methods: We selected 300 consecutive HIV-positive patients (with baseline creatinine clearance ≥50 mL/min) who initiated TDF-based antiretroviral treatment in 2008 from a database of patients on antiretroviral therapy at the Korle-Bu Teaching Hospital. Socio-demographic, clinical and laboratory details were extracted from patients’ medical records. Creatinine clearance (CrCl) was calculated using the Cockcroft-Gault equation at baseline and renal impairment was defined as CrCl values of 30.0-49.9 mL/min (moderate renal impairment) and <30mL/min (severe renal impairment) as per institutional guidelines for renal function test. The proportion of patients with moderate or severe renal impairment was calculated. Relative risks (RRs) and 95% confidence intervals (CIs) were calculated for factors associated with renal impairment.

Results: Median follow up time was 2.9 years (IQR 2.3-3.4 years). Females were dominant (n=213, 71.1%) and the mean age of study participants was 39.1 ± 11.1 years. The median CrCl rate at initiation of TDF-containing ART was 76.8 mL/min (IQR 58.3-105.4). At study endpoint, 63 participants (21.0% [95% CI: 6.5-26.1]) recorded CrCl rate below 50mL/min indicating incident renal impairment, made up of 18.3% moderate renal impairment and 2.3% severe renal impairment. Factors associated with the incidence of renal impairment were increasing age (RR=1.04 [95% CI, 1.03-1.06] per year), decrease in creatinine clearance rate at baseline (RR=1.05 [95% CI, 1.04-1.08] per every 1 mL decrease), WHO HIV stage III (RR=3.78 [95% CI, 1.42-10.06]) or Stage IV (RR=3.42 [95% CI, 1.16-10.09]) compared with stage I and participants with BMI of <18.5 kg/m² underweight (RR=3.87; 95% CI, 2.49-6.03) compared with patients with BMI of >18.5-24.9 kg/m² (normal weight).

Conclusions: The use of TDF based regimen led to 18.3% developing moderate renal impairment and 2.3%, severe renal impairment. Patients with identified renal impairment risk factors at ART initiation should be targeted and monitored effectively to prevent renal injury.
Long Term Adherence to Antiretroviral (ARVs) among groups of HIV infected individuals in Nigeria: A qualitative study

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Background: Antiretrovirals (ARVs) are life long and treatment success is associated with adherence levels of above 95%. With more HIV positive patients being placed on treatment, it is important to improve retention in care and adherence. Nigeria has the second largest number (3.2 million) of HIV infected individuals worldwide and approximately one-third of this number, are on treatment. Exploring the personal challenges HIV positive adults and adolescents are facing after initiating ARVs will help to increase uptake, adherence and reduce drug resistance.

Materials and Methods: A cross sectional qualitative study was conducted among 4 groups of HIV infected individuals (HIV positive partners of sero-discordant relationships N=38, HIV positive widows N=29, HIV positive mothers N=24 and adolescents N=11). We conducted a total of eight focus group discussions. Interview topics included questions on their experiences after HIV diagnosis and challenges encountered in adhering to their ARVs. All sessions were audio recorded, transcribed and analyzed using Atlas.ti version 7.

Results: A total of 103 respondents participated in our study with a majority being HIV positive mother and widows (Female=85%; Male=15%). We identified 3 key themes and a number of sub-themes that were associated with barriers and facilitators to adherence, which were similar in all our groups. Stigma, discrimination, disclosure of HIV status, long hours at clinics, unfriendliness of health care workers, religion (fasting periods), cost of ARVs, size of pills and transportation costs were all associated with barriers to adherence. For facilitators, we identified support from close family members, benefits of being adherent, religious beliefs of cure and sense of being normal.

Conclusions: Study respondents were aware of the benefits of being adherent to their ARVs. However, there were a number of barriers identified that can severely affect optimal adherence to ARVs and cut across all four groups. Respondents expressed fear of the cost of ARVs when sponsors withdrawn funding and support. Surprisingly, side effects to ARVs were not a key theme that emerged. These findings can help develop appropriate strategies to support adherence to ARVs, improve overall quality of life in people living with HIV and may reduce other costs such as Drug resistance testing.

Who are we not reaching with HIV testing services in Zambia? HIV-positive non-testers: ZAMPHIA, 2016

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Background: Zambia has seen progress in the fight against the HIV/AIDS pandemic – new HIV infections dropped from 110,000 in 1994 to 48,000 in 2017. UNAIDS recommends countries strive to achieve 90% of people living with HIV (PLHIV) know their HIV status, 90% of those who know their status to be put on antiretroviral therapy (ART), and 90% of those on ART to achieve viral load suppression by 2020. The 2016 Zambia Population-based HIV Impact Assessment (ZAMPHIA) showed that only 71% of PLHIV know their HIV status. Better understanding of patients who are HIV-positive but don’t know their HIV status is critical to improving HIV case finding.

Methods: We used data from the 2016 ZAMPHIA, a nationally representative population-based survey, to identify adults (ages 15-59) who tested positive for HIV during the survey and compared those who self-reported as never having had an HIV test to those who knew their status. We conducted descriptive and multivariate analyses of demographic and biomarkers data, accounting for complex survey design; weighted prevalence estimates, 95% confidence intervals (CI) and adjusted odds ratios (AOR) are presented.

Results: Of 2,467 HIV-positive identified, 192 (8.4%, 7.1-9.8) reported that they had never had an HIV test, of which 52.2% (43.8-60.5) were 25-44 years old and 26.9% (19.1-34.6) were 15-24 years old. The majority of HIV-positive non-testers were male (53.7%, 45.9-61.5), had not visited a health facility in the last year (69.4%, 62.1-76.7), reported having no or one sexual partner in the last year (84.7%, 78.8-90.7). PLHIV non-testers had higher odds than ever-testers, of being male (AOR=2.5 95% CI: 1.7-3.7) and not visiting a health facility in the past year (AOR=5.0 95% CI: 3.4-7.3).

Conclusions: Males and those who had not visited a health facility in the last year had high prevalence of being positive but never testing for HIV. To achieve the goal of 90% of HIV positive people in Zambia knowing their status, programmatic approaches must include efforts to reach men and people who do not seek healthcare in facility-based settings with HIV testing and counseling services.
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Virologic Response to Second Line Antiretroviral Therapy in an African Cohort

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Background: With improving availability of viral load testing in resource-limited settings, patients with virologic failure of antiretroviral therapy (ART) are increasingly recognized. Guidelines recommending management of first-line ART failure by switching patients to second-line therapy that includes a protease inhibitor is a crucial step to achieve viral suppression and improve clinical outcomes. Assessment of virologic response to this switch is essential to guide further therapy. We investigated viral response to second-line ART at 6 and 12 months after switch in four African countries.

Methods: The African Cohort Study (AFRICOS) enrolls participants at President’s Emergency Plan for AIDS Relief (PEPFAR)-supported clinics in Uganda, Kenya, Tanzania and Nigeria. HIV-infected participants are evaluated every six months, including viral load monitoring. Participants who were switched to, and have been on second-line ART for at least 6 months and had viral load results were included in these analyses. Generalized estimating equations were used to calculate change in mean viral load and odds of viral suppression at 6 months and 1 year, comparing participants on the two most common ritonavir-boosted protease inhibitors, lopinavir (LPV/r) and atazanavir (ATV/r). Viral suppression was defined as HIV RNA copies ≤ 1,000 copies/mL.

Results: Between January 2013 and March 2018, 2,788 HIV-infected participants were enrolled in AFRICOS and 113 met the criteria for inclusion in these analyses. Of these, 58% were females, 56% were aged 25–39 years, and 68% had completed at least primary education. At 6 and 12 months, 100(92%) and 83(82%) respectively were virally suppressed. The average reduction in viral load after adjusting for education, age, and marital status were 63,558 copies/mL (95% CI = -86354, 42491; p = 0.505) for patients on LPV/r and 86,712 copies/mL (95% CI =-107420, -22448; p = 0.003) for those on ATV/r at 6 months post-switch. After one year, the mean decrease were 58,840 copies/mL (95% CI = -73361, 49978; p = 0.710) and 71,250 copies/mL (95% CI = -100451, -19039; p = 0.004 ) respectively. An increase in the mean viral loads was also noted after one year despite initial greater drop at six months. Moreover, the odds of suppression at 6 months was 1.73 (95% CI = 3.02, 17.83) and 3.1 (95% CI = 1.96, 4.8) times the odds of suppression for LPV/r and ATV/r respectively. However, these observed differences were not statistically significant. The odd ratio between ATV/r and LPV/r were 1.88 (95% CI: 0.47, 7.44) and 0.92 (95% CI: 0.32, 2.80) at 6 and 12 months respectively.

Conclusion: We demonstrate that pattern of virologic response following second-line ART switch is unpredictable, despite a decrease in mean viral load from baseline to 12 months post switch. Our data also indicate that compared to LPV/r, ATV/r may have a superior efficacy in second-line ART. Scaling up of monitoring through viral load assessment to track progress after switch and constant adherence counseling is therefore advocated in order to achieve viral suppression.

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Satisfaction With HIV Care and Its Association With Viral Suppression in Africa

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Disclaimer: The views expressed are those of the authors and should not be construed to represent the positions of the US Army or the Department of Defense.

Background: Increased availability of HIV care over the past decade has dramatically reduced morbidity and mortality among people living with HIV (PLWH) in sub-Saharan Africa. However, perceived and experienced barriers to care may alter treatment and viral suppression. In this study we examined the association between satisfaction with HIV care and viral load suppression.

Methods: Data were obtained from the ongoing African Cohort Study (AFRICOS), a prospective observational study conducted at PEPFAR-supported clinics in 4 countries in Africa. Every six months, a questionnaire is administered and viral load monitoring is done. Participants are asked about satisfaction (satisfied vs not satisfied) on five indicators: clinic waiting time, health care worker skills, health care worker attitudes, quality of clinic building and confidentiality. HIV-infected participants who answered all five satisfaction questions at both the enrollment and one year follow-up visits were included in these analyses. A composite variable was created for these analyses summing all questions and dichotomized as satisfied if participants reported satisfaction for 60% of the services and not satisfied if reported satisfaction for <60% of services. Logistic regression was used to estimate odds ratios (ORs) for viral suppression (viral load <1000}
Abstract

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Implementation and Outcomes of a Dedicated Treatment Failure Management Service in an Urban HIV Treatment Clinic in Uganda.


Background: With the recent scale up of routine viral load (VL) monitoring in Uganda, gaps have been identified in relation to fidelity to clinical guidelines characterized by failure to act on VL results and poor clinical outcomes. At the Infectious Diseases Institute (IDI), we established a dedicated treatment failure (TF) management service to closely monitor all patients with virologic failure and improve their outcomes. We evaluated the clinical outcomes of the patients referred to the clinic.

Methods: The clinic is managed by a multidisciplinary clinical team, comprising a doctor, 2 counselors, viral load officer and a quality assurance nurse. All patients with a detectable VL >75 copies/ml are referred to the clinic. Patient’s clinical charts with VL >75 copies/ml are retrieved and flagged, results filed and entered into the clinic electronic database by the viral load officer. Within one week of getting the results, the counselor calls back the patients to schedule a clinic visit, for the Doctor to review with results and for intensive adherence counselling (IAC). The patients are given monthly clinic appointments of IAC for 3 months and there after follow-up. Decision on switching following a repeat VL may include: 1) discharge the patient from the clinic if VL <75 copies 2) Switch to second line if 1st & 2nd VL >1000 copies 3) maintain in clinic if 2nd VL<1000 copies 4) resistance test. We performed a retrospective data review and described the characteristics and outcomes of patients referred to the clinic between March 2017 and December 2018.

Results: 862 patients were included in the study. Of these, 460 (53%) were female, median age was 40 (IQR:33-48) years, median CD4 count 476 (IQR: 282-677) cells/µL and a median VL 347 (IQR:124-8549) copies/ml. 490 (59.4%) were categorized as WHO stage 3 and 6. 653/862 (76%) had at least a repeat viral load done and of these, 429 (66%) had viral suppression (VL < 75 copies). 118/224 (53%) were switched to 2nd line (median time to switch of 3.2 months) and 48/118 (56%) achieved viral suppression following switch. 106 (47%) with a VL between 75 and 1000 copies/ml were retained in the clinic and 41/106 (58%) had VL<75 copies/ml while retained on 1st line. Of the 202/862 (24%) who never had a 2nd VL, 9% died, 29% (14%) lost, 4(2%) transferred out, 65 (31%) anticipating VL repeat while 102 (49%) were not yet due. Overall, viral suppression was 518/653 (79%).

Conclusions: In this setting, a dedicated service team was effective with acceptable patient outcomes. We recommend this approach for wider implementation in centres of excellence.

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Treatment failure among population taking Antiretroviral Therapy in Ethiopia

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Background: Treatment failure (TF) among patients receiving antiretroviral therapy (ART) against HIV impacts on treatment outcome and is becoming a public health concern globally. However, magnitude of TF and factors leading to it are poorly defined in the context of Ethiopia. Thus, the aim of this study was to determine the magnitude of TF and assess determinants among HIV-infected patients on ART in Ethiopia.

Methods: A prospective and retrospective study was conducted from March 2016 to 2017. Retrospective clinical and laboratory data were captured from patients’ medical record. Socio-demographics and explanatory variables of participants were collected using pre-tested structured questionnaire and study participants with baseline viral load (VL) greater than 1000 copies/ml were followed for additional six month to classify virologic failure (VF). Multiple logistic regression was conducted to assess risk factors associated with TF. Statistical significance was set at P-value less than 0.05.

Results: A total of 9,284 adults taking ART from a nationally representative 63 health facilities were included in the study. Viral load suppression (VL5)(VL<1000 copies/ml) among population taking ART in Ethiopia were found to be 8,180(88.1%). Thirty-five percent of the study participants with VL>1000 copies/ml at baseline of the study were re-suppressed after six month of enhanced adherence and counseling. Hence,VF among population on ART in Ethiopia was 983(11%). Immunologic and clinical failure was significantly improved from 21.3% and 16.5% at ART initiation to 576 (6.2%) and 470 (5.0%) at baseline of the study, respectively. Medication adherence, disclosure of HIV status, missed appointment to ART, history of ART exposure

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prior to initiation, residency and marital status had significant association with VLS.

Conclusions: The high level of VLS (88.1%) could explain the success of ART program in Ethiopia towards achieving the UNAIDS global target. VF among population taking ART in Ethiopia is still a public health concern, since 11% of virally failed population is maintained on failed first-line regimen. However, a significant improvement on immunologic and clinical outcome after ART initiation was maintained. Close follow-up of adherence, ensuring disclosure of HIV status, regular appointment follow-up to ART could significantly improve the treatment outcome of population on ART in Ethiopia.

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Case Study: The use of mega-HAART to achieve and maintain viral suppression, in an HIV positive child, in a resource-limited setting, until third line antiretroviral drugs (ARVs) were available.

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Background: Third line ARVs are not yet available in all resource-limited settings, particularly in child-friendly formulations. Where they are available, we are seeing emergence of multiclass resistance. These patients remain a challenge when new ARVs are not accessible. Previously, an archaic salvage practice, called mega-HAART (highly active ARV therapy), using multiple resistant ARVs, proved effective but poorly tolerated in adult patients with widespread resistance. Little is known about its use in children. Thus, we reviewed the efficacy and tolerability of mega-HAART prescribed for a child in South Africa from 2003-2018.

Materials and Methods: In this case study, we analysed an eighteen-year-old South African male’s medical records from 2001-2019, to assess viral loads (VL), CD4 counts, genotype results, adherence and adverse events, while on mega-HAART.

Results: The patient was diagnosed HIV positive at sixteen-months-old and was initiated on stavudine(d4T)/didanosine(ddI)/ritonavir(RTV), as per the practice in South Africa in 2001. Initially adherence was poor, resulting in persistently unsuppressed VLs. After fifteen months on ARVs his VL was 3,000,000 copies/ml and CD4 567(7%) cells/µl, which prompted genotype testing. Genotype results were as follows: nuceloside reverse transcriptase inhibitor (NRTI) mutations found were: A62V, T69S, V75I, F77L, F116Y, and Q151M, which signify high level resistance to zidovudine (AZT), stavudine (d4T), didanosine (ddI), abacavir (ABC) and intermediate resistance to lamivudine (3TC). There were no non-NRTI (NNRTI) mutations identified, which indicates susceptibility to all the NNRTIs. Protease inhibitor (PI) mutations found, included I54V, V82L, L90M, K20R, M36I, L63P, which correlate with high level resistance to ritonavir/RTV, lopinavir/ritonavir(LPV/r), saquinavir/ritonavir(SQV/r), fosamprenavir(FPV/r), indinavir/ritonavir(IDV/r), nevirapin(NVP); and atazanavir/ritonavir(ATV/r). As NNRTI’s have a low genetic barrier to resistance and there were no active drugs to support the NNRTI, the patient was given multiple resistant ARVs (d4T/ABC/3TC/LPV/r) with efavirenz, following the salvage practice known as mega-HAART. After three months his VL was 436 copies/ml and CD4 count, 448(7.76%) cells/µl, and after ten months his VL was fully suppressed at <50 copies/ml, and his CD4 count was 1,172 cells/µl.

From then onwards, for fourteen years, the medical records reported good adherence, persistently suppressed VLs except for two viral blips (VL 50-1,000 copies/ml), high CD4 counts, and good tolerability. In 2007, d4T was stopped due to early signs of lipoatrophy. In 2017, his viral load increased to 2,660 copies/ml because he ran out of medication, but his VL re-suppressed three months after restarting the same ARV regimen. In 2018, in order to decrease his pill burden, he was changed to tenofovir/lamivudine/dolutegravir and rilpivirine, which is now a two-tablet regimen. His VL, three months after the switch, was <50 copies/ml, and to date, remains suppressed on this regimen.

Conclusion: Mega-HAART proved tolerable and effective in this patient for fourteen years. Mega-HAART can therefore be considered as a last resort strategy in children with widespread resistance, in resource-limited settings, until newer drugs become available to them.

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Drug Resistance among Women attending antenatal Clinics in Ghana

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Background: Initial evidence from resource-limited countries using the WHO HIV drug resistance (HIVDR) threshold survey suggests that transmission of drug-resistance strains is likely to be limited. However, access to ART is expanded, increased emergence of HIVDR is feared as a potential consequence. We have performed a surveillance survey of transmitted HIVDR among recently infected persons in the geographic setting of Accra, Ghana.

Methods: As part of a cross-sectional survey, 2 large voluntary counseling and testing centers in Accra enrolled 50 newly HIV-diagnosed, antiretroviral drug-naive adults aged 18 to 25 years. Virus from plasma samples with >1,000 HIV RNA copies/ml (Roche Amplicor v1.5) were sequenced in the pol gene. Transmitted drug resistance-associated mutations (TDRM) were identified according to the WHO 2009 Surveillance DRM list, using Stanford CPR tool (v 5.0 beta). Phylogenetic relationships of the newly characterized viruses were estimated by comparison with HIV-1 reference sequences from the Los Alamos database, by using the ClustalW alignment program implemented.

Results: Subtypes were predominantly D (39/70, 55.7%), A (29/70, 41.4%), and C (2/70, 2.9%). Seven nucleotide sequences harbored a major TDRM (3 NNRTI, 3 NRTI, and 1 PI-associated mutation); HIVDR point prevalence was 10.0% (95%CI 4.1% to 19.5%). The identified TDRM were D67G (1.3%), L210W (2.6%);
G190A (1.3%); G190S (1.3%); K101E (1.3%), and N88D (1.3%) for PI.

**Conclusions:** In Accra the capital city of Ghana, we found a rate of transmitted HIVDR, which, according to the WHO threshold survey method, falls into the moderate (5 to 15%) category. This is a considerable increase compared to the rate of <5% estimated in the 2006-7 survey among women attending an antenatal clinic in mamobi. As ART programs expand throughout Africa, incident infections should be monitored for the presence of transmitted drug resistance in order to guide ART regimen policies.

**290 Achieving the third 90: Keeping adolescents living with HIV virally suppressed in rural Nigeria in the era of test and treat using Continuous Quality Improvement (CQI) Model of Peer Counseling & Support Group**

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**Background:** In 2016, Nigeria transitioned to “Test & Treat”, a policy where all people living with HIV (PLHIV) are treated with lifelong antiretroviral therapy (ART) regardless of clinical or immunological status. The policy has associated concerns for linkage to ART & subsequently viral suppression, with particular concern for adolescents living with HIV (ALHIV) ages 10 to 19 years. There are unique challenges achieving viral suppression in ALHIV mainly due to developmental changes, increased stigma, discrimination & rejection or lack of social support. Hypothesis tested was antiretroviral therapy adherence effect on viral load outcome. We examined viral suppression among adolescents living with HIV in rural Western Nigeria.

**Methods:** This study was an observational prospective cohort study of adolescents living with HIV (ALHIV) already initiated on antiretroviral therapy for at least six months, enrolled in health facilities across supported facilities in rural parts of Western Nigeria, during a 12-month observation period starting October 2016 till September 2017. Quantitative viral load analysis was done using Polymerase Chain Reaction, Roche Cobas Taqman 96 Analyzer. All data were collected using Epidata & statistically analyzed using Statistical Package for the Social Sciences (SPSS) version 23.0, with multiple comparisons done using Post Hoc Bonferroni test.

**Results:** A total of 126 (64 males & 62 females) subjects eligible for the study were recruited. Most of them are in the age range of 10 – 16 years, with a mean age of 13.58 ± 4.26 years. 83 (65.9%) & 71 (56.3%) of the subjects had viral suppression of <1000 RNA copies per ml and <50 RNA copies per ml respectively. The 43 subjects went through peer counseling by trained ALHIV and enhanced adherence counseling (EAC) for three months and viral load test repeated three further months after, which made 113 (89.7%) & 101 (80.1%) of the subjects have <1000 RNA copies per ml and <50 RNA copies per ml respectively during the period of observation. The ALHIVs in the process joined the institutionalized social-media driven support group & adolescent decentralized care model ensuring they achieve the third 90 at an undetectable viral load level. ART adherence has significant effect on viral load outcome ($\chi^2 = 6.42, df = 1, P = 0.001$).

**Conclusion:** Antiretroviral therapy (ART) treatment adherence counseling is key to the achieving viral suppression and determine infection prognosis, thus, developing robust continuous quality improvement (CQI) plans to address issues across the cascade ultimately helping in the monitoring of HIV/AIDS disease progression and decrease treatment failure tendencies. This will help more patients stay on first line regimen and prolong their life expectancy, indicating that the UNAIDS last 90 target is achievable in adolescents.

**291 Descriptive analysis of WHO-recommended second-line antiretroviral treatment; a retrospective cohort data analysis**

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**Background:** World Health Organization (WHO) guidelines recommend that patients not achieving viral suppression on efavirenz-based first-line antiretroviral therapy (ART) should be changed to a protease inhibitor-based regimen. In South Africa, around 200 000 people are on second-line treatment, however little is known about these patients. This study aims to describe second-line African patients in a large urban area.

**Methods:** A quantitative retrospective study of 825 second-line patients was performed in central Johannesburg (sub-district F), with data extracted from government databases. Demographic characteristics, treatment status and laboratory information were gathered, then analyzed with CD4 cell count, viral load and retention in care data as outcome variables.

**Results:** As a cohort, the average recorded time to viral load measurement after ART switch to a protease inhibitor-based regimen was 20 months. 83.1% (570/686) of those with a recent viral load achieved viral suppression while on second-line treatment. The most recent CD4 cell count levels were 286 cells/ul (IQR=160-478 cells/ul), which represented a 177 cells/ul increase from baseline CD4 cell count at start of first-line ART. Slightly less than three quarters (72.4%) of the population remained active in care from initiation on first-line ART. Demographics, such as being under 25 years of age, males and geographic transfer (started their initial treatment in a different region), independently predicted low CD4 cell count values and virological failure while on second-line treatment. Patients exhibiting virological failure were more likely (OR=3.13, CI=1.50-6.56) to be lost to follow-up after switch, while patients from Hillbrow Community Health Centre (OR=0.27, CI=0.16-0.44), South Rand hospital (OR=0.24, CI=0.12-0.47) and Jeppe Clinic (OR=0.38, CI=0.16-0.88), three larger sites, were most likely to remain active in care.
Conclusion: Viral load suppression was high in patients on second-line treatment, but one fifth of patients were lost to follow-up. Younger patients, male patients, patients and patients from other treatment sites predicted poor treatment outcomes, highlighting opportunities for where adherence interventions need to be prioritised.

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Corrélation entre les mutations en début de traitement et l’échec virologique après 6 mois de Traitement Antirétroviral chez les Personnes Vivant avec le Virus de l’Immunodéficience Humaine à Kinshasa

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Contexte: Le taux d’échec de Traitement Antirétroviraux (TARV) de 1ère ligne pour la ville de Kinshasa était respectivement de 16% en 2012 et de 24,6% en 2014. Les échecs de TARV peuvent être causés en outre par la présence des mutations transmises et acquises.

Objectif: L’objectif de ce travail est de déterminer la corrélation entre les différentes mutations transmises en début de traitement et les risques d’échec virologiques après 6 mois de traitement chez les patients naïfs à Kinshasa.

Méthodologie: 153 patients naïfs de TARV étaient sélectionnés dans 8 centres de Kinshasa. Les Charges Virales (CV) et les différentes souches de VIH-1 étaient déterminées pour tous les patients à l’inclusion ainsi que les différentes mutations associées aux résistances au TARV. Au 6ème mois de TARV, seulement 138 patients (90,2%) de la cohorte ont été reçus. Après extraction de l’ARN, une Reverse Transcription PCR (RT-PCR) et une PCR Nichée ont été réalisées pour amplifier les régions d’intérêt pour la Protéase et pour la Transcriptase Reverse (TR) en vue du séquençage. L’apparition des fragments obtenus a été comparé avec différentes base de données pour l’identification des sous-types de VIH-1 et des mutations.

Résultats: 153 patients naïfs de TARV étaient sélectionnés pour être suivis. Au 6ème mois, 138 patients (90,2%) étaient revenus pour le contrôle. Quatre-vingt-un (58,7%) patients étaient des femmes. Les tranches d’âge dominantes étaient celles de 26 à 35 ans et 36 à 45 ans avec 39 patients (28,3%) chacune. Les mutations majeures les plus observées associées aux inhibiteurs de Protéase (IP) sont : L90M (2,0%), D30N (1,3%) et V32I (1,3%). Au 6ème mois, 104 patients (75,4%) avaient une CV inférieure à 2,3 log10 copies d’ARN/ml donnant ainsi un taux d’échec virologique de 24,6%.

éttaient fortement corréllées aux mutations K70 et V75 pour les INTRs ainsi qu’à la mutation V108 pour les INNTRs.

Conclusion: Les mutations sur les codons K70 et V75 pour les Inhibiteurs Nucléotidiques ainsi que V108 pour les Non-Nucléotidiques sont fortement incriminées pour les échecs de traitement de 1ère ligne dans notre population.

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DTG vs LPV/r (DAWNING): Efficacy by Baseline NRTI Resistance and Second-Line NRTI Use

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Background: DAWNING is a non-inferiority study comparing dolutegravir (DTG) + 2 nucleoside reverse transcriptase inhibitors (NRTIs) with lopinavir/ritonavir (LPV/r) + 2 NRTIs in HIV-1 infected adults failing first-line therapy (HIV-1 RNA >400 c/mL) of a non-nucleoside reverse transcriptase inhibitor (NNRTI) + 2 NRTIs.

Methods: Participants were randomized (1:1, stratified by baseline NRTI resistance and screening HIV-1 RNA <50 c/mL) of a non-nucleoside reverse transcriptase inhibitor (NNRTI) + 2 NRTIs.

Results: Of 624 participants randomized and treated, 499 (80%) received <2 active NRTIs at baseline. Overall, 84% (261/312) of participants on DTG versus 72% (152/210) on LPV/r had HIV-1 RNA <50 c/mL at Week 48 (adjusted difference 13.8%; 95% confidence interval [CI]: 7.3-20.3; P<0.001 for superiority). This difference was consistent regardless of the use of <2 or 2 fully active NRTIs on screening resistance testing. The primary endpoint was the proportion of participants with HIV-1 RNA <50 c/mL at Week 48 (Snapshot algorithm). Post-hoc efficacy analyses were performed based on baseline NRTI resistance profile and NRTI use in the second-line background regimen (BR).

Conclusion: In DAWNING, response rates were high in participants receiving DTG + 2 NRTIs regardless of pre-existing resistance to one of the NRTIs in the BR, including in participants.
using 3TC or FTC in the presence of M184V/I. In World Health Organization interim guidance on HIV treatment, DTG + 2 NRTIs is now a recommended second-line treatment option for patients failing an NNRTI-based regimen.

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Initial Viral Load Decline and Response Rates by Baseline Viral Load Strata With Dolutegravir Plus Lamivudine Versus Dolutegravir Plus Tenofovir Disoproxil Fumarate/Emtricitabine: Pooled Results From the GEMINI Studies


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Background: At 48 weeks, the GEMINI-1 and GEMINI-2 studies (NCT02831673 and NCT02831764) showed that the 2-drug regimen (2DR) dolutegravir (DTG) + lamivudine (3TC) was noninferior compared with the 3-drug regimen (3DR) DTG + tenofovir disoproxil fumarate/emtricitabine (TDF/FTC) in achieving plasma HIV-1 RNA <50 c/mL in treatment-naive adults with baseline HIV-1 RNA ≤500,000 c/mL. To better understand the potency of DTG+3TC compared with the 3DR, we explored the rapidity of initial viral load (VL) decline and efficacy response rates in those with baseline VL >100,000 c/mL.

Methods: Participants were randomized 1:1 to receive DTG 50 mg + 3TC 300 mg once daily or DTG 50 mg + TDF 300 mg/FTC 200 mg once daily (stratified by baseline HIV-1 RNA and CD4+ cell count). The primary endpoint was proportion of participants with HIV-1 RNA <50 c/mL at Week 48 (using snapshot algorithm, intention-to-treat–exposed population), with a 10% noninferiority margin. As a post hoc analysis, mean change log10-transformed HIV-1 RNA from baseline and 95% confidence intervals (CIs) were calculated at Weeks 4, 8, 12, 16, 24, 36, and 48. Proportions of participants with plasma HIV-1 RNA <50 c/mL at Week 48 (using snapshot) for the 2DR versus 3DR by baseline HIV-1 RNA strata ≤100,000 c/mL, >100,000 c/mL, >250,000 c/mL, and >400,000 c/mL were also analyzed.

Results: In the pooled analysis at Week 48, 91% (655/716) of participants in the 2DR versus 93% (669/717) in the 3DR group achieved HIV-1 RNA <50 c/mL (adjusted treatment difference, −1.7%; 95% CI, −4.4 to 1.1). 20% (140/716) in the 2DR group and 21% (153/717) in the 3DR group had baseline HIV-1 RNA >100,000 c/mL (including 2% with baseline VL>500,000 c/mL). Similar rapid VL log decline was observed in both treatment groups overall (median change from Baseline at Week 4: −2.77 log10 c/mL in the 2DR group, and −2.80 log10 c/mL in the 3DR group) and in participants with baseline VL >100,000 c/mL (median change from Baseline at Week 4: −3.38 log10 c/mL in the group, and −3.40 log10 c/mL in the 3DR group). High and similar response rates were seen in participants across baseline VL strata below and above 100,000 c/mL. For participants with baseline VL ≤100,000 c/mL 91% (526/576) in the 2DR versus 94% (531/564) in the 3DR group achieved HIV-1 RNA <50 c/mL (adjusted treatment difference, −2.8%; 95% CI, −5.9 to 0.2). For participants with baseline VL >100,000 c/mL, 92% (129/140) in the 2DR versus 90% (138/153) in the 3DR group achieved HIV-1 RNA <50 c/mL (adjusted treatment difference, 1.9%; 95% CI, −4.5 to 8.4). A consistent response pattern was also observed in the HIV-RNA strata >250,000 c/mL, and >400,000 c/mL.

Conclusions: VL decline with the 2DR DTG+3TC was rapid and comparable to that of the 3DR DTG+TDF/FTC. Response rates in participants with baseline HIV-1 RNA >100,000 c/mL were high with DTG+3TC, consistent across strata, including participants with HIV-1 RNA >400,000 c/mL, and similar to the 3DR group. These data demonstrate a high potency of DTG+3TC, similar to that of a standard-of-care 3DR.

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Profil des Personnes Vivant avec le Virus d’Immunodéficience Humaine sous Traitement de 2ème ligne à Kinshasa, République Démocratique du Congo

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Contexte: Pour l’année 2018, la Division Provinciale du Programme National de Lutte contre le VIH/SIDA et les Infections Sexuellement Transmissibles a publié pour la ville de Kinshasa un total de 58 327 PVVIH sous TARV dont 5 789 (9,9%) étaient sous TARV de 2ème ligne.

Objectif : L’objectif de ce travail était de déterminer le profil clinique et paraclinique des Personnes Vivant avec le VIH sous traitement de 2ème ligne suivi à Kinshasa.

Méthodes: Le présent travail était une étude cohorte exploratrice pour évaluer le profil des PVVIH en 2ème ligne de traitement à Kinshasa. Les PVVIH confirmés en échec de traitement de 1ère ligne et mis sous traitement de 2ème ligne étaient retenus pour ce travail. Les paramètres cliniques et paracliniques ont été prélevés sur les fiches individuelles des patients retenus en J0 et M6.

Résultats: 50 patients étaient retenus pour ce travail en raison des critères d’inclusion dont 27 patients (54%) étaient des femmes. L’âge des patients était compris entre 18 et 82 ans avec une moyenne de 50,5 ± 11,75 ans. La tranche d’âge dominante est celle de 46 à 55 ans avec 18 patients (36%). À l’inclusion, la durée moyenne de traitement sous la 1ère ligne était de 35 ± 8 mois de TARV. 38 patients (76%) étaient au stade clinique 3 pour l’infection au VIH selon la classification de l’OMS. Le poids moyen des patients au J0 était de 54,3 ± 11,75 kg. La valeur médiane des CD4 au J0 de 2ème ligne était de 217 cellules/μL. A M6, 32 patients (64%) étaient en stade clinique 3 ; le poids moyen des...
The last 90 of the 90’s; where do we stand on viral suppression among persons living with HIV on second-line therapy? A Kenyan perspective.

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Background: The UNAIDS 90 90 90 targets are geared at ending the HIV epidemic by 2030. Viral suppression is key to preventing transmission and the last 90 aims to have 90% of patients initiated on therapy being virally suppressed. Our objectives were to determine the prevalence of viral suppression among persons living with HIV on second line therapy and the associated factors.

Methods: We conducted a cross-sectional study at the Kenyatta National Hospital’s HIV clinic between October and November 2017. We recruited adult patients on second-line therapy consisting of atazanavir/ritonavir. Social demographic data were collected through questionnaire-guided interviews whereas clinical information was obtained through review of existing electronic medical records. Patients with undetectable viral loads were considered to be virally suppressed. Data analysis was done in R®. Backward stepwise logistic regression was used to determine the associations.

Results: We recruited 110 participants, 58% (n=64) of whom were females. The mean age of the participants was 39.8 years (SD 11.8). The median duration since diagnosis of HIV infection was 9.4 years (IQR 7.1) while mean duration on antiretroviral therapy was 8.4 years (SD 3.3). Most participants were on regimens consisting of tenofovir and lamivudine (57%, n=63) followed by zidovudine and lamivudine (37%, n=41). The median CD4 count and viral load were 219 cells/mm3 (IQR 126) and 26840 copies/ml (IQR 1034000) respectively. Half of the participants had achieved viral suppression which was associated with a higher CD4 count (aOR = 1.002, p = 0.049) and older age in years (aOR = 1.056, p = 0.026). A diagnosis of mild depression (aOR = 0.306, p = 0.033) lowered the odds of being virally suppressed.

Conclusion: Only 50% of patients on second line therapy with boosted atazanavir had attained viral suppression. Priority should be placed on younger patients, those with lower CD4 counts and those who screen positive for depression.

Prevalence of Viral Suppression in Patients Receiving Art at Treatment Facilities in Nigeria

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Background: A key clinical measure of treatment efficacy among people living with HIV (PLHIV) receiving anti-retroviral therapy (ART) is to achieve viral load suppression (VLS). Viral load threshold of less than 1000 copies/microliter defines treatment success according to WHO4. Among PLHIV, approximately 24% (18% - 32%) had suppressed viral loads. The current national ART program in Nigeria monitors VLS at 6 months after initiation of ART and thereafter 12 monthly. This study aimed to review the patient level outcomes on ART program by the assessment of the VL and HIVDR status of patients on ARVs over a period of 12 months.

Methods: This was a cross-sectional study of the PLHIV receiving ART in treatment sites in Nigeria across the six geopolitical zones over a six-month period (June to December 2018). Study population were adult (>15 years) and children (<15 years) PLHIV. A total of 69 ART facilities was selected for the study using probability proportional to size sampling and stratified cluster sampling design. Samples were collected from participants, study identifying number assigned, specimen processed and transported to VL testing labs. The analysed data was weighted such that the six geopolitical zones were equally represented.

Results: Within the study period, a total of 887 (76%) adults and 280 (24%) children were enrolled into the study. Adult population had 634 (71.5%) female and 253 (28.5%) male respectively; children 140 (50.0%) males, 140 (50.0%) females. 77.3% (CI 73.8-80%) of adults and 48.2% (CI 43.6-55%) of children were virally suppressed respectively. VLS varied by geopolitical zones; South west had the highest adult suppression rate (86.0%) while north central had the highest suppression rate in children at 54.6%. North East had the lowest suppression prevalence among adults (69.7%) and South West for children (33.3%). Higest suppression rate (80%) was observed among adults on ART between 18 - 41 months; those on ART for > 18 months had the least viral suppression (71.6%). Children on ART for > 18 months had the highest viral suppression (62%).

Discussion: Continuous monitoring of VL and more targeted interventions are needed programatically to achieve the 90% viral suppression target especially among children on ART in Nigeria. ART programs should channel resources to facilitate care and adherence to therapy in the children.
Improving Data quality for HIV programs: Experiences from Mityana District, Uganda

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Introduction: Low HIV/AIDS data quality is one of the challenges faced by Mityana District Health Department. Collection of quality health data is an important component of health service delivery worldwide as it informs decisions on service delivery, planning, allocation of scarce resources as well as monitoring the disease occurrence. This project was designed to improve the quality of HIV/AIDS data in Mityana District so as to inform planning and decision making at the facilities and district level.

Methods and Materials: We purposively selected 10 Health Facilities (HFs) offering eMTCT/ART services with data quality challenges. In June 2016, we conducted a baseline data quality assessment (DQA) in the facilities during which we verified data on four (4) indicators: (i) number of individuals tested for HIV for the first time (HCT), (ii) Number of Pregnant and lactating women started on ART at the facility (eMTCT), (iii) Number of active clients on Pre-ART care (Pre-ART) and (iv) Number of active clients on 1st, 2nd, and 3rd line ART (ART) for the period of Jan-March 2018. A month later, a one-day orientation meeting on quality of HIV/AIDS data for in-charges of HFs and ART clinics, and records assistants was held followed by on-site coaching and mentorship for the HF teams in quality of HIV/AIDS data and HMIS reports. At the end of project implementation, a follow-up DQA was conducted using similar methods as those used for the baseline. Results of the baseline and follow-up DQA were compared.

Results: Results showed an improvement in proportion of HFs submitting accurate, HCT data from 0% at baseline to 80%, eMTCT data from 60% at baseline to 90% at follow up, Pre-ART data from 30% at baseline to 60% at follow up and ART data from 20% at baseline to 90% at follow up. Similarly, there was an improvement in the proportion of HFs submitting accurate data with error margins <5% on all the indicators except HCT. Likewise, there was also an improvement in the proportion of HFs submitting complete HMIS 105 HCT section reports from 70% at baseline to 100%, HMIS 105 eMTCT section reports improved from 60% to 100% at follow up, HMIS 106a Pre-ART section reports from 70% at baseline to 90% at follow up and HMIS 106a ART section reports from 50% at baseline to 90% at follow up.

Conclusion: The findings suggest that training, coaching and mentorship of HF teams in data quality and reporting for HIV/AIDS can improve the quality of HIV/AIDS data in the district. These interventions need to scale up these interventions to all the HFs in the district.

Virological suppression among HIV infected adolescents and youths receiving ART in the National teaching and referral hospital in Kenya

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Background: HIV virological suppression is poor among the adolescents and youths which may be related to several factors including adherence to antiretroviral therapy. This study aimed to determine the HIV virological response and the associated risk factors among adolescents and youths on ART.

Methods: This was a cross-sectional study among adolescents and youths aged 10 to 24 years in Kenyatta National Hospital who were on ART for at least six months. Patient characteristics were captured in a questionnaire and viral load was abstracted from electronic medical records. Viral suppression was presented as a proportion based on viral load less than 1000 copies per milliliter of plasma. Viral suppression rate was associated with categorical independent factors using chi square test and means were compared using independent T-test.

Results: The mean age was 17 years (SD 4.3 years) and 55.6% were females. The median CD4 count was 573 cells per micro liter of blood (IQR: 344-1780). A total of 227 (74.2%) HIV infected adolescents and youths were virologically suppressed (viral load less than 1000 copies/ml blood). As compared to children 10-14 years old who had 83.2% suppression rate, adolescents 15-19 years had poorer suppression rate at 69.6% [OR 0.5 (95% CI 0.2-0.9), P= 0.022]. Similarly youths 20-24 years had a lower suppression rate at 70.8% compared to the children [OR 0.5 (95% CI 0.2-0.9), P= 0.022]. Only 56.2% of the study participants had undetectable HIV viral RNA (as per UNAIDS 90-90-90 strategy). RNA Viral suppression rate was lower among ART defaulters (47.2%), those defaulting clinic appointments (51.7%) and those not honoring ART refill (50%). Majority of the participants (86.3%) were in WHO stage I whereas 2% were in WHO stage IV. Among those with unsuppressed viral loads, 20.7% had been diagnosed with Tuberculosis. None of the study participants had Hepatitis B virus infection.

Conclusions: HIV viral suppression among adolescents and youths was low and even much lower among 15 to 24 year-olds. Poor ART adherence and non-compliance to clinic appointments increased the risk of poor virological response.
An analysis of time of initiation of antiretroviral therapy and treatment outcomes in Lagos, Nigeria

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Introduction: Test and Start strategy for antiretroviral therapy (ART) initiation was introduced in Nigeria in 2016, with concurrent advocacy for same day ART initiation. The strategy was adopted because earlier studies showed that it reduced incidence of severe HIV-related morbidity and mortality. However, same day ART initiation typically shortens the time spent conducting baseline assessment and in-depth patient preparation before initiating therapy. The objective of this study is describe the treatment outcomes based on the time of ART initiation.

Methodology: We conducted an evaluation of 6742 clients initiated on ART within one-year period (October 2016 - September 2017) at 25 comprehensive ART sites in Lagos State, Nigeria. A data capturing tool was designed and deployed to obtain from electronic medical records (EMR) database, a list of all HIV-positive clients per site initiated on ART within the stipulated period. For every patient, time of ART initiation was determined by obtaining the difference (in days) between the date of diagnosis and ART start date. This was classified as: (1) Same day ART initiation, (2) ART initiation within 1-14 days (3) 15-30 days, and (4) >30 days. All patients known to be alive and on treatment at 6 and 12 months post-ART initiation were documented from the EMR as retained on treatment and the proportion in relation to time of ART initiation analyzed. Viral load (VL) results per patient at 6 months and 12 months post-ART initiation was obtained from EMR. VL result <1000 copies/mL indicates VL suppression and proportion of virally suppressed patients in relation to time of ART initiation was documented.

Results: Majority (60%) of 6742 clients had same day ART initiation, 22% started ART within 1-14 days, 6% within 15-30 days and 12% after 30 days. Retention at 6 months ranged from 71.6% in same day ART initiation group to 85.4% in the 15-30 days ART initiation group. Similarly, at 12 months, retention ranged from 64.2% in same day ART initiation group to 77.2% in the 15-30 days group. Retention at 6 and 12 months in those initiated on ART within 1-14 days and after 30 days fell within the range. VL suppression for all categories ranged from 80% to 87%, being highest in those who had same day ART initiation and those initiated within 15-30 days.

Conclusion: In line with earlier studies which associated immediate ART initiation with reduced HIV-related morbidity, this evaluation showed an increased VL suppression rate amongst those who had same-day ART initiation. However, the lower retention rates amongst them shows that there is a need to strengthen follow-up of these patients after ART initiation. Same day ART initiation limits the duration of time spent preparing the client for lifelong therapy before ART initiation. Hence, it is important to closely follow up and monitor such clients within and outside clinic settings, and those who are not ready to initiate therapy on the same day should receive ongoing counselling in order to improve retention among them.

The Adult HIV Cascade of Care in a Community-Based Organization program in Urban Burkina Faso

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Background: In Sub-Saharan Africa, Community-Based Organizations (CBO) are importantly involved in HIV prevention and treatment. However, data about adult HIV cascade of care to assess progress in meeting UNAIDS 90-90-90 targets are scarce in CBO. Therefore, we assessed the adult HIV cascade of care in a CBO cohort in Ouagadougou (Burkina Faso).

Methods: We performed a retrospective cohort study from January 2012 to February 2016 in a community based clinic named Association African Solidarité. All HIV-infected patients aged 18 years or older were included. The viral suppression (VS) was defined as the first viral load less than 150 copies/mL within the 6-month after ART initiation. The lost to follow-up was defined as HIV-infected patient on ART who had not had any contact with the health facility during 6 months or more, or as HIV-infected patient not on ART who had not had any contact with the health facility during 12 months or more. We assessed the progression towards the second and the third UNAIDS targets by estimating the proportions of the HIV-infected adults initiating ART, and the proportion of those on ART virally suppressed. Factors associated with the VS were identified using multivariate logistic regression.

Results: From 2012 to 2016, a total of 536 HIV-infected adults were enrolled at a median age of 38 years (IQR: 31-45 years), 65% were women, 18% were key populations among whom 64% were sex workers. At enrollment, the median CD4 cell counts was 255/mm3 (IQR: 123-447), 34% had severe immune deficiency. Overall, 70% (377/536) initiated ART. Of these patients, 35% (134/377) performed at least one viral load test during the follow-up, 66% (89/134) were virally suppressed. The attrition rate (loss to follow-up or death) was 32.5% (174/536). Adjusted for sex and treatment regimen, being older than 30 years at enrollment was significantly associated with VS (Adjusted Odds ratio: 3.7; CI95%: 1.2-11.3).

Conclusions: In CBO adults’ cohort in urban Burkina Faso, the attrition rate remain high and the VS is suboptimal. Achieving the second and the third UNAIDS targets will require additional supports to reach young adults and to scale-up affordable viral load monitoring.
Improving uptake of HIV prevention, care and treatment services at prisons in Lagos, Nigeria.

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Introduction: According to WHO, prisoners have the right to health care comparable to what is obtainable in the general community without discrimination. Several studies in Nigeria have shown that the prevalence of HIV in Nigerian prisons is higher than in the general population. This is because of high-risk behaviours amongst inmates such as sharing of sharp objects, unprotected homosexual practices and inadequate prevention and treatment services. To achieve epidemiologic control of HIV in Nigeria, a holistic HIV prevention, care and treatment intervention needs to be put in place across Nigerian prisons.

The objectives of this intervention were to (1) improve the inmates’ knowledge of their HIV status (2) provide ART to HIV-positive inmates and (3) achieve viral suppression amongst them.

Methodology: A hub-and-spoke model of HIV prevention, care and treatment services was employed. This involved identifying HIV clinics close to the prisons to serve as treatment hubs while the prisons served as spoke facilities. Prison services stakeholders were engaged to obtain buy-in. Key service providers from the treatment sites and ad hoc counsellor-testers were engaged to rapidly scale up HIV Testing Services (HTS), using the opt-out approach, to all inmates of 4 prisons in Lagos state (Kirikiri Maximum, Kirikiri Medium, Kirikiri Female and Ikorodu prisons). Identified HIV-positive inmates were escorted to the prison clinic for ART enrolment. Samples were collected for baseline investigations and transferred to the hub facility for analysis. Clinicians from the hub conducted initial clinical evaluations, treated opportunistic infections and initiated antiretroviral therapy as appropriate. Hub site staff visited the prisons monthly to follow and review patients. The prison clinic staff were also trained to provide HIV services. These interventions commenced in June 2018 and have been implemented for about 7 months.

Results: There were 8,968 people incarcerated across the 4 prisons, out of which 2,719 have been tested, 80 (3%) were identified as HIV-positive and 77 of them (96%) were successfully linked to ART. Twenty four (24) of the 80 positive inmates (30%) had previous exposure to ART but their treatment had been disrupted at this point. Viral load (VL) assessment was done for 48 clients, 41 had documented results, 19 (40%) of them were virally suppressed and 22 (46%) were unsuppressed. Out of the 24 inmates with previous exposure to ART, only 10 (42%) had suppressed VL. All clients with unsuppressed VL (22) commenced Enhanced Adherence Counselling (EAC). Five (5) of those with previous exposure to ART have completed EAC but repeat VL test remained unsuppressed and they have been reviewed for switch to second-line regimen.

Conclusion: The differentiated care approach for prison engagement helped provide inmates access to HIV services and contributed towards health systems strengthening. The poor VL suppression rate reported in this study may be due to prior exposure to ART. Considering the documented risk of increased prevalence of HIV in this population, it is important that HIV programs actively include this population in program designs to prevent HIV related morbidity and mortality as well as further transmission of HIV.

A cross-sectional study on levels of knowledge on provision of second-line antiretroviral therapy in Malawi in 2016

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Background: Although Malawi is on track to achieve the UNAIDS 90-90-90 HIV targets, there is sub-optimal switching of patients to second-line antiretroviral treatment (ART) with first-line treatment failure. Challenges include unavailability of viral load (VL) results and low levels of knowledge on provision of second-line ART. We assessed in-service knowledge of different cadres of first-line ART providers on the management of second-line ART patients.

Methods: In 2016, 754 first-line ART providers (medical doctors, clinical officers, medical assistants, registered nurses, nurse-midwife technicians and community nurses) from 26 districts in Malawi were trained on second-line ART provision. After the training, a certification exam was administered to assess providers’ ability to: 1) identify second-line regimens; 2) choose appropriate second-line ART based on first-line treatment failure scenarios; 3) interpret VL results; and 4) prescribe correct dosages for second-line ART. ART providers that scored ≥80% were certified to prescribe second-line regimens. Proportions and chi-squared tests were used to analyze results of the exam by cadre and district.

Results: Of the 754 ART providers assessed, 21(3%) were medical doctors, 241(32%) were clinical officers, 147(20%) were medical assistants, 44(6%) were registered nurses, 260(34%) were nurse-midwife technicians, and 41(5%) were community nurses. Overall, 290 (38.46%) were eligible to prescribe second-line regimens, with significant differences by both cadre and district (p<0.001). Specifically, a higher proportion of medical doctors, clinical officers, and registered nurses (56.67%, 56.43%, and 36.64%, respectively) were eligible to prescribe when compared with medical assistants (24.49%), and nurse-midwife technicians (28.08%). Among all cadres, providers performed best in identifying (n=518, 68.70%) and correctly dosing (n= 588, 77.98%) second-line ART. Few providers correctly chose second-line ART regimens (n=71, 9.42%) or interpreted VL results (n=67, 8.89%). Ability to both identify and correctly choose second-line ART differed significantly by cadre and district, while ability to correctly dose varied by district (p<0.001) and ability to interpret VL varied by cadre (p<0.001).

Conclusion: Overall performance in the second-line ART certification examination was sub-optimal. There is need for
strenthening knowledge on second-line ART through intensive trainings. Ensuring workforce capacity for switching to second-line regimens is important to achieving the UNAIDS 90-90-90 goals.

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Improved viral suppression rates among HIV-positive adults receiving antiretroviral therapy (ART) via community adherence group (CAG) support in Zambézia province, Mozambique

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Background: In Zambézia, Mozambique, the HIV prevalence rate among 15-59-year-olds is 15.1%. According to UNAIDS 90/90/90 goals, 90% of combination antiretroviral therapy (ART)-treated persons should be virally suppressed. The “Treat All” (lifelong ART for all HIV+ persons regardless of immune status) was expanded in Zambézia in a phased approach beginning in August 2016, with viral load monitoring becoming part of routine care. We compared viral suppression rates among persons receiving ART, including those in community adherence groups (CAG), one of the Ministry of Health’s important differentiated models of care, which aims to provide ART to groups (3-6 persons) of HIV-positive persons with stable immune function on ART for 6+ months.

Materials and Methods: We analyzed data from HIV-positive adults (15+ years old) receiving care at 83 supported health facilities (HF) following the implementation of “Treat All” (n = 15,457). Eligible persons included those on ART for 6+ months who had at least one clinical consultation recorded between August 29, 2016 – May 1, 2017 and with a viral load result recorded from the time the HF adopted the ‘Treat All’ strategy and before December 21, 2017. We calculated the unadjusted odds ratios (uOR) of being virally suppressed among different categories.

Results: Of the 15,457 patients included in the analysis, 24% (3670) were male and 76% (11787) female. Among them, 26% (4111) were between 15 and 24 years, 39% (5966) between 25 and 34 years, 27% (4203) between 35 and 49 years and 8% (1177) were over 50 years. Twenty-one percent (3285) received ART at a small size HF, defined as having less than 500 patients currently on ART, while 14% (2084), 24% (3766), 10% (1596) and 31% (4726) patients were enrolled in HF serving between 500-1000, 1000-1500, 1500-2000 and 2000+ patients on ART, respectively. Twelve percent (1823) patients received ART via CAG. The overall viral suppression rate was 76%. Viral suppression rates were significantly higher among women (uOR 1.16; 95% CI: 1.06-1.26; p<0.01) and among persons receiving ART via CAG (uOR 1.16; 95% CI: 1.03-1.30. p = 0.01). Viral suppression rates progressively and significantly improved with age; with persons 35-49 years of age and those 50+ years of age being approximately 1.5-fold (uOR 1.61; 95% CI: 1.46-1.78) and 2-fold (uOR 2.16; 95% CI: 1.83-2.56) more likely to be virally suppressed compared to those that were younger (15-29 years old). In addition, adults receiving ART at larger HF (> 2000 persons on ART) had significantly higher viral suppression rates (uOR 1.70; 95% CI: 1.53 – 1.88) compared to those receiving care at smaller HFs.

Conclusions: The overall viral suppression rates among ART-treated adults in this rural Mozambique setting are still below the desired goal of 90%. The more favorable suppression rates seen among adults receiving ART via CAG-support is encouraging and supports continuation of this strategy. However, the underlying factors influencing these third UNAIDS 90-90-90 goal outcomes warrant further study to inform the design of tailored interventions, especially for men, adolescents/young adults and those receiving care at smaller HF.

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Early evaluation of institutionalized Prevention of Mother to Child Transmission of HIV - Cohort Monitoring (PMTCT-CM) approach in Cameroon

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Background: Since 2015, many countries profoundly affected by the HIV epidemc have systematically adopted the WHO recommendations to start lifelong antiretroviral therapy (ART) for HIV+ pregnant women. This strategy, called PMTCT Option B+, has contributed significantly to reducing the HIV vertical transmission rate, and improved health outcomes for the mother and the HIV exposed infant (HEI). In Cameroon, effective implementation of Option B+ has been challenging due to a variety of factors (including patient, community, economic) and health systems factors, that have caused poor integration and delivery of the PMTCT program into ANC services at all levels of the country’s health pyramid. In October 2017, PMTCT-Cohort Monitoring(CM) was initiated and piloted in 2 regions of the country. Institutionalizing PMTCT-CM with rigorous follow up of HIV+ pregnant women during pregnancy and the mother-infant pair post-partum is expected to boost PMTCT uptake, improve maternal and HEI retention, improve health outcomes for mother and infant, correct the leaks in the PMTCT clinical cascade and can be used as proxy to assess the effectiveness of the PMTCT program.

Method: A retrospective chart review of HIV+ pregnant women enrolled in PMTCT-CM between October and December 2017, followed up longitudinally in nine (9) and five (5) high volume sites in the Littoral and Center regions respectively. This assessment sought to evaluate critical maternal outcomes including retention in care at 3, 6 and 12 months, and the proportion of women who were virally suppressed at 6 and 12 months. Equally, a cohort of infants enrolled during the same
period was followed to determine HIV transmission rates following Polymerase chain reaction (PCR) tests at 2 and nine months.

**Results:** Preliminary results show that of 631 pregnant women who were enrolled in all health facilities, in the maternal cohort, a retention rate of 83% (526) was observed at three months, 78% (493) at six months and 76% (479) at 12 months. At six months, 297 (60%) out of 493 pregnant women on ART had their viral load done with 83% and 73% of them virally suppressed in the Littoral and Center regions respectively. Only 24 (11%) women were from the Littoral Region. At 12 months, a total of 158 (22%) participants active on treatment out of 479 have had their viral load test carried out with 56%, and 85% were virally suppressed in the Littoral and Center Regions. Analysis of the infant cohort reveals that 261 (83%) out of 314 enrolled, had their first PCR test done by two months of age and 94 (30%) between 2 and nine months. The HIV transmission rate was 2% and null respectively.

**Conclusion:** These preliminary program findings helped identified gaps in the implementation of PMTCT-CM under real-life conditions in Cameroon. Besides, this strategy has helped to maintain a large proportion of women on treatment during the post-partum period and prevent HIV transmission to HEIs. The PMTCT-CM can accelerate the elimination of vertical transmission of HIV if properly implemented and in a large scale with adequate resources in Cameroon.

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**Thresholds of Pre-treatment HIV-1 Drug Resistance Indicate Regions for Priority Actions in the Antiretroviral Therapy Program of Cameroon**

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**Background:** The "Treat-All" strategy ensures safer-life among HIV-infected individuals. Conversely, on-going threats of HIV drug-resistance (HIVDR) might vary by settings and impairs differently the benefit of first-line antiretroviral therapy (ART). Our objective was to ascertain the thresholds and patterns of pre-treatment drug resistance (PDR) by region and its possible association with subtype-diversity.

**Methods:** A sentinel surveillance of PDR was conducted in seven regions of Cameroon from 2014-2018. Sequencing of HIV-1 protease and reverse transcriptase was performed, drug resistance mutations (DRMs) was interpreted using Stanford HIVdb v8.7. Statistical analyses performed using EPI-Info v7.2.2.6, comparison of proportion using chi-square or Fischer tests, with p<0.05 considered statistically significant.

**Results:** A total of 282 sequences (1 per patient) were generated in patients initiating antiretroviral therapy. The number of sequences per region was: 61, 53, 43, 41, 30, 30, and 24 for the Northwest, Centre, East, Littoral, West, Southwest, and North, respectively. The overall prevalence of PDR was 12.41% (35/282), distributed by drug-class as follow: 10.28% (29/285) for NNRTIs, 7.45% (21/282) for 1st generation NNRTIs (NVP and EFV), 7.09% (20/282) for 2nd generation NNRTIs (RPV and ETR), 2.84% (8/282) for NRTIs and 1.42% (4/282) for PIs. The predominant mutations were: K103N (10), E138K/A/G (8), A98G (3), Y181C (2), G190A (2) for NNRTIs; M184V/I (3), K219N/E (3), T215S (2), K65R (2), M41L (2) for the NNRTIs and M46EL, L90M, V82F, L89V and G73S for the IPs. There was a disparity of the PDR between regions (North: 0%, Littoral: 9.76%, Centre: 7.55%, Northwest: 11.48%, West: 10.00%, Southwest: 23.33% and East: 23.26%), with similar regional trend of NNRTIs-DRM (North: 0%, Littoral: 9.76%, Centre: 7.55%, Northwest: 9.84%, West: 6.67%, South-West: 16.67% and East 18.60%). Overall, recombinants were predominant (237/282, 84.04%), CRF02_AG being having 68.09% (192/282). No statistically significant difference was observed between the PDR in recombinant forms and the pure strains (12.66% vs 11.11%) as well as between CRF02_AG and non-AG subtype (11.46% vs 14.44%, p = 0.56).

**Conclusion:** The heterogeneous PDR reveals two regions with EFV/NVP-PDR beyond 10%; thus requiring either closer monitoring, transition to Dolutegravir-based first-line ART-regimens, or affordable HIVDR-testing for patients initiating ART in these country-regions.

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**Indicateurs D’alerte Precoce Dans le Suivi de L’évolution Clinique, Biologique, Psychologique et Nutritionnel des Patients Initiants le Traitement Antiretroviral A Kinshasa.**

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**Contexte:** Les indicateurs d’alerte précoce (IAP) mesurent des facteurs retrouvés au niveau des sites et connus pour être associés au bon fonctionnement du programme et à la prévention de l’émergence de la Résistance du Virus d’Immunodéficience Humaine (VIIH) aux Antirétroviraux (ARV) (R-ARV). Le fait de renforcer certains aspects de la mise en œuvre du programme au niveau des sites peut permettre de minimiser la survenue des R-ARV qui peuvent être prévenues afin d’améliorer l’efficacité à long terme et la durabilité des schémas thérapeutiques.

**Objectif:** L’objectif de ce travail est donc d’utiliser les paramètres des critères cliniques, biologiques, psychologiques et nutritionnels des patients initiants le traitement antirétroviral pour établir des indicateurs d’alerte précoces et permettre ainsi de prévenir la survenue de R-ARV.

**Objectifs:**

1. Etablir un système de surveillance des indicateurs d’alerte précoces (IAP) permettant de prévenir la survenue des R-ARV aux ARV.
2. Etablir un système de suivi des indicateurs d’alerte précoces (IAP) permettant de prévenir la survenue des R-ARV aux ARV.
3. Etablir un système de suivi des indicateurs d’alerte précoces (IAP) permettant de prévenir la survenue des R-ARV aux ARV.
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7. Etablir un système de suivi des indicateurs d’alerte précoces (IAP) permettant de prévenir la survenue des R-ARV aux ARV.
8. Etablir un système de suivi des indicateurs d’alerte précoces (IAP) permitte
**Abstract**

ENRH runs the ART clinic of the hospital. ART services have been provided in the ENRH since 8th April 2006, prior to establishment of the CCC in 2012. All active ART clients with viral load test results and have received treatment not less than 6 months at the CCC, were included in the analysis. The variables of interest included gender, age, smoking status, marital status and occupation. Descriptive analysis and bivariate logistic regression analysis were carried out using stata (version 13.0) to determine the factors that were independently associated with unsuppressed VL at a statistically significant finding cut-off of p<0.05.

**Results:** Of the 1,346 clients on treatment with viral load results, 77.2% had achieved viral suppression and 22.8% unsuppressed. Among those virally unsuppressed (307), majority (73%) were males, 76% (233/306) aged 30+ years. In bivariate analysis, clients 30+ years were 45% less likely to achieve viral suppression [OR, 0.55 (95% CI, 0.23 - 0.86)] compared with those below 30 years. Only this variable was statistically significant (p= 0.001).

**Conclusions:** Mostly men and clients 30 years or older were those who failed to attain viral suppression. However, only being 30 years or older was statistically significant at very minimal difference in magnitude of effect. Nonetheless, it is important to pay attention in the counselling and care given to male clients and those 30+ years old. Efforts to improve adherence to medication and meet other health needs may contribute to achieving viral suppression among this sub-population and therefore hasten attainment of the 90% target of VL suppression of persons on treatment by 2020.

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Factors associated with unsuppressed viral load among HIV positive clients on ART in the Effia-Nkwanta Regional Hospital, Western Ghana

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**Background:** Timely initiation of ART is key to completely suppress viral replication and avert further damage to the immune system. This invariably leads to decreased AIDS-related morbidity and mortality, enable the immune system to function normally and reduce the risk of HIV transmission to others. When ART coverage is high and with 90% of patients having suppressed viral load, then the transmission risks among these patients become minimal.

ART services have been provided in the ENRH since 2006, with almost six thousand (5,964) enrolled clients. While it is known that not all the patients on ART achieve viral load suppression during treatment, the data has not been systematically analysed to understand what may account for this observed difference among the patients. The study aimed to assess the factors associated with on-treatment unsuppressed viral load among HIV positive individuals on antiretroviral therapy at the hospital. Equipped with such knowledge, it will inform effective interventions by health workers/system, to improve the impact of the therapy on patients attending the ENRH and further transmission to others.

**Materials & Methods:** Cross-sectional analysis of routinely collected data of ART clients of the ENRH, from 8th April 2006 to 7th December 2018. The medical records (folders) are entered into a secured electronic database and captures information on demographics, clinical, laboratory investigations, follow-up visits and treatment. The Comprehensive Care Centre (CCC) of the

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Adhérence au traitement ARV chez les nouveaux patients séropositifs au Cameroun et facteurs associés

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**Contexte:** Dans le cadre de la lutte contre le VIH, le Cameroun a entrepris l’accélération de la prise en charge des personnes vivant avec le VIH à partir de 2016 afin d’atteindre les objectifs d’élimination d’ici 2030. Ce résultat ne saurait être atteint si le programme de prise en charge présente de faibles taux d’observance. L’objectif de cette étude est d’évaluer l’observance au traitement ARV ainsi que les facteurs associés chez les nouveaux patients séropositifs au VIH au Cameroun.

**Méthodes:** Une étude transversale descriptive menée entre octobre et décembre 2017 sur 204 patients ayant aux plus six mois sous traitement ARV issus de 09 Districts de Santé de la région de l’Ouest Cameroun ont été interviewés sur leur comportement en matière d’observance. L’observance était mesurée par l’absence au rendez-vous depuis l’initiation au traitement ARV. Pour être considéré observant, un patient devrait honorer à tous ses rendez-vous depuis son initiation à la TARV. Le Statut Socio-Economique SSE a été mesuré à partir du revenu, le niveau d’éducation, la profession et le milieu de résidence. Les variables associées à l’observance ont été identifiées à l’aide d’un modèle logit.

**Résultats:** La moyenne d’âge était de 39,7 et varie entre 16 et 74 ans. Le sexe ratio était de 1,91 en faveur des femmes. Près de huit patients sur dix soit 78,71% étaient observant. L’analyse
univariée montre une absence d’association entre le statut socio-économique SSE de personnes vivantes avec le VIH/Sida (PVVIH) et leur observance au traitement. Après une régression logistique, il est ressorti que la distance (OR=2.9 IC=0.13,89) ; l’âge (OR=14,39 ; IC= 1,05-197,13), le milieu de résidence (OR= 2.84 IC= 1,08-7,42) et la qualité de service (OR= 12.8 IC=0.014-0.43) expliqueraient la non observance des patients.

Conclusion: Les résultats suggèrent la nécessité de créer ou d’encourager la mise en place des groupes de parole spécialisés pour les jeunes et adolescents, d’accentuer le counseling d’aide à l’observance chez tous les patients et surtout ceux résidant en milieu urbain. De plus, l’effectivité de la décentralisation de la prise en charge du VIH serait un atout pour assurer l’observance chez les patients séropositifs.

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Case Management Strategy: An Intervention to Improve Patient Retention on Antiretroviral Therapy in Lagos, Nigeria

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Background: The 2nd 90 of the UNAIDS 90-90-90 goal is to ensure that 90% of all people with diagnosed HIV infection will have access to sustained antiretroviral therapy (ART). Towards achieving this target, there is need to ensure patients receive timely, adequate and sustained drug refills. Missed drug refills serve as a useful early warning indicator of treatment outcomes.

Program data review indicated significant drug refill attrition rate among patient newly started on ART across treatment facilities in Mushin LGA of Lagos State. To address the gaps, we designed and deployed a case management and follow-up strategy at the 3 most affected comprehensive facilities. This paper aims to demonstrate the effectiveness of this strategy in ensuring sustained ART refills towards client retention on treatment.

Method: A cohort tool was designed to obtain relevant information required to follow up newly diagnosed clients commencing ART over a 1 year period. The information collected include patient contact details, appointment dates, clinic visits and drug refills.

We engaged adherence counselors providing care at the selected treatment facilities; Mushin General Hospital, Palm Avenue Primary Health Care Center (PHC) and Ajeabo PHC to act as case managers for newly diagnosed clients. The case managers utilize the case management register to follow up patients in monthly cohorts based on date of ART initiation. Same day ART initiation, unless contra-indicated, was the practice at selected sites, and second ART refill was at 1 month post-initiation. Subsequent ART refills were at 2-monthly intervals. The project is ongoing.

All patients initiated on ART from August to October 2018 phone call reminders weekly for the first month, bi-weekly in the second month and monthly subsequently to ascertain adherence and inquire about any adverse drug reaction.

Immediate client tracking procedures was commenced within 24 hours for any client who was not reachable via the routine phone calls. All patient engagement were documented in the case management register.

Result: Pre-intervention between February and April 2018, 131 clients initiated ART and had their third drug refill before or by July 2018, prior to the intervention in August 2018. Out of the 131 patients who commenced ART, 65 (50%) returned to the facility for a 2nd drug refill and 59 (45%) presented for a 3rd drug refill when due.

However, following commencement of the intervention, from August to October 2018, a total cohort of 49 patients were started on ART across the 3 facilities out of which 41 (84%) and 40 (82%) returned for a 2nd and 3rd drug refill respectively as at January 2019.

Conclusion: The adoption of test and start strategy with same day ART initiation has reduced the number of patient adherence counselling sessions that take place prior to ART initiation. Hence incorporating novel sentinel follow-up methods such as the case management strategy is essential in order to achieve sustained ART with optimal treatment outcomes and ultimately the UNAIDS 90-90-90 goal.

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Socio-demographic Characteristics of Pre-Transition ALHIV in Nigeria: Implications for Differentiated Service Delivery in Healthcare Transitioning

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Background: Nigeria has an estimated 240,000 adolescents living with HIV (ALHV) aged 10-19 years old. Clinical outcomes have been poorer among ALHV compared to other HIV-infected populations. The period of transition to adult care is a particularly vulnerable point, necessitating targeted differentiated service delivery (DSD) strategies to mitigate poor post-transition outcomes. The Adolescent Coordinated Transition (ACT) study collected profile data among a cohort of pre-transition Nigerian ALHV for DSD strategy development.

Methods: Pre-transition ALHV were recruited between July 2017 and August 2018 at 6 secondary and 6 tertiary health care facilities across all six geo-political zones of Nigeria. These facilities reported routinely transitioning adolescents to adult care at 15 or 18 years of age. Transition-relevant
sociodemographic data were collected from medical records and from ALHIVs/caregiver interviews. Descriptive statistics were applied to the data.

**Results:** ACT recruited a total of 222 ALHIVs aged 11.0 to 18.3 years, with median age of 16.2 years. In this cohort, 150 (67.6%) ALHIV lived with at least one biological parent, 67 (30.2%) lived with other relative/non-parental guardian and 4 (2.4%) lived by themselves or with a friend/others. There were 82 (36.9%) ALHIV with mother dead, and 85 (38.3%) with father dead. A total of 155/222 (69.8%) were routinely accompanied to clinic by parent/guardian or other relative, while 67 (30.2%) ALHIV attended clinic alone. For their financial upkeep, 155/222 (69.8%) of ALHIV had parent(s) responsible; other relatives/guardians (60, 27.1%), self (2, 0.9%), and other (5, 2.3%) were responsible for ALHIVs' financial support.

**Conclusions:** Our findings show that some ALHIV recruited into this cohort were too young for transition. The majority of ALHIV lived with at least one biological parent; only 30% of ALHIV attended clinic on their own, and the majority were financially dependent on others-as is expected. In addition to routinely-used age parameters, DSD strategies for ALHIV transition should take developmental stage, independence in clinic attendance/navigation, and source/availability of financial support into consideration.

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**Immu-no-virological discordance in Yerelon cohort HAART HIV-1 infected women**

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**Background:** HIV infected patients on HAART should achieve both undetectable viral load and a normal CD4+ cell count. However, despite HAART, some patients persistently show low CD4+ cell counts despite sustained viral suppression. Similarly, some people may experience immune restoration without sustained suppression of viral load. This is known as immuno-virological discordance. The aim of this study was to assess the prevalence of immuno-virological discordance and its associated factors in the ANRS1222 study cohort among HIV-1 infected female sex workers (FSW).

**Materials & Methods:** The ANRS 1222 cohort is an open cohort study. This study that started in 1998 includes FSW aged at least 18 years old. Immuno-virological discordance was defined with two composite variables: the immunological discordance defined as a weak increase in the number of CD4 cells (with a CD4 gain 100 cells / mm3) from initiation to 12 months despite undetectable viral load (300 copies/ ml); and the virological discordance defined as the maintenance of a detectable viral load (> 300 copies/ ml) despite a sustained immune recovery (increase in CD4 more than 100 cells/mm3). Data have been extracted from the ANRS1222 cohort database and analyzed with Epi info 7 software. Bivariate logistic regression analysis was done to identify factors associated with discordant treatment responses. Subsequently, multivariable logistic regression was performed to identify independent determinants of a discordant treatment response.

**Results:** Among the 122 HIV-1 infected women having at least 12 months of follow-up, 43% had no formal education and 76.2% were single. Their median age was 33 years (IQR: 29-39.2). HAART adherence evaluated by pill count at each visit was greater than 95% in 63% of participants. The median CD4 cell count was 147 cells/mm3 (IQR: 87-212) at baseline and 330 cells/mm3 (IQR: 87-212) 12 months later. Virological suppression rate (>300 copies/ml) was 85.3%, immunological recovery rate (CD4 change from baseline ≥ 100 cells/mm3) was 68.9%. According to our definition, immunological discordance rate was 21.3%, the virological discordance rate 4.9% and the immuno-virologic discordance rate 26.23%.

In univariate logistic model, the immuno-virologic discordance was significantly associated with baseline CD4 count >200 cells/mm3. (OR: 4.87; 95% CI: 2.03 - 11.64). In multivariate model, CD4 count >200 cells/mm3 remain associated with immuno-virologic discordance (OR: 5.74; 95% CI: 2.18 - 15.56).

**Conclusions:** In this study, around 26 % of FSW had immuno-virologic discordance at 12 months after HAART initiation. Despite the UNAIDS 90 90 90 target, it remains necessary to combine the measurement of the viral load with the CD4 cells count in the routine follow-up of HIV infected patients.

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**Predictors of One Year Retention on Antiretroviral Treatment (ART): Lessons from Model Primary Health Centre Rumukushi, Rivers State**

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**Introduction:** UNAIDS identified retention of people living with HIV, who are on antiretroviral therapy (ART) as fundamental to achieving epidemic control of HIV by 2030. With the implementation of “treat all policy” irrespective of WHO clinical staging of the disease, HIV care and treatment programs must identify factors that can improve client retention to meet these globally laid out goal. The Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) with funding from PEPFAR through USAID started implementing the “treat all” strategy in 2016. This study seeks to identify factors that could influence client’s 12 months retention on ART.

**Method:** A retrospective review of routinely collected data for a cohort of HIV-infected individuals started on ART treatment from October 2016 to March 2017 and followed-up for 12 months post ART initiation (October 2017 to March 2018) in Model Primary Health Centre Rumukushi, Rivers State, to determine their treatment outcomes and predictors of retention.
on ART. Patient outcomes (active, lost to follow up (LTFU), died, stopped treatment and transferred out) were assessed 12 months after (ART) initiation. Patients who had not received ART 3 months following a missed clinic appointment were defined as LTFU. Study data (age, gender, support group attendance, partner disclosure and adherence counselling) were extracted from patient management and monitoring tools. Descriptive statistics were used to summarize characteristics of the study population and patient outcomes. A multivariable logistic regression was conducted using statistical package for social sciences (SPSS) to determine factors associated with retention on ART.

Results: A total of 207 patients (44.0% male & 56.0% female) were included in the study with a median age of 32.0 years (IQR; 26.0 – 37.0). Of these, 60.4% regularly attended support group meetings, 80.2% had disclosed their HIV status to their partners, 74.4% had a close treatment supporter and 82.1% had completed initial medication adherence counselling. At the end of 12 months on ART, 84.5% were active on ART, 1.0% died, 4.3% transferred out and 10.1% were lost to follow up (LTFU). Most of the clients who were male (91.2%) (p = 0.02), had a treatment supporter (96.1%), regularly attended support group meetings (95.2%), disclosed their status to their partners (96.4%) and had completed initial medication adherence counselling (98%) were retained on ART at 12 months post initiation. In multivariable analysis, being male (aOR: 2.5, 95% CI: 0.8 – 8.2), completing medication adherence counselling (aOR: 38.6, 95% CI: 2.7 – 553.9), disclosing HIV status to partners (aOR: 6.8, 95% CI: 1.2 – 38.7) was significantly associated with retention on ART.

Conclusion: Retention of clients on lifelong ART remains critical to achieving the global goals of HIV epidemic control. Partner disclosure and intensive initial medication adherence counselling remain useful strategies that can improve retention on ART especially in the treat all era.

316 Are PLHIV achieving Viral Suppression after switching to Second - Line Antiretroviral Therapy in Mutare District, Zimbabwe?

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Viral load suppression reduces the risk of developing opportunistic infections and HIV drug resistance among people living with HIV (PLHIV). Close monitoring of clients on second line therapy is critical in ensuring that they are virally suppressed and that expeditious interventions are made when treatment failure is noted. With an estimated 1,120,000 people living with HIV (PLHIV) in Zimbabwe receiving antiretroviral therapy (ART) in 2017, consented efforts are required to ensure the recommended monitoring procedures are accessed by PLHIV and the clinical management thereof. However, the treatment outcomes of the PLHIV switched to second-line regimens have not been studied extensively when compared to the first line counterpart, which is urgently required in the mature epidemic of our country. The objective of our evaluation was to examine the treatment outcomes of PLHIV switched to second-line ART.

Methods: An evaluation was conducted in four purposively selected high volume health facilities of Mutare District, Manicaland which are supported by the Families and Communities for the Elimination of HIV (FACE HIV) Program. De-identified retrospective cohort data of clients VL tested and received first unsuppressed VL results between October 2016 to September 2018 were abstracted from the electronic patient monitoring system (EPMS). Among these clients switched from first line ART based on two consecutive unsuppressed viral load measurements after 3-6 months, with adherence support were included for the current analysis. Descriptive analysis was conducted using Ms Excel.

Results: Overall, 149 clients had received viral load testing and results after being switched to second-line ART and were therefore eligible for analysis. The median age was 32 [IQR 14 – 45 years]. Among these 55 (37%) were paediatrics and adolescents < 18 years and 94 (63%) were adults ≥18 years. In total 99/149 (66%) clients had achieved viral suppression (Viral Load <1000) by the time the 3rd viral load was taken. The median time on second-line ART was 8.6 months (IQR 4.9-10.7 months). The proportion of individuals virally suppressed was significantly greater (Chi-Square p<0.05) among adults (73%) than that among paediatrics and adolescents (55%).

Conclusions: Although, the overall treatment outcome on second-line ART was good as approximately 2/3 achieved viral suppression within 12 months, the significant difference between adults and paediatrics and adolescents reflect the need for targeted interventions to address the contributing factors to treatment failure. This is important to appropriately manage cumulative risk of failure, which increases over time. Increased monitoring and adherence support of paediatric and adolescents is recommended if we are to achieve the UNAIDS 3rd 90 (viral suppression) by 2020. Further studies are required understand the predictors of unsuppressed VL on second-line ART to provide empirical evidence to design interventions for Zimbabwe and other resource limited setting.

317 Low Viral Suppression in Children and Adolescents Following Enhanced Adherence Counseling in Calabar Metropolis, Nigeria

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Background: Viral load (VL) suppression is the expected outcome of antiretroviral therapy. A program analysis revealed that children and adolescents had lower viral suppression rates than adults. As standard care, all individuals with unsuppressed VL results (>1000 copies/ml) are to receive enhanced adherence counseling (EAC) consisting of three sessions of intensified monthly adherence counseling (ideally 90 days), an opportunity to closely monitor and support adherence to medications and rule out non-viral factors associated with the unsuppressed VL, followed by a repeat VL test to ascertain the success of this
process. Treatment failure is only confirmed thereafter. We assessed the impact of EAC on the viral suppression of children and adolescents with an initial unsuppressed VL in Calabar Metropolis.

Methods: We conducted a retrospective cohort study for children and adolescents aged 0 to 19 years, who had been on ART for at least 6 months, at a hospital in Calabar between January 2017 and December 2017. Those with suppressed VL were followed until EAC and repeat VL was conducted. An anonymized record of children and adolescents with unsuppressed viral load results within this period including, on data on initial VL result, dates of enhanced adherence counseling, state of repeat VL test and ART regimen switch where applicable were extracted from service records (VL monitoring register) and from the clients’ records. This was analyzed using Microsoft Excel. The endpoint of interest was VL after EAC.

Findings: Of the 197 children and adolescents included in the cohort, 92 (46.7%) had an initial VL of 1000 copies/ml and above. Of the 92, 30.5% had all three EAC sessions, 11.9% received either one or two sessions and 56.5% did not receive any session. Of those that received all three sessions, 26 (89.7%) of them had a repeat viral load of whom 22 (84.6%) were unsuppressed (3 of which had been exposed to PMTCT ARVs) and 4 (15.4%) were suppressed. Of those with a repeat viral suppression load 4 (18.2%) were switched to a second line regimen while 18 (81.8%) retained their initial regimen. Furthermore, of the 11 that received less than three EAC sessions, 90.9% repeated the test while 9.1% did not. Of the 10 that had a repeat, 4 (40%) were suppressed, 6 (60%) were unsuppressed and 2 (33.3%) of the unsuppressed were switched to a 2nd line regimen. Notably, of those who had no EAC session, 51.9% had a repeat test with 25.9% emerging suppressed, 74.1% unsuppressed and only 1 of the unsuppressed being switched to 2nd line. An overall repeat VL suppression rate of 25.4% was recorded. The maximum time from an unsuppressed result to the 1st EAC session was 432 days while the maximum time for 3 EAC sessions to be completed was 238 days although this had no influence on the repeat VL result.

Conclusion: Viral suppression following complete EAC sessions was low (only 15.4%) despite attempting to exclude non-viral factors associated with treatment failure. To achieve the 3rd 90 of the UNAIDS 90:90:90 target, hence the study seek to find its associated determinants of not retained in care among adult clients in Lawra hospital, Upper West Region, Ghana.

Methods: The study used secondary quantitative data from the ART clinic. A retrospective adult’s clients ART records were extracted from HIV Adult Database of NACP of Lawra hospital. The entire HIV client who started ART at the hospitals was studied. Client’s data were followed for one year after ART initiation and the measure was retention in care, defined as the proportion of adult client who were alive and receiving ART in the Lawra hospital one year after ART initiation. Data from January 1, 2009 to December 31, 2017 were extracted, entered and cleaned in MS Excel and analyzed with SPSS version 20 statistical software. The retention in care rate and client not retained in care rate estimated and further analysis on Univariate and Multivariate Cox Regression with association gender, age group and not retained in care.

Results: A total of 370 clients were analysed and the Retention in care rate was 77%. Hence 23% (85 clients) were not retained in care. The data show that majority 38.8% of those not retained in care are within the Lawra Sub were the ART clinic is located. Females were 67.1% who were not retained in care. The ages were put into three groups (15-29, 30-49 and 50 and above). Majority 54.1% were within the age group of 30-49 years. Loss to follow-up (55.3%), Transfers to other ART clinics (24.7%) and Client Travelled (12.9%) were the main outcomes of clients not retained in care. A multivariate analysis shows Age group (P=0.056), Gender (P=0.7) and outcome of not retained (P=0.3) were not statistically significant. Age group with Hazard Ratio 0.68 (95% CI: 0.45 – 1.00) was more associated to not retained in care. The Hazard Ratio (HR) of Age group 15-29 year is 2.239 (95% CI: 0.92 – 5.44) and Age group 30-49 years was 0.47 (95% CI: 0.59 – 3.23) were not statistically significant. However the Age group 30-49 years was more associated with not retained in care.

Conclusions: Client of the age group 30-49 year and 15-29 years require adequate counselling and medication to enable them travel and reduce lost to follow-up. Facilities should be notified when clients of different facilities pick up ARVs drug in other facilities for update of clients records. The introduction of DHIMS II HIV E-tracker database in Ghana should be a platform for every new client should be verified to rule out client lost to follow-up to other ART clinics. Client within the ART clinic location who are doing well on ART should be given more ARVs drugs reduce clinic visit for possible reduction of stigma.
with HIV (PLHIV) and also having one of the highest new infections in sub-Saharan Africa. Significant advancement has been made in HIV care and treatment. Unfortunately many PLHIV are ignorant of their status. HIV counseling and testing especially among contacts of index client i.e. Known HIV positive clients either new or old, is an avenue to bridge the knowledge gap and ultimately ensure early commencement of ART. Index case Testing (ICT) for HIV is known to improve positivity yield and is best fitted to achieve the UNAIDS 90-90-90 goal. This study aims to demonstrate the efficacy of this strategy as implemented in Osun state, Nigeria.

**Method:** The study is an observational study aimed at documenting improvement in testing outputs over a period of time as a result of interventions to improve the process. The process was divided into a Pre-implementation (PP) and Implementation phase (IP). During the PP, 14 ad-hoc staff were engaged to bridge the human resources gap at the facilities, trained on ICT, clients flow, tracking, appointment scheduling and documentation. During the IP, the ad-hoc staff elicited contacts of index clients across eight (8) facilities implementing Comprehensive HIV Care and Treatment. Different partner notification approaches including client self notification and assisted partner notification approaches were used. Data of partners of index clients elicited and tested was documented using the national tools. The ad-hoc staff tracked and linked positive clients to HIV care and treatment.

**Result:** Prior to ICT implementation, a total of 36,719 HIV tests were done with 723 positives generated in one year from the 8 facilities with a positivity yield of 2%. However, after training and equipping the ad-hoc staff with documentation tools on ICT, 504 out of 723 index client accepted partner notification, 667 were elicited and a total 661 clients were tested with 2 previously known and 51 new positive identified yielding a positivity rate of 8% within a 6 months period (April-September 2018) using the index case testing approach. All 51 new positive were commenced on ART.

**Conclusion:** Our result showed that the positivity yield increased using ICT approach. Therefore Index Case Testing is not only important but also an effective case finding approach that ensures PLHIVs know their status and can be linked to ART services with the ultimate aim of achieving epidemic control and reduction of new HIV infections.

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**Prevalence, Predictors and HIV Disease Progression in Immunovirological Discordant HIV Patients at 12 Months of First Line Antiretroviral Therapy in Zambia**

**Introduction:** Combined antiretroviral therapy (cART) has improved mortality and morbidity among HIV-infected patients. However, a third of HIV-infected patients still present to care with advanced disease despite the rollout of cART. Some of these patients fail to appropriately reconstitute their immune system despite being on effective cART signified by a suppressed viral load. This phenomenon is termed immunovirological discordance. These patients remain immunocompromised and could still be at risk of opportunistic infections and subsequent mortality. As the HIV population is getting older, Immune senescence and it’s impact on discordance has also become topical.

Understanding the prevalence and predictors of this phenomenon is crucial for the HIV response.

**Methods:** A cross-sectional study was conducted in 20 health facilities throughout Zambia selected based on probability proportion to size method. Adult HIV patients with a suppressed viral load at 12 months of first line cART were enrolled. Relevant blood samples were drawn and a questionnaire was completed with the aid of the hospital Chart. Adequate immune response was defined as an increase of baselines CD4cell count to >200cells/μL at 12 months of ART and/or an absolute CD4cell count change of >150cells/μL. We used multivariate logistic models to identify predictors for immunovirological discordance.

**Results:** 360 patients were enrolled. 57% were females. 68% were 25-44 years old. 17% had a CD4cell count below 200cells/μL at 12 months of ART and 54% had an absolute CD4cell count change of less than 150cells/μL.

Females were 2 times more likely to have a CD4cell count above 200cells/μL (OR 2: 95%CI 1.00-3.62; P=0.028) and patients with a body mass index >25kg/m2 were 4 times more likely to have a high CD4 count compared to those underweight (OR 4:95% CI 1.29-13.73; P=0.017). A baseline CD4cell count below 200cells/μL was a predictor for an absolute CD4cell count change of less than 150cells/μL.

Hepatitis B virus positive status (OR 0.03:95% CI 0.003-0.25; P= 0.001) and baseline WHO stage/III disease (OR 0.01:95% CI 0.01-0.59; P=0.0001) were predictors for suboptimal CD4cell response. Patient’s age, Positive RPR, TNF levels and CRP levels were not associated with suboptimal CD4cell recovery. There was no association between WHO Clinical Stage at 12 months of cART with immunovirological discordance.

**Conclusion:** In patients with viral load suppression at 12 months of cART, immunovirological discordance is common. Baseline CD4cell count, male sex, baseline low BMI, HBV infection and baseline WHO clinical stage III/IV could predict immunovirological discordance. Markers of morbidity such as high TNF levels, high CRP levels and advanced WHO clinical staging at 12 months of cART are not necessarily associated with suboptimal immune response. Early commencement of cART may prevent immunovirological discordance, a finding which supports the ‘test and start’ strategy. Further investigations in understanding the immunology of discordance and it’s clinical outcomes are proposed.
Self-reported motivators for HIV testing in the UTT era among HIV positive patients in Johannesburg, South Africa

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Background: HIV testing and counselling is the entry point into HIV care for people living with HIV. Understanding why people seek HIV testing services can inform the development of better health education tools, outreach strategies to increase uptake of HIV testing and encourage earlier HIV diagnosis, and other HIV prevention services. However, little is known about the main motivators for HIV testing during the treat all era. Thus, we explored reasons for HIV testing and associations between self-reported ill-health as a primary reason for testing and sociodemographic factors.

Methods: We analysed a cross-sectional survey conducted among 652 HIV diagnosed adults (>18 years), at four local primary healthcare clinics in Johannesburg, South Africa from October 2017 to August 2018. Patients participated in the survey on the same day they were diagnosed, after receiving their HIV test result.

We dichotomized self-reported reasons for HIV testing into asymptomatic and symptomatic. Patients who reported testing out of their own initiative or because of a perceived HIV exposure were categorized as asymptomatic. Patients reporting ill-health as the main reason for presenting for HIV testing were regarded as symptomatic. Modified Poisson regression with robust standard errors was used to evaluate associations between socio-demographic factors and the primary reason for HIV testing. Adjusted relative risks (aRRs) with 95% confidence intervals (CIs) are presented.

Result: Overall, 64% of participants were female and the median age was 33 years (interquartile range [IQR]: 28–39). The majority (66%) were in non-married relationships with 35% of these cohabiting with a partner. Approximately 39% had some high school education, and 58% were employed. Almost one-quarter reported that they were testing for the first time and an additional 44% had their most recent test more than 12 months prior to the current test. The majority (70%) reported symptoms as the primary reason for testing. Of those that were asymptomatic, 15% reported potential HIV exposure as a reason for testing while 17% just wanted to know their HIV status. Patients older in age (aRR 40+ vs <30 years, 1.2; 95% CI: 1.0-1.4) and those with no intention to disclose their HIV status (aRR not disclosing vs disclosing, 1.4; 95% CI: 1.2-1.7) were more likely to report symptoms as their primary reason for testing. Those discussing coming for an HIV test with a partner or spouse (aRR Partners/spouse vs no one: 0.8; 95% CI: 0.7-0.9) were less likely to report symptoms as their primary reason for testing.

Conclusions: Our findings indicate that, among newly diagnosed people living with HIV, the presence of symptoms continues to be a primary motivator for seeking HIV testing services. As individuals may live with HIV for many years before the onset of symptoms, increasing uptake of routine HIV testing to facilitate earlier HIV diagnosis is crucial for both the individual’s health and to reduce opportunities for ongoing transmission. Improved strategies to increase uptake of routine HIV testing are needed.

Factors Associated with Non-Adherence to ART among HIV infected adolescents aged 15-19 years at a Reference Pediatric Centre in Yaounde, Cameroon

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Background: The non-adherence to ART is observed in 64% of adolescents and constitutes the main cause of therapeutic failure. In these adolescents, the risk of mortality is still very high (50%), especially in the age group 15-19 years and is linked eventually to the level of adherence. The aim of this study was to determine the factors associated with non-adherence to ART in these adolescents followed up at MCC/CBF, Yaounde-Cameroon.

Methods: A cross sectional and analytic study was carried out at pediatric day-care unit of this facility from August to October 2018. The measure of this non-adherence during the 4 days preceding enrolment was based on the self-report using 2 steps: quantitative (all missed dose of ART) and qualitative (ART taken with a delay of more than 2 hours). Visit after appointment scheduled was defined as any visit which appears more than three days after scheduled date. The regression analysis was used to determine the factors associated to this non-adherence. All p-value < 0.05 was considered statistically significant.

Results: Overall, 67.5% (195/289) participants were enrolled, of which 56.9% were girls (sex-ratio = 4/3). The mean age was 16.8 ± 1.5 years. Orphans of both parents represented 21.0% and those not schooling 0.2%. The global percentage of non-adherence to ART was 41.0% (80/195) (33.8% (66/195) quantitative and 7.2% (14/195) qualitative). This non-adherence was significantly associated to duration on ART > 5 years (78.8% (63/195) versus 21.2% (17/195); p = 0.047) and to visit after appointment scheduled (72.5% (58/195) versus 27.5% (22/195); p = 0.029). The participants on ART since more than 5 years had 2.12 times more chances of being non-adherent (OR = 2.12; 95%CI = [1.09-5.41]) with respect to those on ART since < 6 years; those seen after appointment scheduled had 2.43 times more chances of being non-adherent (OR = 2.43; 95%CI = [1.09-5.41]) with respect to those seen before appointment scheduled.

Conclusion: At MCC/CBF, 4 out of 10 adolescents aged 15-19 years on ART are non-adherent and this non-adherence is mostly missing doses. To limit these cases of non-adherence, it would be crucial to prioritize interventions on adolescents with longer duration on ART (> 5 years) and defaulters. These measures would contribute to reassure a long-term therapeutic success and a successful transition from children to adult care in resource-limited settings.
Abstract

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A review of adolescents initiated on ART while pregnant or breastfeeding in Nigeria

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Background: Adolescents living with HIV (ALHIV) that are pregnant and breastfeeding are a vulnerable group that need support to achieve optimal maternal and infant outcomes. Adolescents living with HIV are reported to have lower antiretroviral therapy (ART) adherence and virologic suppression. Data on adolescents living with HIV in sub-Saharan Africa have highlighted differential outcomes for adolescents compared to adults across the continuum of HIV prevention, care and treatment services. We sought to compare retention among three groups of adolescents: pregnant ALHIV, breastfeeding ALHIV and non-pregnant ALHIV on first-line antiretroviral therapy in Nigeria.

Methods: We performed cross-sectional study using secondary data on ALHIV (aged 10 -19 years) on treatment in health facilities supported by the Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) project. We followed-up the clients till September 2018 (median follow-up 15.8 year (IQR: 1.3-47.8) and reviewed routine service data, comparing retention on treatment and viral suppression among three groups of adolescents; adolescents that were pregnant at the time of initiation, breastfeeding at the time of initiation and non-pregnant adolescents initiated on ART. We defined retention on treatment as patients who had no missed appointment or were within 90 days of their last clinic appointment. Bivariate analysis (Chi square) was used to compare retention among the three groups of adolescents.

Results: A total of 13,371 female ALHIV were included in the analysis, 182 (1.36%) were pregnant, 133 (0.99%) were breastfeeding and 13,056 (97.64%) were not pregnant at ART initiation. The median age was 17 years (IQR: 14-19). Seventy-one percent of ALHIV that were pregnant at initiation were retained, 68% of ALHIV that were breastfeeding at initiation were retained and 47% of ALHIV that were not pregnant were retained on treatment (p<0.001). Retention was better among ALHIV that were pregnant and breastfeeding than non-pregnant ALHIV. Viral suppression rates were 92%, 81% and 67% amongst pregnant, breastfeeding and non-pregnant ALHIV respectively.

Conclusions: It may be important to further explore other characteristics of these pregnant and breastfeeding ALHIV. Such characteristics include adherence, gender and knowledge of serostatus, marital status, family structure, educational status and health care factors.

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How long does it take to put KPs on treatment in the wake of the ‘Test and Treat’ policy in Ghana?

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Background: The WHO “Test and Treat” policy requires that every person who tests HIV positive is put on treatment. Ghana adopted the policy in mid-2017 and is expected to accelerate ART initiation leading to at least 50 percent of people living with HIV on ART by 2020. However, ART initiation is noted to be affected by several individual and systemic factors. Under the USAID Strengthening the Care Continuum Project, we examined the association between the duration it takes to put KPs (men who have sex with men (MSM) and female sex workers (FSWs)) on ART and other factors in four regions in Ghana.

Method: We extracted data of 2,049 KPs who tested positive and were initiated on ART between September 2016 and December 2018. We looked at how long it took to put them on treatment after testing positive as our outcome of interest. We then looked at the association between the duration and the four main factors (KP type, health facility type, age and geographical location). We performed descriptive and multivariate logistic regression analyses controlling for biases within geographic locations and facility types to assess factors associated with how long it takes to initiate PLHIV on ART.

Results: Duration for ART initiation dropped significantly (p<0.01) since the introduction of the “Test and Treat” policy from three to four months in PY17, to less than a week by December 2018 with considerable variations between FSWs and MSM. We also found that FSWs are 10% more likely to be initiated on ART on the same day compared to MSM, whereas the nonpaying partners of FSW are about 75% more likely to be initiated on ART in same day. KPs who are 30 years and above are 49% more likely to be initiated on ART than their younger counterparts (<30years). District health facilities are 35% more likely to initiate PLHIV on ART on the same day compared to other health facilities. We also found a significant association between duration of ART initiation and age and facility type. The association between duration of ART initiation and the remaining two factors we examined (KP type and geographical location) was however not significant.

Conclusions: Findings suggest that, being KPs (30 years and above), FSWs and receiving HIV services from district level health facilities are facilitative factors for early ART initiation. more innovative, non-conventional approaches to getting PLHIV initiated on ART in necessary and must take into account the age and type of facility. Further investigation into the factors that hinder early ART initiation in health centers, regional hospitals and teaching hospitals is necessary.
Abstract

The long-term health benefits of Sofosbuvir-Based Hepatitis C regimens in Central and West Africa (ANRS 12342)


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Background: Chronic hepatitis C (CHC) is a global public health problem with long-term consequences including the development of liver cirrhosis and hepatocellular carcinoma. With more than 10 million people living with HCV i.e. 14% of the total number of people infected by HCV worldwide, Sub-Saharan Africa should be prioritised to achieve elimination by 2030. Despite having dramatically changed the treatment paradigm in high income countries, direct anti-viral agents (DAA) are still underused in sub-Saharan Africa. The ANRS 12311 TAC clinical trial assessed the short-term effectiveness of DAA in West and Central Africa for the first time. In this study, we examine the long-term clinical benefits of treating CHC patients with sofosbuvir-based treatment in Senegal, Côte d’Ivoire and Cameroon.

Materials & Methods: Using a Markov cohort model, we simulated CHC with and without treatment in a cohort of 10,000 patients (mean age 50 years) in each study country. CHC treatment effectiveness was derived from the TAC trial, where 120 CHC adults were treated either with sofosbuvir/ribavirin (for genotype 2, n=40) or sofosbuvir/ledipasvir (for genotypes 1 and 4, n=40) for each in the three study countries. An extensive literature review was carried out to obtain disease progression probabilities without treatment and after cure. We compared life-years saved over the lifetime, as well as number (%) of individuals with compensated cirrhosis, decompensated cirrhosis and hepatocellular carcinoma with and without treatment. Sensitivity analysis was performed to evaluate model robustness. 95% confidence intervals (CI) were computed for all analyses in a probabilistic sensitivity analysis.

Results: With treatment, only 7.1%, 6.0% and 6.6% of the patients died from causes related to liver complications in Senegal, Côte d’Ivoire and Cameroon, corresponding to 710.9, 600.7 and 661.2 deaths, respectively. Without treatment, liver-related mortality represented 28.5%, 23.2% and 26.3% of total mortality in the same three countries, accounting for 2853.6, 2316.8 and 2626.4 deaths, respectively. In our fictive cohort of 10,000 CHC patients, sofosbuvir-based treatment therefore prevented 2142.7, 1716.1 and 1965.2 HCV-related deaths in Senegal, Côte d’Ivoire and Cameroon, respectively. Morbidity progression outcomes showed that after 15 years, only a tenth (9.36%) of the patients who were alive in the treated cohorts had compensated cirrhosis in the three study countries versus about one third in the non-treated cohorts (i.e. 33.58%, 32.11% and 32.11%, in Senegal, Côte d’Ivoire and Cameroon, respectively). Similarly, after 20 years, less than 1% of the treated cohort had decompensated cirrhosis and 0.01% had hepatocellular carcinoma (versus about 8% and 0.12%, respectively in the three non-treated cohorts).

Conclusion: Sofosbuvir-based treatment significantly reduces HCV-related mortality and limits the spread of liver disease in the high-burden region of sub-Saharan Africa. These results highlight the necessity of improving direct anti-viral agents access in resource-limited settings.

Targeted mass distribution of the HIV Self-Testing kits at workplaces is reaching the HIV under-tested populations in South Africa


Background: Through the UNITAID funded STAR Project, Wits RHI is scaling up HIV self-testing (HIVST) among under tested populations (men, sex workers and their networks, adolescent girls and young women) in South Africa. Men remain severely under-tested and interventions are required to get more men into testing programmes. We present findings on the feasibility of targeted HIV self-testing kits mass distributions at workplaces in South Africa.

Methods: In between November 2017 and August 2018, Wits RHI in collaboration with Re-Action Consulting PTY Ltd, based in Johannesburg, South Africa carried out targeted HIVST kits distribution at workplaces in Gauteng, Mpumalanga and Northwest provinces. The project team mapped the workplaces in the selected provinces prior to actual distributions and specifically targeted male dominated industries such as mining, construction, agriculture, security and Oil and Gas. In total, the programme reached 2313 companies. The team distributed kits to employees (primary recipients) at the workplaces and offered kits to partners that were male. We randomly selected 5% of the primary recipients to follow up with, on the utilization of the HIVST kits and their results and those of their partners. The follow up of the selected recipients happened four to six weeks post HIVST distribution.

Results: Overall, 123,248 kits were distributed in the selected workplaces, out of these 69% were primary recipients and 62% were males. 90% of the employees were younger than 45 years and among these 50% were aged 12-24 years. Majority of the employees were recruited from the construction (24%) followed by Oil and gas (18%) workplaces. The selected workplaces were mainly in Gauteng province (58%). 14% of the primary recipients of the HIVST kits reported to have never tested for HIV and 39% had not tested in the last 12 months. 83% (N=5,457) of the
Conclusions: Targeted HIVST kits distributions in workplaces is a feasible way to access young adult males, which is one of the groups with low frequency of HIV testing in South Africa. Small and Medium enterprises do not have well characterised HIV Programmes and HIVST was a welcomed strategy. Most kits recipients opted to test offsite (privately). We urgently need innovative strategies for example, use of artificial intelligence and m-Health platforms to provide differentiated support to self-care and reporting of the utilization of HIVST kits and the outcomes.

Abstract

Preferences for HIV testing methods among HIV uninfected PrEP users in Kenya

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Background: HIV self-testing (HIVST) may improve the efficiency of PrEP delivery by decreasing the frequency of clinic visits for refills and HIV testing among PrEP users. To understand the potential for HIVST to support PrEP delivery, we measured male and female PrEP users’ preferences for different HIV testing methods among HIV uninfected PrEP users in Kenya.

Methods: Between May 2018 and January 2019, 224 PrEP users in Thika, Kenya completed a quantitative survey (76 males and 39 females in HIV serodiscordant couples, 107 females at ongoing risk for HIV). Eligible participants were ≥18 years, HIV uninfected, and had used PrEP for 1 month. All participants were enrolled in a 3-arm randomized trial to test the effect of reduced PrEP clinic visits, with oral-fluid or blood-based HIVST support, on PrEP retention and adherence. Study staff informed participants of the different HIV testing methods and asked to identify their preferred method of HIV testing prior to randomization. We summarized participants’ preferences using descriptive statistics.

Results: The median age of enrolled participants was 34 years (IQR: 28–40 years). Majority of participants (80%, n=178) preferred HIVST to clinic-based HIV testing, and oral-fluid HIVST (50%, n=111) to blood-based HIVST (30%, n=67). Oral-fluid HIVST was the preferred HIV testing method within each of PrEP user sub-populations: males in a couple (47%, n=37), females in a couple (67%, n=26), and females at HIV risk (45%, n=48). Male PrEP users in a couple were the only sub-population to prefer clinic-based HIV testing (32%, n=25) over blood-based HIVST (21%, n=16). Female PrEP users at HIV risk had a near equal preference for oral-fluid HIVST (45%, n=48) and blood-based HIVST (38%, n=41).

Conclusions: HIVST is preferable to clinic-based HIV testing among male and female PrEP users in Kenya, thus HIVST has potential to support PrEP delivery in an African setting.

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HIV index partner testing is common within routine HIV testing services in Malawi

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Background: Index partner testing is a priority strategy for testing high-risk individuals and reaching UNAIDS 95-95-95 goals, and multiple index testing strategies are being taken to scale throughout sub-Saharan Africa. However, there is limited understanding about patterns of index testing, the modalities through which partners are reached, and HIV-positivity rates across modalities. We used routine national data to examine trends in HIV testing among index partners in Malawi.

Methods: Between July-September 2018, we collected de-identified national HIV testing register data from 97 facilities across 7 of Malawi’s 28 districts. Data were disaggregated by age, sex and testing modality: Family Referral Slip (FRS, where an HIV-infected person is given a slip to refer their partner of unknown status to HIV testing services); Provider Initiated Testing Counseling (PITC, or routine opt-out facility based testing); and Voluntary Counseling and Testing (VCT, where patients present to the facility and request an HIV test). Inclusion criteria included adults aged 15+ years. Descriptive analyses and univariate regressions were conducted.

Results: 1% (2,350/225,294) of all clients aged 15+ who tested for HIV reported having an HIV-positive partner (i.e., the client was an index partner). Among index partners tested, 8% (182/2,350) did so through FRS, 60% (1,414/2,350) through PITC, and 32% (754/2,350) through VCT. 31% (738/2,350) of all index partners tested were newly identified as HIV-positive, comprising 15% (738/5,098) of all HIV-positive individuals identified during this time-period. HIV-positivity rates were highest among index partners tested through FRS, with 50% positivity rate compared to 28% in PITC (OR:2.05; p-value:0.03) and 33% in VCT (OR:2.66; p-value:0.01). Females accounted for the majority of partners tested in PITC (68%), with equal representation in VCT (51%) and FRS (50%). Male partners had higher HIV-positivity rates than females across all entry points (41% vs 25%).

Conclusions: Index partners are regularly engaging in HIV testing services, and 92% did so outside traditional index testing strategies. Index testing remains a high-yield strategy, with high yields across modalities, and representing a high proportion of all newly identified PLHIV. High serodiscordancy (69%) highlights the need for continued emphasis on routine and comprehensive care for HIV serodiscordant couples.
Implementation of Tuberculosis Service Integration into Antenatal Care and PMTCT Programs in Northern Nigeria

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Background: Tuberculosis (TB) service integration into antenatal care (ANC) and PMTCT programs can facilitate prevention and control of TB/HIV infection among HIV-infected pregnant women and their exposed infants. Integration requires TB intervention roll-out across the PMTCT cascade. We aimed to assess the feasibility and impact of TB service integration into ANC/PMTCT, and identify potential gaps.

Methods: This retrospective study was conducted at 150 primary, secondary and tertiary health facilities in North-Central and North-West Nigeria between February and July 2018. A TB integration manual, TB screening algorithms and data-capturing tools were developed and deployed to facilities, along with healthcare worker (HCW) training. TB prophylaxis and treatment services were to be provided to TB-negative and actively-infected pregnant women after universal screening. Outcomes data were collected from routine ANC/PMTCT and TB/DOT clinic registers. HCWs were surveyed to explain gaps identified in implementation.

Results: Out of 91,209 pregnant women presenting in the 6-month period, 100% were HIV-screened, and 62,825 (68.9%) were TB-screened. A total of 2,278/91,209 (2.5%) women were HIV-positive; 553/62,825 (0.9%) TB-screened women were determined presumptively TB-infected. Ultimately, 5/553 (0.9%) presumptively TB-infected women tested TB-positive by GeneXpert; 3 (60%) were HIV-positive and 2 (40%) were HIV-negative.

Of 2,275 HIV-positive pregnant women confirmed TB-negative, only 375 (16.5%) received isoniazid prophylaxis. The three TB/HIV-positive women were initiated on TB/HIV treatment; one woman delivered during the review period and ultimately her TB/HIV-exposed infant received both isoniazid and HIV prophylaxis. The two HIV-negative, TB-positive pregnant women lost-to-followup during the evaluation period.

HCWs surveyed universally reported “excessive workload” as the major reason for low TB screening rates. Unavailability of isoniazid was reported as the major reason for non-provision of the TB prophylaxis drug to eligible HIV-positive pregnant women.

Conclusions: TB-PMTCT integration gaps were mainly in TB screening and isoniazid prophylaxis for eligible women. Closing these gaps will require addressing HCW workload issues, eg with task-shifting interventions, and reducing isoniazid drug stockouts. Drug initiation for treatment of TB/HIV-positive women and prophylaxis for TB/HIV-exposed infants was encouraging. Ultimately, universal antenatal TB screening, prophylaxis initiation for TB-negative women and exposed infants, and completion of TB treatment for TB-positive, HIV-negative women in particular should receive attention in our study locations and in similar settings.

Achieving UNAIDS 1st 90 goal through capacity building for nascent Key Population (KP) Led Community Based Organizations – Experience from South Eastern and Western Nigeria

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Background: Nigeria’s HIV/AIDS epidemic has been described as generalized with prevalence of 3.4% and only 38% know their HIV status. HIV prevalence is considerably higher among Key Populations (KPs) than in the general population - 19.4% in brothel-based female sex workers (BBFSW), 8.6% in non-brothel-based FSW (NBBFSW), 22.9% among Men who have Sex with Men (MSM) and 3.4% in People Who Inject Drugs (PWID) (IBBSS, 2014). Strengthening the capacity of Key Population led Community Based Organisations (CBOs) in Nigeria will increase access to HIV preventive and treatment services and would enable Nigeria meet the first 90 target by 2020.

Methods: 30 nascent Key Population led Community Based Organizations comprising of 11 People Who Inject Drugs (PWID), 11 Men who have Sex with Men (MSM) and 8 Female Sex Workers (FSW) were assessed using partnership development and assessment framework (PADEF) tool. The tool is used in identifying the organizational gaps and programming areas that require improvement for effective service delivery, sustainability and ownership. The Project adopted the use of PADEF tool for the assessment and selection of KP Led community based organizations (CBO) to be engaged to implement capacity building interventions among female sex workers (FSW), men who have sex with men (MSM) and people who inject drugs (PWID). This is done by identifying and establishing a baseline capacity gap of key population’s focused-organizations in core program areas: Para legal, Advocacy and human rights, monitoring and evaluation and strategic partnership services.

Based on the PADEF assessment outcome ECEWS trained a total of 438 Key population members from 30 nascent CBOs over a period of 3months (October to December 2016) disaggregated into : 24 for paralegal services (MSM-9, PWID-7 and FSW-8); 345 for advocacy and human rights services ( MSM-131, PWID-109 and FSW-105); 52 trained on monitoring and Evaluation(MSM-20, PWID-109, FSW-105) and 17 trained on strategic collaboration and partnership (MSM-7, PWID-5 and FSW-5). ECEWS also embedded them into the project to provide them with regular hands on mentoring; as a way of strengthening their capacity in delivering those services.

Results: Seven months post training (March to December 2017), nascent Key Population led Community Based Organizations have been registered and recognized by State and National Agencies. They were able to provide support for HIV prevention and treatment services to community members with 30 documented paralegal services and 2415 Key Populations linked to HIV testing services with 297 HIV positive cases outcome (prevalence rate of 12.3%); all linked to treatment.

Conclusions: Building capacity of Key Population led Community Based Organizations is critical to successful home-grown
solution for national HIV response that will increase access to HIV preventive and treatment services and would enable Nigeria meet the first 90 target by 2020.

331 Implementation of Exteral Quality Assurance for Point of Care Early Infant HIV Diagnosis in Kenya.

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Background: Early infant HIV diagnosis (EID) in Kenya depends on high expertise centralized molecular testing that has often led to protracted turn-around time and missed opportunities for timely initiation of HIV infected infants on lifesaving antiretroviral therapy. Emergence of molecular point of care tests (POCT) is a promising technological solution to challenges of centralized EID testing. However, assurance of quality EID POCT results in the field setting remains an important concern for most national HIV programs. Indeed, scalability of EID POCT largely depends on utilization of staff with limited expertise on molecular testing and set ups a typical of molecular laboratories. In 2017, Kenya ministry of health (MOH) introduced EID POCT to selected facilities to bridge the unmet EID testing demands as a pilot to assess feasibility of decentralizing EID. We describe the results of external quality assurance for POCT EID in Kenya.

Methods: The MOH piloted EID POCT (Alere Q and GeneXpert) in 22 remote health facilities in nine of 47 Kenyan Counties. To monitor quality of EID POCT, the National HIV Reference laboratory (NHRL) enrolled the 22 facilities into external quality assurance (EQA) program, developed and distributed EQA standard operating procedures and job-aids, and trained two personnel on EID EQA procedures. Each facility spotted a dry blood spot specimen (DBS) using leftover specimen from 10% (every 10th) and all infants with HIV-negative and HIV-positive results respectively. The DBS were shipped to NHRL (the central EID testing laboratory) located in Nairobi. DBS samples were retested at NHRL using Roche CAP-CTM HIV1 Qual v2. Data was analysed using SAS version 9.4 to characterize performance as well as inform necessary corrective and preventive actions. Patient baseline viral load results were used to facilitate discordance resolution.

Results: Between August 2017 and June 2018, two hundred and seven EQA specimens were retested at NHRL. Of these, 42 (20.4%) were concordant positive while 161 (78.2%) were concordant negative on both POCT and conventional EID, 3 (1.5%) were false positives, and 1 (0.5%) was a false negative. This yielded a sensitivity of 97.7% (95% CI: 94.3% - 100%) and a specificity of 98.2% (95% CI: 95.0% - 100%). Of the three with false positive results on POCT, one had baseline detectable viral load results from conventional viral load testing platform while another was a transcription error by the POCT testing laboratory.

Conclusion: There was good concordance between POCT and conventional EID platform. Centralized retesting is a low cost, scalable viable option for ensuring quality testing in the early phases of EID POCT implementation in Kenya.

332 Operational Feasibility and Uptake of Oral HIV Self-Testing among Community Pharmacy Clients in South Africa: A Pilot Study

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Background: As part of the UNITAID Funded STAR Initiative, we piloted the roll-out of pharmacy-based distribution of HIV self-testing kits in selected inner city Johannesburg and Tshwane community pharmacies as a build-up campaign towards World AIDS day 2018. The aim was to assess operational feasibility and uptake of HIV self-test kits distributed in community pharmacies. Effectiveness of this distribution channel was evaluated using self-test uptake by hard to reach populations as well as clients who have not taken an HIV test in the last twelve months or more.

Methods: Between 28 November 2018 and 01 January 2019, pharmacy staff at seven community pharmacies, supported by Wits RHI self-testing field workers, offered oral self-test kits (OraQuick®) to adult clients (≥18 years) on request or if seeking services indicative of HIV risk. Clients were offered the option to take an additional test kit for their partner if HIV status was not known. We computed descriptive statistics to assess uptake and characteristics of clients receiving test kits at the pharmacies using STATA version 14.

Results: During the five day campaign, 866 test kits were distributed. 61% (528) were for primary use by the clients and 39% (338) were taken for secondary use by the client’s partner or network. Uptake was high amongst men with 51% (438) of the self-test kits reaching this group with a median age of 34 years [IQR: 29 – 45]; whilst 49% (425) reached female clients with a median age of 30 years [IQR: 26 – 36]. Among the 527 primary recipients of the self-test kits with documented testing history data, 195 (37%) reported not having tested for HIV in the last 12 months and 43 (8%) reported to have never tested for HIV before.

Conclusions: HIV self-test distribution in community pharmacies may be effective in reaching otherwise hard to reach populations, particularly men and infrequent testers. This channel provides the opportunity to have tests widely available using the vast community pharmacy network in South Africa.
Abstract

Further studies are required to assess cost, yield, and linkage to care using this distribution channel.

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The effectiveness of Weekly Performance Tracking Tool in monitoring progress of HIV testing service towards achieving 90-90-90 goals: The case of Umodzi Family Centre, a referral level ART clinic.

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Introduction: Sound monitoring and evaluation systems are key for effective and efficient HIV programs delivery. Umodzi Family Centre is a referral ART clinic at Queen Elizabeth Central Hospital in Blantyre, Malawi with about 14000 patients alive on ART and conducts at least 1000 HIV tests weekly. To track its progress towards achieving 90% HIV testing coverage and 90% linkage rate, the clinic developed and implemented a Weekly HIV Testing Service Performance Tracking tool (WPTT). The objective of this paper is to show how the tool has been instrumental in tracking HIV testing program performance and informing timely interventions to improve program performance.

Methods: The WPTT was developed and implemented in all hospital departments in January 2018. There is a paper based version as well as electronic version. Paper based version is used for data collection while electronic version is used to track performance. Data collection is done on daily basis while performance assessment is conducted on weekly basis. The tool collects data on different parameters across HIV testing cascade including total number of patients seen in each department, their entry HIV status, those who required HIV testing, the actual number of patients tested, those who tested negative, those who tested positive and those linked to treatment and care. The tool also tracks performance of each department across four key performance indicators namely, HIV status ascertainment rate, HTS coverage, yield (proportion of HIV positives identified) and linkage rate.

Results: Since the tool was implemented, the clinic has been able to track the performance of each department on weekly basis. We have been able to establish weekly which departments are doing well and which ones are not and their reasons. This has enabled the clinic to be coming up with interventions to address the gaps to improve performance. Before the tool was implemented, overall HTS coverage was 45%, 17% (4 out of 23) of departments had HTS coverage above 90% and linkage rate was 68%. By December 2018, overall coverage was 91%, 91% (21 out of 23) had coverage above 90% and linkage rate was 85%.

Conclusion: The WPTT has been very effective to track and improve HIV testing service performance at Umodzi Family Centre ART clinic. It has enabled the clinic to identify gaps quickly and come up with timely interventions. Therefore, we believe this tool is very useful and should be adopted in similar clinical settings.

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Programmatic challenges of implementation of a CrAg screening program within Primary Care Centres in Harare, Zimbabwe

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Background: Cryptococcosis still has a high burden on immunocompromised HIV positive patients in Sub-Saharan Africa. Although patients would benefit from prompt bedside diagnosis and initiation of treatment, diagnosis is still limited to laboratories. Targeted early detection of cryptococcal antigen (CrAg) in asymptomatic patients enrolling in ART programs could provide an opportunity to mitigate cryptococcus-associated mortality following ART initiation. Zimbabwe has a tiered laboratory network with primary healthcare clinics often lacking on-site laboratory facilities or, where available, qualified staff to run them yet off-site serum CrAg testing involving blood separation increases costs and turnaround time.

Methodology: We implemented a screening program for cryptococcosis among immunosuppressed individuals asymptomatic for Cryptococcal disease routinely seeking HIV care in twenty high volume primary care treatment centres in Harare using finger-prick whole blood at the clinic with corresponding serum and urine sent to the hospital laboratory for confirmation. Eligible patients were referred to the research nurse for screening and CrAg testing procedures at the point at which they would be routinely referred for ART initiating procedures. Lumbar punctures were offered to all participants testing sCrAg positive.

Results and Discussion: We achieved 83% recruitment rate of our target. However, only 57% of these 1320 participants completed the study per protocol with less than 20% mortality. Overall, we faced challenges reducing our success rate. At the clinic level, working space was limited, patient records were neither easily accessible nor always systematically stored. Clinic staff lacked motivation, awareness of CrAg screening of asymptomatic patients and its benefits so intensive training was always required for them. This was further compounded by policy changes in ART initiation criteria to the “test and test” approach during the lifetime of the study. Some misguided staff then neglected to screen for asymptomatic Cryptococcal disease opting to initiate on ART anyone testing HIV positive. The centralised laboratory and pharmacy stocks system also posed challenges for test results prerequisite to recruitment and drugs needed for treatment following screening which would sometimes stock out at the respective clinics. At patient level, health seeking behaviours still needed augmentation contributing to relatively high loss to follow up rates. Additionally, half the eligible participants refused lumbar punctures thus reducing the effectiveness of the intervention.

Conclusions: Implementation research is still a relatively new concept in Zimbabwe. Planning of the implementation program should involve all stakeholders for effective resource allocation.
All arms of the system - clinics, laboratories, pharmacies and logistics need to be in sync for a program of this nature to work. Buy in from well trained nurses working in the mainstream health system was found to improve effectiveness of this implementation program. As such, there is need for a clear and comprehensive training strategy that takes all these aspects into account and provides stakeholders the opportunity to understand the potential risks and benefits of the CrAg screening program. Effective communication lines across the various levels of the system are essential for efficient resource management and ultimately for the success and sustenance of the program.

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Improving Provider Initiated Testing and Counselling uptake in high HIV burden health facilities: Best practices at Umodzi Family Centre, a referral level ART clinic at Queen Elizabeth Central Hospital

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Introduction: Scaling up Provider Initiated Testing and Counselling (PITC) is effective strategy to capture patients who might not opt for Voluntary HIV Testing and Counselling. Umodzi Family Center is a referral ART clinic in Blantyre city, Malawi where HIV prevalence is the highest (17.7%) and surpasses the national prevalence (10.6%). The clinic has been struggling to improve its PITC uptake over the past years. The overall uptake has been below 50%. However, the clinic has registered a success story on PITC uptake following implementation of new interventions in 2018.

Objective: To share context-specific best practices to improve PITC uptake in high volume and high HIV burden health facilities.

Methods: Interventions were implemented in wedge shaped manner in all 23 hospital departments in March 2018. Receptionists were trained to be assessing HIV status of every patient and refer for testing. HIV Diagnostic Assistants were stationed at triage sections in all outpatient departments (OPDs) to do HIV status assessment and escort eligible patients to testing rooms. Adult and pediatric HIV status ascertainment tools were developed and implemented in all OPDs. Lastly, early morning and evening hours HIV testing was introduced in all OPDs. HIV Testing Service Performance Tracking Tool was used to track the total number of patients who came to hospital, those eligible for HIV testing and those who were tested on weekly, monthly and quarterly basis.

Findings: In the 1st quarter (Jan to March) 2018, the average PITC uptake was 45%. Only 4 out of 23 (17%) departments had uptake above 90% and the lowest was 12%. In the second quarter overall uptake was 73%. 12 out of 23 (52%) departments had uptake above 90% and the lowest was 51%. In the 3rd quarter, the overall PITC was 83%. 17 out of 23 (74%) had uptake above 90% and the lowest was 60%. In the 4th quarter, the overall uptake was 91%. 21 out of 23 (91%) had uptake above 90% and the lowest was 65%.

Conclusion: Improving PITC uptake requires multiple and complimentary strategies. Based on Umodzi experience, utilization of receptionists and HIV Diagnostic Assistants as gatekeepers for HIV testing at entry points and targeted HIV testing are key to scale up PITC uptake in high volume and high HIV burden health facilities.

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Using program data to develop an HIV screening tool to improve HIV case identification in Botswana

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Background: In 2017, Botswana had an estimated population of 390,000 people living with HIV (PLHIV). According to the UNAIDS 2018 report, 86% of PLHIVs know their HIV status, 84% of these are on treatment and 81% of those on treatment are virally suppressed. As Botswana strives to reach the UNAIDS 95-95-95 goals, innovative approaches are needed to identify the remaining undiagnosed PLHIV and enroll them on treatment.

Methods: Our community HIV testing project in Botswana, the Advancing Partners and Communities (APC) project working in eight high burden HIV districts, reviewed 20,000 HIV testing intake forms from 2015 to 2016 to identify factors associated with a positive HIV test. Bivariate analysis was conducted to identify factors associated with an HIV positive test. Variables that were significantly associated (p<0.05) with a high HIV positivity yield included: more than two years since last test, educational achievement below secondary status, widowed or divorced, not circumcised (males), currently pregnant (females), cohabiting, regular sexual partner HIV-positive, and employment in the construction sector. The project used these variables to develop an HIV screening tool to identify clients with one or more of the above characteristics and offer them an HIV test. The screening tool was rolled out in October 2018.

Results: Between October 2018 and December 2018, a total of 502 persons were screened and tested for HIV in the communities of Gaborone and Kweneng East districts. Of these 215 persons answered “yes” to at least one of the significant factors of the screening tool. They yielded a positivity rate of 7%, while 287 had none of the characteristics and had a 3% positivity rate. Newly identified PLHIV were linked to treatment at health facilities of their choice.

Conclusions: Program data can be used to identify factors associated with HIV positivity. These factors can be incorporated into screening tools to improve detection of HIV infected persons and thus increase the efficiency and reduce cost of HIV testing.
Addressing Low Viral Load And Infant Pcr Testing in a Global Fund-Supported Pcr Laboratory in North-East Nigeria

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Background: Early infant diagnosis in HIV Exposed Infants and Viral Load (VL) test in patients receiving antiretroviral therapy are beneficial in making clinical decisions for better patient care. Uptake and utilization of results of these Polymerase Chain Reaction (PCR) based test in Low and middle-income countries (LMICs) is quite poor due to inefficient logistics ranging from sample collection, storage, transfer, personnel and power supply among others. University of Maiduguri Teaching Hospital (UMTH) PCR laboratory in Borno state, northeast Nigeria, one of the FHI 360 supported PCR laboratories under the Global Fund Grant had accumulated a backlog of 7303 VL and Dried Blood Spot samples as at February 2018 when FHI 360 took over the technical management and support for the laboratory. Averagely, a suboptimal 392 samples were tested per month due to operational factors including frequent downtime, inadequate manpower, poor Quality Management System, unavailable laboratory registers and job aids.

Materials & Methods: The backlog of samples was cleared within 6 weeks at Nnamdi Azikiwe University Teaching Hospital Nnewi (NAUTH) PCR laboratory also supported by FHI360 under the Global Fund Grant. Following advocacy visits to the two hospitals, we drafted an operational plan with realistic timelines and samples were transported to NAUTH through the National Integrated Sample Referral Network. NAUTH provided 24-hour power supply while UMTH deployed additional staff. A work schedule using expert hands for night shifts without disrupting the routine activities was employed with provision of stipend for extended work hours. We ensured logistics for adequate supply of the reagents and consumables. Simultaneously, we started upgrade of UMTH laboratory. We supported the leadership of the UMTH laboratory to move to a suitable space provided by the hospital. Through advocacy, Roche facilitated movement of equipment, engagement of Biosafety Cabinet certification expert and replaced the Ampilprep component of the Roche Cobas Taqman 48 at no cost. The laboratory was also enrolled in the fee Proficiency Testing Programme for Viral Load and Infant PCR testing in Nigeria. Other interventions include supply of job aids and registers and quarterly oversight visits. The implementation of the interventions occurred over the span of four months.

Results: We analyzed the UMTH PCR laboratory Viral Load and Infant PCR testing throughout pre and post intervention. The number of Viral Load tests post intervention is 5,798 compared to 1,113 tested pre-intervention while the number of Infant PCR tests post intervention is 497 compared to 456 tested pre-intervention within an equal duration representing a 421% and 9% increase respectively.

Conclusion: We demonstrated that simple, efficient and oftentimes advocacy can be employed as strategies in the optimization of PCR laboratories. We expect that the interventions used can notify as well as improve the optimization of PCR laboratories in LMICs.

Index Sexual Partner Testing Yield, a Function of Fidelity of Implementation. Morogoro, Tanzania Experience

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Background: To attain the global goal of HIV epidemic control requires early identification of HIV infected population, placing them on an optimal antiretroviral therapy to get them virally undetectable and untransmittable (U=U). The first critical step of efficient case finding among the population requires more targeted testing to avoid waste of efforts, resources and time associated with low yield testing. Index sexual partner testing has been identified globally as a high yield testing approach which gives positivity yield far above that of the general population. However, proper elicitation of sexual partners has been very challenging. In this study, USAID Boresha Afya Southern Zone Tanzania project evaluated the trend of index sexual partner testing in Morogoro region in FY 2018.

Materials & Methods: In FY 2018 Q2, the project conducted a root-cause analysis for sub-optimal Index patient sexual partner testing which revealed that sexual partner elicitation was the key challenge. It also revealed that beyond elicitation, index client sexual partner testing conducted at home were a combination of household testing and not strictly sexual partner testing. This were done to avoid stigma but were inappropriately documented as index sexual partner testing. In response, Health Care Workers (HCWs), Community Health Workers (CHWs) and Community Volunteers (CVs) were trained and mentored on sexual partner elicitation, testing with fidelity and proper documentation. They were mentored to (1) elicit sexual partners of index patients beyond primary partnerships (spouse). (2) Prioritize sexual partner testing for all newly diagnosed index clients and (3) Identify and test sexual partners of index clients with high viral load. These were closely followed up and tracked weekly. The data were collected and analyzed using Stata. Test for trend was used to test for the increase in positive yield.

Results: In Q1, 679 index patient sexual partner testing were conducted and 38 (6% yield) were identified positive. The yield dropped in Q2 to 4%. At Q3, out of 2,363 tested, 162 positives (7% yield) were identified. In Q4, the yield increased to 16% (291 positives were identified out of 1861 index client sexual partners tested). The increase in yield was significant with p<0.001.

Conclusions: Index patient sexual partner testing is clearly a guaranteed approach for targeted HIV case finding. HCWs, CHWs and CVs conducting this intervention need to be trained to properly elicit, conduct sexual partners testing with fidelity and document accurately. Index patient sexual partner testing will be scaled up as part of routine service package for every positive individual identified.
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Targeted Testing of Adult Out-Patient Clients using Screening Tool in Morogoro Region; USAID Boresha Afya Southern Zone Tanzania Experience

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Background: In line with the global goal of “ending the AIDS epidemic by 2030”, and the UNAIDS ambitious “95–95–95 fast-track” target, there is need to get 95% of HIV infected persons diagnosed and put on treatment. However, as more positives are being identified, it becomes more and more challenging to identify HIV infected person from the general population. As a result, the positivity yield drops, especially in high volume entry point such as Out-patient Department (OPD). This entry point requires a more targeted testing approach to improve the testing yield. In this study, USAID Boresha Afya Southern Zone introduced screening tool in 22 selected health facilities with the aim to identify OPD clients who are more at risk for testing which will result in more efficient testing (time and resources) and improved positivity yield.

Materials & Methods: A six-question risk assessment screening tool for adult and adolescent clients was developed, translated to Swahili, pre-tested and administered in selected health facilities. The health facility team were given an orientation on the use of the tool as well as the tally sheets for documentation. In collaboration with each of the health facility teams, the patient flow in OPD were reviewed and a screening Service Delivery Point (SDP) were either established or integrated into an existing SDP. Clients identified eligible for testing are actively linked to a testing point. The screening and testing data were documented and tracked. Eight weeks (August–September) testing and yield data were collected and analyzed using excel.

Results: Overall, 36,040 OPD clients were screened and 13,072 (36%) were found to be eligible for testing. Out of which 12,975 (99%) were tested and 502 were found to be positive (3.9% yield). This positivity yield is 1.6% higher than the average positivity yield of the region (2.3%).

Conclusions: In order to improve case identification especially for high volume/low yield testing streams such as OPD, more focused testing approach targeting persons more at risk for HIV is very crucial. More efforts will be made to scale up the use of screening tool in other facilities. Also, the screening tool will be validated to determine its sensitivity and specificity.

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Community Adherence Group (CAG) for HIV viremic patients: early lessons learnt from Lusaka, Zambia

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Background: Despite progress with ART scale up, 10.8% of HIV patients on treatment do not achieve virological suppression in Zambia. While most differentiated service delivery (DSD) models are tailored to fit the need of stable patients, unstable (i.e. viremic) patients receiving the standard of care face increased clinic visit frequency and longer wait times. This constitute a barrier to patient engagement in care and, ultimately, viral load (VL) suppression. We developed a novel viremic patient DSD model offering combined community- and clinic-based services including: 1) inviting them to join a routine CAG; 2) close clinical follow up in a dedicated “Viral Load” clinic. We conducted a retrospective cohort study to test the hypothesis that our model would help viremic patients achieve viral suppression.

Methods: We implemented our DSD model at one first-level hospital in Lusaka to accommodate patients with viral load >1,000 copies/ml. To assess uptake of viremic DSD services and the proportion of beneficiaries who re-suppress, we reviewed all patient records for patients who received the intervention from the model’s inception, October 2017, to November 2018. We calculated descriptive statistics for baseline clinical & demographic variables and describe the care continuum for viremic patients in the model.

Results:
Characteristics of patients, n (%)

<table>
<thead>
<tr>
<th>Sex</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>154</td>
<td>(39.8)</td>
</tr>
<tr>
<td>Female</td>
<td>232</td>
<td>(60.1)</td>
</tr>
<tr>
<td>Age Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;14</td>
<td>114</td>
<td>(29.5)</td>
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<tr>
<td>25-34</td>
<td>70</td>
<td>(18.1)</td>
</tr>
<tr>
<td>35-44</td>
<td>120</td>
<td>(31.1)</td>
</tr>
<tr>
<td>&gt;45</td>
<td>65</td>
<td>(16.8)</td>
</tr>
</tbody>
</table>

ART Regimen:

- First-line: 346 (89.6)
- Second-line: 40 (10.3)

^1 patient had no age data

We approached 386 patients to join the model who had a routine monitoring VL >1,000 copies/ml. Table 1 presents clinical and demographic characteristics of patients approached. All 386 (100%) patients accepted to attend the high VL clinic day and 346 (89.6%) accepted to join both CAG and high VL clinic. Of those accepting, 119/386 (30.8%) have completed Enhanced Adherence Counselling (EAC) and had their VL test repeated. Of 119 samples collected, 97 (81.5%) VL results were received, of which 27 (27.8%) suppressed (VL<1000).

Discussion: Introducing a dedicated DSD for viremic patients is a feasible intervention in urban Zambia and results in high patient uptake of services, particularly “fast track” clinical care in a dedicate clinic. Despite high uptake, only 27% of viremic patients with a documented repeat VL result achieved virologic suppression. Further research, including genotype testing and adherence monitoring, is needed to understand reasons for failed re-suppression after DSD model enrollment.
Index HIV self-testing among male partners in Malawi: predictors of self-testing within a randomized controlled trial

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Background: Men are underrepresented in HIV services. We conducted a randomized trial in Malawi to test the impact of index HIV self-testing (HIST) compared to standard partner referral slips, whereby HIV-positive clients delivered either HIST or referral slips to their partners. Index HIST increased testing among men (66% versus 22%), with 26% HIV-positivity rate. However, male partners were less likely to test than female partners (88%; AOR:9.9; p-value:0.01). It is critical to identify characteristics of men who do not engage in innovative HIV services. We use trial survey data to assess predictors of HIST use among male partners.

Methods: ART clients in three high-burden hospitals were randomized to HIST or referral slip arms. Inclusion criteria were: ART client; >55 years of age; partner with unknown HIV status; no interpartner violence; and partner living within catchment-area. Clients and a subset of partners completed baseline/follow-up surveys. Data were collected between March-June 2018. Female ART clients and their male partners randomized to HIST were included in this analysis. Multivariate regressions were conducted for predictors of HIST distribution by female ART clients and use of HIST by male partners, adjusting for age and site.

Findings: 209 female clients were randomized to HIST and 204 completed baseline/follow-up surveys. Median age was 34 years, 81% were married, and 92% disclosed to their partner. ART clients who were married (AOR:19.1, p-value:<0.001), frequently talked to their partner (AOR:19.1, p-value:<0.001), disclosed their HIV status (AOR:33.6, p-value:<0.001), and made joint decisions regarding health services (AOR:6.2, p-value:0.02) were more likely to distribute HIST to their male partners. Male partners who made joint decisions regarding health services (AOR:5.9, p-value:0.02) and used condoms within the prior 6-months (AOR:2.4, p-value:0.03) were more likely to use HIST. Among male partners who completed a survey, (n=110/209; median age 39 years), men who perceived themselves at high-risk of HIV (AOR:0.3; p-value:0.03) were less likely to use HIST.

Conclusion: Male partners in stable relationships, open communication, and joint decision-making were more likely to use HIST. Additional strategies are needed for men in unstable and gender inequitable relationships, such as couples counseling, mass media campaigns, and home visits.

Model-based cost-effectiveness estimates of testing strategies for diagnosing hepatitis C virus infection in Cameroon, Côte d’Ivoire and Senegal

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4Centre de Diagnostic et de Recherches sur le SIDA (CeDReS), CHU de Treichville, 5MEREVA, Pacci, Côte d’Ivoire
6IMEA, France
7ANRS, France
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Background: Innovative technologies have opened up opportunities for developing hepatitis C virus (HCV) testing strategies adapted to resource-constrained countries that fill the current HCV diagnosis gap.

Methods: A health sector perspective in Western Africa was adopted to develop a decision tree model to estimate the expected number of true positive (TP) HCV cases and associated costs of 12 testing strategies with the following characteristics: a single-step or two-step testing sequence, HCV-RNA or HCV core antigen as confirmative biomarker, laboratory or point-of-care (POC) tests, and venous blood samples (VBS) or dried blood spots (DBS). The interest of a given strategy compared to another was based on its incremental cost-effectiveness ratio (ICER), i.e. its additional cost required for obtaining an additional TP case. Base-case, sensitivity, and budget impact analyses were conducted.

Results: When compared to POC HCV-Ab followed by POC HCV-RNA (S5), the lowest cost strategy, only one strategy remained un-dominated: POC HCV-Ab followed by HCV-RNA on VBS (S3). Above a loss to follow-up testing rate as low as 1.9%, combining POC HCV-Ab with HCV-RNA on DBS (S4) became more cost-effective than S3. S5 and S4 had a sensitivity of 97.51% and 95.02% in S5, with a corresponding cost per targeted individual of €10•69 and €8.21, respectively, resulting in an ICER of €3,653.56 per additional TP case. When considering HCV seroprevalence values ≥ 46.9% or a cost of POC HCV-RNA cartridge < €7.32, POC HCV-RNA (S12) dominated S5 but produced many more false positives cases. Diagnosing 30% of HCV-infected individuals by 2020, as advocated by the World Health Organization, with S5 or S4 would require 8–25% of the public health expenditure in the three countries studied.

Conclusion: POC HCV-Ab followed by detecting HCV-RNA either on a POC device or on DBS would be the most cost-effective strategies. However, price negotiations or external funding will
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be necessary to make these technologies affordable in resource-constrained countries.

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Predicting ART retention using a supervised machine learning approach in a Nigerian population

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Background: Poor ART retention of enrolled patients lead to poor treatment outcomes and increased transmission rates in populations. Several studies have been conducted to find strategies to prevent this loss. Machine learning, a field in artificial intelligence, employs statistical, probabilistic and optimization techniques for pattern recognition applied for predicting future events from large (and often complex) data sets and has been used successfully in business, engineering and health analytics. Given the need to reduce patients lost to follow up in ART programs, this study aims to predict HIV+ individuals who would potentially be lost to follow up while they are still enrolled in ART care in Plateau State, Nigeria using this novel computational approach to solving retention.

Methods: We trained and tested 3 prediction models we generated using Generalize Linear Model, Bootstrapping and Random Forests with retrospective de-identified clinical data containing patient, laboratory and pharmaceutical variables collected from 1500+ patients enrolled in ART in networked health facilities in Plateau State Nigeria from the APIN-PEPFAR database. The 3 predictive models were built with different machine learning algorithms and the best performing model was selected. This was then subjected to k = 10-fold cross-validation with 3 repeats after fine-tuning and an ROC plot was made to estimate its predictive accuracy. This was implemented in R (v3.5.2) using the caret package.

Results: The Random Forest model demonstrated a predictive accuracy of > 88% of ART enrolled patients who were lost to follow up in the out-of-sample test data. Pharmaceutical indices (ARV regimen) were shown to have the strongest predictive value.

Conclusions: This approach provides potential clinical tool that identifies prospective individuals lost to follow-up while they are still enrolled in the ART care to whom extra follow-up resources can be applied to in an efficient way ultimately improving retention in ART care. Further in-field evaluation in experimental validation is however required. This study also shows that ARV regimen may be linked to retention in this cohort providing new information worth investigating.

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Mobile Messaging and Voice call platforms For Retention of HIV Positive patients in Care; A Retrospective Review of records from a Tele-health centre in Kampala, Uganda.

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Background: The 2017 Uganda Population HIV Impact Assessment survey reported 1.2 million HIV infected persons aged 15–64 years, with only 73% in care; falling short of the 95% UNAIDS recommendation. A 20–40% lost to follow-up rate within the first year of ART initiation has been reported by many studies; this is fueled by the mobile nature of patients, poor or no functional follow-up systems, large client numbers, and short working hours of the HIV clinics. We evaluated the impact of regular SMS reminders and quarterly voice calls on retention in care of HIV positive patients in a large public health program over a period of 2 years.

Methodology: Between October 2016 and September 2018, 1,740 HIV positive patients from supported health facilities in different regions of Uganda were consented for the mHealth package. This included; pre-appointment reminders, quarterly voice call follow-ups, mobile SMS content on positive living. There was 24/7 access to a doctor via a toll-free line, contact details (names, age, health facility) were collected and uploaded into the messaging platform (RapidPro). Biweekly messages were scheduled. Honouring hospital appointments and accessing viral load tests was tracked during quarterly calls. All data was analysed using Epi Info 7.

Results: The median age was 26 years, 22% were females and 68% males. A total of 11,795 calls were made over the 2 years, for which a progressive rise in compliance to honouring hospital appointments from 70% in 2016 to 95% in 2018 was noted. There was a strong correlation between accessing timely viral load testing and honouring health facility appointment dates (P<0.000). The project’s viral load suppression rate was 89%, way above national rates at 80.3%.

Conclusions: Engagement and follow up of HIV patients using mobile health platforms like SMS and voice call interventions has the potential to improve retention and mitigate loss to follow up. There is need for wider evaluation to generate evidence for scale up and institutionalisation.
Impact of mHealth platforms and enhanced surveillance in strengthening, evaluating and improving performance in HIV programs: Evidence from the Zambian EQUIP Program

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Background and Aim: The requirement for more granular and frequent data in HIV service delivery is paramount as countries progress towards HIV epidemic control. A need for innovative eHealth platforms that cost-effectively provide ongoing evaluations on key interventions against program performance are warranted. The EQUIP Zambia programme supports over 100 MOH ART facilities in three provinces. Initial ART initiation performance was lagging against expected targets. We explored the impact of enhanced surveillance through an eHealth platform as an intervention to improve program performance in Zambia.

Methods: The EQUIP programme in Zambia implemented the Knowledge Center (KC) in Q2, an automated cloud-based eHealth platform that allows for real-time data collection, management, and analysis that enhances surveillance and action towards achieving program goals. Data was collected on a daily and weekly basis from priority facilities and reviewed in line with key technical and clinical interventions. Data processing: 1. Automated customized email sent to facility M&E officer with template 2. M&E officers return completed templates via email 3. Automated integration into KC warehouse 4. Automated reports and dashboards published 5. Secure access to dashboards

Results: ART initiations increased 168% from 2,308 initiations in Q1 compared to 6,188 in Q4. This improvement is correlated with the introduction of enhanced surveillance techniques. The KC was key, as a platform that provided data and performance in real-time. This access to data allowed for technical interventions to be scaled up and/or down, additionally facilitating for sighting of resources to interventions that provided become returns for the programme.

Conclusion: The KC had a direct impact on significantly improving ART initiations and represents a low technology threshold to adopt in HIV programs. The KC represents a low technology threshold to adopt and can be integrated with other sources of data (like mHealth testing tools) to create an evidentiary view of program performance to drive targeted and tailored interventions.

Optimizing routine point-of-care early infant diagnosis through integrated and interoperable data management between point-of-care devices and central laboratory information management systems.

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Background: Uganda implemented a study to pilot point-of-care (POC) Early Infant Diagnosis (EID) technologies to address some of the key limitations of conventional EID networks. However, successful introduction of POC EID platforms requires synchronization with the existing conventional EID systems. The study aimed to design a sustainable and scalable data management and connectivity solution to ensure interoperability and integration of POC EID platforms with the existing national laboratory information system (LIMS) to address the challenges of aggregating data from multiple sources across the different facilities created by the introduction of POC EID.

Methods: To achieve sustainable data integration for POC and conventional central testing, an integrated data management solution was developed to handle all the data processes at facilities to enable linkage to the central database. A local instance of the African Laboratory Information System (A-LIS) was installed at each of the 33 facilities. This was used to capture and store all the patient data, test request and results. A-LIS was also used to link the patient record to the result from each of the three testing devices through a unique Sample ID. A-LIS was then configured to securely transmit facility data to the central database using a scheduled job.

Results: The solution was successfully implemented in 33 sites covering the different processes. 14,412 POC EID test results were transmitted through the integrated data management platform between February and November 2018 representing 84% of the total 17,197 tests conducted at the time. Of these 62% (n=8946) of the results data were transmitted by General Hospital followed by 35% (n=5113) transmitted by Regional Referal Hospital and 2% (353) by a HCV. Data transmission through the GeneXpert device was at 47% and 33% through the Alere Q platform while transmission was at 20% through Samba.

Conclusion: The designed POC EID data management system facilitates central level real time monitoring of equipment and operator performance providing visibility, simplifying data aggregation and leading to timely reporting and data driven decision-making. Integrating POC sites into National LIMS for data transmission is crucial in supporting prompt central level decision-making.
Moving from ink to bytes - Addressing the challenges in transitioning from paper to Electronic Data Collection (EDC) in sub-Saharan African HIV research centres.

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Background: Whilst the use of EDC for field-based research studies can offer many advantages in terms of increased data quality, timeliness and cost savings, transitioning to these systems can be challenging, particularly in resource-limited settings.

Methods: Based on our long-term experience of field-based HIV research in community and facility-based settings in four sub-Saharan African countries, we explore these challenges and using case studies present strategies to address them.

Results:

i) Challenges in implementing EDC - There are significant costs associated with the purchase and maintenance of the data capture devices. Field-workers who have previously only used paper-based data collection forms will need to be specifically trained in the use of EDC. There is a risk of the loss of data and EDC devices through theft or physical damage. Power supply for charging and mobile connectivity for data transfer may be lacking in remote locations. The storage of primary records electronically may be seen to jeopardise an organisation’s ability to maintain a long-term data archive. There may be configuration and customisation required for open-source, general purpose EDC systems such as ODK or RedCap creating a significant need for appropriately skilled staff who may be difficult to recruit and retain in such settings. Finally, research participants may be more reluctant to disclose sensitive or confidential data with EDC, particularly when dealing with highly stigmatised diseases such as HIV.

ii) Solutions to address the challenges - A staged implementation of EDC, in which sites initially gain experience with smaller stand-alone surveys before scaling-up to larger systems, enables confidence in the systems to be gained across an organisation and implementation costs to be spread over time. Device encryption can prevent data-loss if devices are lost or stolen. Robust risk management procedures can ensure that all conceivable scenarios for data-loss with EDC are simulated and addressed. The use of human-centred design approaches to software development can identify and address difficulties that field staff have in transitioning to EDC. Generators with renewable energy backup can provide alternative power sources, although these may require investment in sophisticated maintenance capabilities. In our experience, even in remote areas, daily uploads of data from a location which has network connectivity is feasible. Data managers and ICT staff should be fully integrated into the entire research data life-cycle of each study to gain greater buy-in to the organisation’s research mission and so improve staff retention. The storage of data in centralised data repositories can provide long-term security for data archives. Effective community engagement can alleviate the concerns participants have about the security of data captured electronically. The use of a system such as ACASI with which participants listen to an audio soundtrack and enter their responses directly has been shown to reduce bias when capturing sexual behaviour data.

Conclusions: With rigorous strategic planning in order to address the associated challenges, a staged transition to EDC can be achieved in sub-Saharan Africa biomedical research organisations.

"Use of Whats App Technology as a platform for improving Timeliness of data reporting in a hard-to-reach Rural Riverine Health facilities in South-South Nigeria."

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Background: Excellence Community Education Welfare Scheme (ECEWS) supports 55 health facilities in Bayelsa State, South-South Nigeria to provide HIV Prevention, care and treatment intervention with funding from the Global Fund (GF). Of the 55 health facilities, 17 are located in a hard to reach/riverine community. One of the core monitoring and evaluation deliverable of the project is "To ensure timeliness in validated data reporting on a monthly basis."

Adopting effectively the National Guideline on HIV for collection of routine monitoring and evaluation data through the local government area (LGA) M&E officials from the facility has been adversely affected by difficulty in accessing the hard to reach/riverine areas. This has continuously caused delay in complete submission of monthly monitoring and evaluation program data.

Methods: ECEWS built capacity of 28 Data Entry Clerks (DECs)/Adhoc Staff supporting monitoring and evaluation activities at the 14 Global Fund HIV comprehensive care and treatment sites through a 3day on site orientation on the use of What App technology in collation and reporting data and cluster the other facilities including the riverine facilities to ensure timeliness of data reporting. The team created a What App group where all stakeholders relevant in sharing and validating these data can interact better. On monthly basis, each Data Entry Clerk will snap and upload data summaries alongside their key source documentations from Hub and spoke facilities for validation by different staff. With this system in place, the long process of moving across the supported health facilities including the hard to reach/riverine areas to get hard copies of data from facilities is effectively bypassed while ensuring timeliness and data quality issues are resolved real time; through continuous group mentoring.
Results: Retrospective analysis of the monitoring and evaluation monthly data reporting shows that from April 2017 - May, 2018, the ECEWS team struggled with inconsistency in data completeness and timeliness; with the reporting rate stagnated at 55-65% as against the set timeliness target of 90%. The output of this innovation has significantly improved reporting rate from 72% in June 2018, 76% in July and 100% in August 2018 till date.

Conclusion: Building capacity of DECs at Global Fund supported HIV comprehensive care and treatment sites on the use of Whats App platform in the areas of data collection reporting and validation has helped to improve not only timeliness but also completeness of monitoring and evaluation monthly data. This Whats App platform innovation saved the project time, money which would have been incurred through onsite data collection from project staff or the local government area M&E Team particularly in hard to reach/riverine areas.

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Do smartphones increase linkage to and retention in care in newly diagnosed HIV-positive patients in Johannesburg, South Africa: A multisite randomised controlled trial

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Background: South Africa provides free antiretroviral therapy (ART) for almost 5 million people living with HIV, but only 71% of eligible people are on treatment, representing a shortfall in the care cascade, especially among men and youth. Many developing countries have expanded access to smart phones; success in health applications (apps) raises the possibility of improving this cascade. SmartLink, is a health app for Android smartphones providing HIV-related laboratory results, information, support and appointment reminders, to engage and link patients to care. This study aimed to evaluate the ability of SmartLink to improve linkage to care for HIV-positive smart phone owners.

Methods: This study was a multi-site randomised controlled trial in Johannesburg, South Africa. The intervention arm received the app (along with referral to a treatment site) and the control arm received standard of care (referral alone). Linkage to care was confirmed by an HIV-related blood test reported on the National Health Laboratory Service database between two weeks and eight months after ART initiation.

Results: 345 participants were recruited into the study. There were no significant differences in the baseline characteristics between the intervention and control arm. 64.9% were female and 44.1% were under 30 years of age. 46.7% were employed full-time, 95.9% had at least secondary school education, and just over one-third (35.9%) were from Zimbabwe. Linkage to care between two weeks and eight months was 48.6% in the intervention arm versus 45.1% in the control (P=0.52) and increased to 64.1% and 61.0% (P=0.55), respectively, after the initial eight-month period. Males showed a slightly higher (but not statistically significant) linkage to care with the app between two weeks and eight months (47.5% control versus 55.0% intervention, P=0.412), but after eight months these values both were similar, approximately 66% (67.2% control versus 66.7% intervention, P=0.949). 18-30 years old showed a statistically significant 20% increase in linkage to care for the intervention group.

Conclusions: Youth under 30 years of age have been historically difficult to reach with traditional interventions, and the SmartLink app provides a proof of concept that this population reacts to mHealth interventions that engage patients in HIV care.

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Management and monitoring of PLHIV using electronic systems in Nigeria: Lafiya Management Information System (LAMIS)

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Background: Several factors make paper-based data collection system for longitudinal patient follow-up ineffective. There is limited information on the use of Electronic Medical Record (EMR) in sub-Saharan Africa. Here we present experiences from a large HIV/AIDS program implementing electronic system in Nigeria.

Methods: PEPFAR through USAID funded the Strengthening Integrated Delivery of HIV and AIDS project implemented by FH360 Nigeria in 2008 to develop "Lafiya Management Information System (LAMIS) software". This is an electronic patient management system designed to increase the efficiency of HIV care delivery in supported-sites providing ART services. It collects routine client-level service data from HIV service delivery points including the ART clinic, pharmacy and laboratory. Daily, service data on each client encounter is entered in the appropriate module in LAMIS and uploaded weekly on a secure central server. Health workers at the facility, state government officials, FH360 technical and program managers are provided with access to key performance indicators. LAMIS was piloted between 2008 – 2011 and then taken to scale from 2012-2018 with facility backstops providing onsite technical assistance.

Results: LAMIS has evolved progressively and has gained traction in use over the years. Facilities using LAMIS increased from 14 to 654 between 2008 and 2018, accounting for 88% (654/746) of SIDHAS supported facilities. As at September 2018, more than 300,000 PLHIVs have been registered with about 14,055,018 SIDHAS supported facilities. As at September 2018, more than 300,000 PLHIVs have been registered with about 14,055,018 SIDHAS supported facilities. As at September 2018, more than 300,000 PLHIVs have been registered with about 14,055,018 SIDHAS supported facilities. As at September 2018, more than 300,000 PLHIVs have been registered with about 14,055,018 SIDHAS supported facilities. As at September 2018, more than 300,000 PLHIVs have been registered with about 14,055,018 SIDHAS supported facilities.
prior to the deployment of LAMIS. Facility staff found reporting using the LAMIS to be simple and less time consuming. However, unstable power and equipment down time especially in hard to reach areas made it significantly expensive setting up EMR in Nigeria.

Conclusion: Locally sourced EMRs such as LAMIS can improve the efficiency of HIV and AIDS control programs in low resource settings. Their use should be recommended for patient and project monitoring in view of the benefits.

Effectiveness of short message service (SMS) reminders on timely pick-up of antiretroviral therapy (ART) among consenting HIV-positive adults in Zambézia province, Mozambique

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Background: Informed by mHealth interventional studies showing improved ART appointment attendance with cellphone messaging, an SMS reminders service was rolled out to eight health facilities (HF) in Zambézia province, Mozambique, beginning in July 2016. We assessed effectiveness by comparing ART pick-up rates among adult patients sent SMS reminders.

Materials and Methods: All HIV-positive adult patients (≥ 15 years) enrolled in ART services reporting cellphone access were offered SMS reminders. Consenting patients were sent messages 15, 7, and 2 days prior to scheduled ART pick-up dates. Using routinely-collected program data (July 2016-May 2017), mixed effect logistic regression was used to determine adjusted odds ratios (aOR) of ART pick-up within 2, 6, and 59 days of scheduled appointments (i.e. on-time, prior to defaulting, and prior to loss-to-follow-up, respectively), adjusting for gender, age, adherence support group, partner status, pregnancy, education, occupation, years on ART, HF, weekday of appointment, and week of pick-up.

Results: We compiled data regarding 18,941 scheduled ART pick-ups for 3,222 patients reporting cellphone access. Among these patients, 47.2% of males and 45.9% of females consented to SMS service, and reminders were sent (per intervention standard operating procedures) for 34% of the scheduled pick-ups included in this analysis. Of those patients who declined SMS reminders, females were more likely to pick up ART within 2, 6, and 59 days of scheduled appointments than males not sent SMS. For ART pick-up within 6 and 59 days of scheduled date, this association for males sent SMS reminders was not seen (aOR=1.09, 0.90; 95%CI: 0.95-1.25, 0.74-1.10 respectively). Females who were sent SMS reminders had similar ART pick-up rates when compared to females not sent SMS reminders (aOR=0.94, 0.90, 0.89; 95%CI: 0.85-1.05, 0.79-1.03, 0.72-1.10; respectively). Older adults (≥ 50 years) were more likely to pick up their ART within 2, 6, and 59 days of scheduled appointments compared to younger adult (15-24 years) patients (aOR=1.43, 1.75, 2.61; 95%CI: 1.20-1.71, 1.38-2.22, 1.82-3.75; respectively).

Conclusions: In Zambézia province, SMS reminders provide a short-term positive effect on timely ART pick-up among consenting males, although this effect attenuates over time. Additional context-specific strategies need to be implemented to secure timely ART pick-up and improve retention in care.

House-to-house education with online text messaging for behavioural change communication for women attending antenatal and postnatal care at Traditional Birth Attendants centre

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Background: Women who seek prenatal and postnatal care from traditional birth attendants often face increased risk of HIV/AIDS transmission and acquisition and other adverse pregnancy outcomes. Such risks are higher especially in low economic settings where traditional birth attendants (TBAs) lack appropriate tools and skills. The project focused on reaching out to pregnant women and care givers of children under 5 years living in slum communities who seek care from TBAs to dispel myths and misconceptions on HIV acquisition/transmission, facilitate their access to HTS, educate them on how to access biomedical HIV prevention tools, and support them to seek appropriate health care.

Methods: The target population were pregnant woman and a caregiver of children under 5 years (under -5) who receive care at place of TBAs in slum communities in Nigeria. Participants were educated through targeted house-to-house health education by trained personnel and enrolled in a monthly SMS phone notification platform for follow up education for 24 weeks. Ten main topics on HIV, AIDS, PMTCT, nutrition, immunization schedules, male circumcision, female gender mutilation including where to seek appropriate healthcare, common myths and misconceptions were covered over the 24 weeks period. Women who are registered on the automated SMS education platform received monthly education information on their mobile phones in their preferred languages (English or Yoruba) based on their trimester and age of their under-5 respectively. Pre and post assessment was conducted using semi structured interviewer administered questionnaire.
Les meilleures publications ont été analysées selon les critères suivants : le thème de la publication, la taille du texte, en nombre de mots, le style, soutenu, familière ou courant, ainsi que le nombre moyen de mots par phrase.

Résultats: Les meilleures publications portaient sur un des thèmes suivants : Actualités de l’Association (47%), Mobilisation autour des activités de l’Association (13%), Actualités et informations sur les LGBT (15%), les droits Humains (4%), le VIH (13%) ou la Santé (4%) et les Salutations (4%).

La portée médiane des publications retenues est de 185. Les portées supérieures à 185 concernent les publications portant sur l’Actualité AC (42%), puis sur le VIH (27%). Toutes les publications VIH sont dans cette catégorie.

Pour les clics sur les publications, la médiane est de 14. Les publications ayant eu plus de 14 sont celles de l’Actualité AC (65%) suivi de l’actualité LGBT (15%).

Nous avons aussi étudié la taille des textes, le style et le nombre de mots par phrases. Les publications dont la portée est au-dessus de la médiane ont une taille moyenne de 66 mots, avec en moyenne 13 mots par phrases. Parmi ces publications de portée supérieure à la médiane, 69% sont dans le registre courant et 26% dans le registre soutenu. Nous n’avons eu que 4 publications inscrites dans le registre familier soit 8% de l’échantillon, ce qui n’est pas grand pour conclure quoique ce soit.

Conclusion et recommandations: Une publication qui aurait la plus grande portée pour notre association pourrait avoir les caractéristiques suivantes :
- Thème de prédilection : actualités de l’Association, ses activités où son public est convié, ou une actualité LGBT. Les autres thèmes ne sont pas à priori à exclure.
- Le Message doit être composé d’environ 66 mots en moyenne, avec des phrases plutôt courtes, soit 13 mots par phrases.
- Le registre courant est à privilégier, bien que le registre soutenu ne soit pas mal apprécié.

Conclusion: House-to-house education using face to face encounters enforced with mobile phone targeted health information can facilitate access of women to obtain appropriate antenatal and postnatal services. Face to face meetings is more suitable to facilitating access of women to HIV Testing Services. There is need for more targeted multi approach to address the unmet HIV prevention needs of women in hard to reach communities. Such interventions should target other family members that could influence health seeking behaviour.

Abstract

Introduction: Alternatives Cameroun (AC) is a non-governmental organization (NGO) working in the field of children, youth and people living with HIV/AIDS (PLHIV). Our association has a program of communication in line with a but educational towards our public and who permit the benevolent in his place with that. In the context of improving the quality of our communication, we have studied the number of weekly publications, the style and number of words per publication.

Objectif: Notre objectif était de connaître quels sont les aspects premiers dont doit se révéler un message pour qu’il soit attrayant et ait une circulation facile. Nous tentons de trouver un lien entre le thème, la taille et le style du texte d’une part, et sa portée ainsi que les interactions suscitées d’autre part.


Les meilleures ont été analysées selon les critères ci-après :

- Le thème de la publication.
- La taille du texte, en nombre de mots,
- Le style, soutenu, familier ou courant, ainsi que le nombre moyen de mots par phrase.

Contraintes sociales et biomédicales liées de la prise en charge des enfants VIH+ dans les régions du Sud du Sénégal. Projet EnPRISE2

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Contexte et objectifs: Une enquête épidémiologique réalisée en 2018 dans les régions du Sud du Sénégal a montré que 68% des enfants VIH+ de moins de 19 ans étaient en échec thérapeutique. Une enquête anthropologique a été conduite
pour décrire et analyser les causes de ces échecs dans le cadre d’une recherche interventionnelle visant à améliorer la prise en charge médicale des enfants (EnPRISE2). Les principales contraintes du dispositif de soins et les effets sociaux liés à la prise en charge des enfants VIH+ sont ici présentées.

Méthodologie: L’enquête qualitative a été réalisée entre juillet et septembre 2018 auprès de 12 structures de santé dans les régions de Ziguinchor, Sédhiou et Kolda ; des observations participantes des consultations pédiatriques ont été effectuées dans 3 hôpitaux et 9 centres de santé ; des entretiens semi-directifs ont été menés avec 35 enfants et adolescents VIH+, 84 parents ou tuteurs et 54 professionnels de santé en charge des enfants.

Résultats: Les résultats révèlent que de nombreux enfants et adolescents sont confrontés à diverses difficultés pour avoir un accès régulièrement aux ARV et aux examens biocliniques et sont en danger de veille, scolaire, de transport, et d’être abandonnés par leurs familles et parents. Les contraintes sont liées à l’absence fréquente d’annonce du statut VIH+ des enfants et adolescents, à l’endettement familial difficile et à l’arrêt des soutiens octroyés par les associations et ONG. Elles se comprennent notamment :

– De fréquentes ruptures d’ARV pédiatriques et de réactifs pour des bilans biocliniques qui contraignent les patients à multiplier les déplacements.
– Le coût du bilan de suivi et des frais de transport élevés pour la majorité des patients.
– Le manque d’expérience de nombreux professionnels de santé sur les spécificités de la prise pédiatrique du VIH, notamment en cas de complications ou d’échecs thérapeutique.
– L’absence fréquente d’annonce du statut VIH+ des enfants et adolescents.
– Une insécurité alimentaire qui complique la prise des ARV, les enfants ne pouvant pas prendre leurs médicaments lorsqu’ils ont faim sous peine de vomissements et de nausées.
– L’arrêt des soutiens nutritionnel, scolaire, de transport, et d’appui à l’observance par les associations et les ONG.
– Les difficultés pour localiser et rechercher les enfants perdus de vue.
– Des difficultés majeures pour les orphelins VIH+ dont certains sont rejettés, stigmatisés et parfois soumis à des violences familiales psychiques et physiques ou exclus.
– La fréquence des situations de mal être, de révolte chez les adolescents qui arrêtent leurs ARV

Conclusion: La prise en charge des enfants et adolescents vivant avec le VIH dans les régions décentralisées est complexe et spécifique. Elle requiert un meilleur accès à des ARV de formulation pédiatrique, à la mesure de charge virale, un renforcement des compétences des professionnels de santé et un accompagnement médical et social des enfants, peu compatibles avec l’actuelle réduction des financements accordés aux associations et les politiques de simplifications du suivi.

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Comprendre pour mieux adapter les interventions : contribution socio-ethnologique à la mise en place d’un dispositif de traitement à Mbour, Sénégal

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Introduction: Entre les années 2010 et 2015, en Afrique subsaharienne, se sont produites plusieurs données qui ont permis de montrer l’exposition des consommateurs de drogues injectables (CDI) au VIH. En 2017, une étude (ECODITH) de prévalence et d’estimation de la taille menée à Thies a permis de montrer que les CDI n’y disposent pas d’un traitement de leur addiction et de leurs infections (VIH 1.6% ; VHB 17.7%, VHC 2.5%). Une enquête socio-ethnologique a été associée à ECODITH avec pour objectif de décrire la culture de consommation de drogues et les besoins en matière de traitement chez les CDI pour définir une prise en charge adaptée au contexte local.

Méthode: Les données qui servent de base à cette présentation ont été recueillies à Mbour entre 2015 et 2017 auprès de 36 personnes (30 hommes et 6 femmes) consommatrices de drogues qui ont accepté volontairement l’enquête dans un lieu de leur choix. Les entretiens ont été enregistrés, codés avant d’être retranscrits et anonymisés. Les données issues des entretiens individuels ou de groupe ont fait l’objet d’une analyse thématique assistée par le logiciel Atlas.Ti.

Résultats: Le lieu de consommation de drogues à Mbour, construit à partir d’influences européennes, gambienne et dakaroise, est un lieu où les connaissances et les pratiques en matière d’usage de drogues sont complexes et dynamiques. Le rapport du tourisme à la consommation de drogues est évoqué de manière assez ambiguë comme à la fois néfaste (initiation à la consommation, influence du trafic, circulation des produits) et bénéfique (influence d’une hygiène de la consommation et partage d’information sur les risques liés à la consommation de drogues). Les données rapportent aussi une grande mobilité des CDI entre Dakar et Banjul pour la recherche de produit et entre la petite côte, Cap-Skiring et Saint-Louis pour les guides touristiques et antiquaires. Le caractère cosmopolite de cette localité a favorisé un développement du travail de sexe exercé par les femmes CDI qui sont à la recherche de copains blancs capables de les prendre en charge financièrement. Certaines femmes développent des stratégies en offrant des services de massages qui évoluent vers des prestations sexuelles. Par ailleurs, la localité vit au rythme de la haute saison touristique, qui attire les saisonniers et qui crée en même temps beaucoup de mobilité des antiquaires et guides touristiques, et la basse saison touristique pendant laquelle les saisonniers, surtout les femmes, se déplacent pour chercher du travail ailleurs. Le site est aussi marqué par la présence de CDI qui exercent presque tous des activités génératrices de revenus le plus souvent liées au tourisme.
“They will say you are not of age”: barriers and facilitators to HIV voluntary counseling and testing uptake among in-school adolescents in Northwestern Province, Zambia

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**Background:** Adolescents in Zambia shoulder a substantial burden of new HIV infections, yet uptake of vital prevention commodities and services, including voluntary counseling and testing (VCT), remains suboptimal – threatening progress towards achievement of UNAIDS’ ambitious 90-90-90 targets. Using mixed quantitative and qualitative approaches, this study aimed to identify factors associated with VCT uptake among sexually debuted in-school adolescents in Zambia, in addition to documenting perceived facilitators and barriers to accessing sexual and reproductive health (SRH) services, including VCT.

**Materials & Methods:** Data were derived from a cross-sectional survey and eight focus group discussions (FGDs) with adolescents 12-24 years-old in Mufumbwe and Solwezi Districts of Northwestern Province. Randomly sampled adolescent boys (n=806) and girls (n=806) from 23 schools completed a structured interview addressing SRH knowledge, sexual risk behaviors, and attitudes towards adolescent SRH service-seeking. VCT uptake was assessed dichotomously by asking participants reporting sexual debut (n=408) if they tested for HIV in the past year. Correlates of VCT uptake were identified using bivariate and multivariable logistic regression, controlling for participant sex, age, and district of residence. Sex-regressed FGDs addressed adolescent perceptions of and experiences with SRH services, including VCT. FGD transcripts were synthesized and interpreted inductively using thematic content analysis, aided by the constant comparative method.

**Results:** Fewer than half (42.9%) of surveyed adolescents reported past-year VCT use, and girls reported VCT uptake at significantly higher rates than boys (52.7% vs. 38.4%; p=0.007). The most frequently reported barrier to VCT uptake was anticipated judgement by providers (60.2%). In multivariable analysis, the adjusted odds of past-year VCT uptake were significantly higher among 20-24-year-olds (Adjusted Odds Ratio [AOR] = 3.72, 95% Confidence Interval [CI] = 1.59-7.91) and adolescents who discussed VCT with their parents (AOR = 1.83, CI = 1.21-2.76). Past-year sexual risk behaviors – specifically unprotected last sex (OR = 1.58, CI = 1.05-2.39), paid sex (OR = 1.87, CI = 1.13-3.14), and having a recent sex partner who was older (OR = 1.62, CI = 0.97-2.72) – were significantly associated with VCT uptake in bivariate analysis only. Complementing findings from the quantitative survey, FGD informants (N=122) felt ill-equipped to discuss sexual health with providers, citing anticipated or previously enacted mistreatment, service refusal, stigma, and confidentiality breaches as primary barriers to VCT uptake. Community norms dictating age and marital restrictions to SRH services, reinforced in households and schools by influential reference groups (i.e., parents and teachers), likewise deterred adolescents from utilizing available VCT services.

**Conclusions:** Overlapping institutional and interpersonal barriers to VCT uptake emerged across data collection modalities. Adolescent-friendly HIV testing is an essential strategy to achieving the “first 90” and improving outcomes further downstream the HIV clinical cascade, but findings from this study illuminate salient challenges young people in Zambia experience when attempting to access essential VCT services. Youth-focused sensitivity trainings with providers and bolstering adolescent self-efficacy to engage effectively with providers are needed interventions for increasing amenability and accessibility of VCT services for young people, particularly high-risk early adolescent boys.

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Adolescent girls and young women (AGYW) enrolled in multi-sectoral HIV prevention program show positive shifts in the social drivers of HIV vulnerability—gender attitudes, relationship power and violence


**Background:** Social factors—inequitable gender norms, low power in intimate relationships, and violence—substantially contribute to HIV risk among AGYW. DREAMS programs aimed to empower AGYW and address these factors. We assess shifts in gender, power, and violence among DREAMS participants in Kenya and Zambia.

**Methods:** AGYW aged 15-24 were enrolled in a cohort in 2016-17 and followed-up after 14-16 months in 2018 across a total of four DREAMS program sites in Kenya (n=736) and Zambia (n=885). Survey data captured knowledge, attitudes, and practices. Bivariate, multiple, and ordinal logistic regression analyses examine shifts in gender norm attitudes (GEM scale), relationship power (sexual relationship power scale), and experience of sexual violence.

**Results:** At follow-up, in both countries mean age of respondents was 20 years, 67% in Kenya and 49% in Zambia were sexually active, over 90% in both countries had participated in interventions aimed at empowering girls. High support for equitable gender norms increased substantially (27% to 40%);
p<0.0001) among Kenyan AGYW and modestly among Zambian AGYW (32% to 34%; not-significant). In both countries, AGYW reported higher relationship power (Kenya: 18% to 43% and Zambia: 26% to 37%; p<0.001). AGYW reported reductions in sexual violence from both intimate and non-partners in Kenya (20% to 9% and 26% to 17%, p<0.001 respectively) and reductions in sexual violence from non-partners in Zambia (from 17% to 12%, p<0.01). Examining change over time, while adjusting for program site, age, marital status, schooling status, and parental loss show that AGYW in Kenya reported significantly stronger support for gender equitable norms (AdjOR:1.80 [1.48-2.18]), higher relationship power (AdjOR: 3.1 [2.4-3.9]), reduced odds of experiencing sexual violence from intimate partners in the last year (AdjOR: 0.36 [0.24-0.52]). In Zambia, AGYW reported higher relationship power over time (AdjOR: 1.9 [1.5-2.3]). In Kenya and Zambia, AGYW reported significantly reduced odds of experiencing sexual violence from non-partners (AdjORs: 0.58[0.45-0.75] and 0.65 [0.49-0.85], respectively).

Conclusions: We found positive impacts of DREAMS programs on gender, power, and violence, but more so in Kenya than in Zambia. HIV prevention programs that specifically address social drivers of vulnerability can shift key factors related to HIV acquisition among AGYW.

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Décentralisation de l’accès aux ARV dans les Postes de santé au Sénégal : Une expérience valorisante pour la prise en charge des PrVVIH

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Contexte: Au Sénégal, les ARV sont disponibles à l’échelle nationale depuis 2005, dans les hôpitaux et les centres de santé (CS). Cependant la qualité de la prise en charge (PEC) des PVVIH est limitée par la mobilité du personnel soignant et un déficit de médecins seuls habilités, jusqu’à présent, à prescrire les ARV. Cette situation a conduit le ministère de la santé et le CNLS à proposer la décentralisation de la prise en charge des Centres de santé (CS) vers les Postes de santé (PS) et la délégation des tâches des médecins vers les infirmiers chefs de poste (ICP) conformément aux recommandations de l’OMS. L’objectif de ce travail est de décrire et d’analyser les enjeux de la PEC des PVVIH dans ce contexte de décentralisation.


Résultats: La délégation des tâches (DT) est perçue comme une composante de la nouvelle approche de santé communautaire centrée autour du (PS), qui rapproche les communautés des services médicaux et réduit le nombre de perdus de vue. D’après les soignants interrogés, la délégation des tâches aux ICP réduit l’ampleur du « mythe » du VIH dont la prise en charge était jusqu’ici réservée aux médecins uniquement, dans les hôpitaux et les centres de santé. La prise en charge dans les postes de santé limite les risques de stigmatisation, contrairement à la consultation régulière dans les structures spécialisée (PTA) ou auprès de soignants spécialisés sur le VIH. Les ICP adhèrent à ce modèle d’offre de service perçu comme une expérience valorisante, qui en outre rend visible leur compétence et peut conduire à une promotion professionnelle. Toutefois, des défis sont à relever pour rendre efficace la DT et permettre son passage à l’échelle, en particulier en termes de formation des ICP, d’amélioration de l’accueil et de la gestion de la confidentialité, et d’organisation du suivi entre le PS géré par l’ICP et le CS qui doit assurer la supervision du PS. Cela implique la transmission des informations médicales par le remplissage de dossiers et de fiches pour l’actualisation des bases de données, outils auxquels les ICP sont souvent peu familiarisés.

Conclusion: La décentralisation de la PEC à l’échelon postes de santé améliore significativement la qualité des services VIH et les rends plus accessibles aux populations. Ce modèle expérimenté dans deux régions au Sénégal pourra être mis à l’échelle dans ce pays en tenant en compte des spécificités régionales.

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Unpacking the complexities of intimate relationship types and related HIV risk among young men across Eswatini

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Background: Intimate relationships are complex in Southern Africa, where marital/cohabiting rates are often low. Gaining clarity about the most common relationship types/combinations, and comparing HIV risk factors between them, could help optimize HIV prevention efforts.

Materials And Methods: Data come from surveys with 1,091 men ages 20-34 in 19 districts of Eswatini. Men were recruited at informant-identified hot-spot venues, in mid-2018. The present analysis included 702 men who reported at least one current partner in a partner grid, which included questions about up to the last three sexual partners. Current partner was defined as a partner the respondent was “still having sex with” for non-casual partners, and in last two years for casual partners. Over 99% of current reported partners were female.

Results: We found six distinct types/combinations of intimate relationships: Steady non-live-in partner only (26%); Casual partner(s) only (21%); Steady non-live-in partner plus casual partner(s) (18%); Wife/live-in partner only (15%); Wife/live-in partner plus casual partners (7%); and Multiple steady non-live-in partners (6%). Certain HIV risk factors differed by whether the
respondent lived with the partner or not. These included age difference with partner (non-live-in partners were approx. 5-7 years younger than the respondent, vs. 3-4 years for wife/live-in partners; p<0.001), and coital frequency (6-7 times per month for wife/live-in partners vs. 2-3 without live-in; p<0.001). Other factors differed by type of partner: approx. 60-70% of men wanted a child with, and discussed each other's HIV status with, longer-term partners (steady non-live-in and wife/live-in), vs. 10-40% for casual partners (all p<0.001). Consistent condom use was lower with longer-term (20-40%) vs. casual partners (50-70%) (p=0.01). Respondents were most likely to report perpetrating violence against, and transactional relationships with, longer-term partners specifically in cases where the respondent also had casual partners (violence perpetration against longer-term partners in these cases was 15-20% vs. 5-10% for others, p<0.01; and transactional relationships: 40-60% vs. 30-40%, p<0.05).

Conclusions: More clearly delineating prevailing relationship types could inform HIV prevention efforts, especially in contexts like Eswatini, where steady non-live-in relationships are common. Particular aspects of these relationship types appear to heighten or reduce HIV risk. Partners men don’t live with tend to be 3-5 years younger than partners they live with, but men have sex much more frequently with the latter. Men want a child and communicate about HIV status most with longer-term partners (whether they live with them or not), and perhaps as a result, use condoms inconsistently in those relationships. Finally, respondents are most violent when they have both longer-term partner(s) and casual side partners. In such situations, men appear to direct violence at the longer-term partner and provide more inducements for her to start or stay in the relationship.

Methods: SKILLZ Guyz participants were drawn from four schools and one residential facility for out-of-school adolescents. A quantitative survey was administered to participants (n=258, mean age 14.8 years; in-school n=140, out-of-school n=118) before and after the intervention, including measures of SRH and HIV knowledge, gender equitable attitudes, and health-seeking behaviours. Quantitative data were analyzed using SPSS: descriptive statistics were calculated, scale variables were constructed, Cronbach’s Alpha was calculated for each attitudinal scale, and significance was assessed using t-tests. Qualitative focus group discussions (n=2, 20 total participants) were conducted with SG Coaches, and interviews were conducted with YEDI programme staff (n=8). Recordings were transcribed, translated, and analyzed thematically.

Results: SG participants reported high levels of violence perpetration against female partners: at baseline more than 75% of participants reported ever having perpetrated at least one type of psychological violence, and 68.2% reported ever having committed at least one act of physical violence. Significant improvements were noted in gender equitable attitudes (IS p<.001, OS p<.001, Cronbach’s Alpha = .852), and participants also showed statistically significant improvements on HIV knowledge, pregnancy and contraception knowledge, self-esteem, and self-efficacy (p<.001 all). Qualitative data from FGDs and interviews with Coaches and staff support the quantitative findings: YEDI staff and Coaches reported observing positive behaviour change in SG participants. They noted the role of soccer in creating a comfortable environment for discussion and learning, and emphasized that the programme provided information not offered elsewhere to male adolescents in Nigeria. Coaches reported positive impacts on their own attitudes and behaviour as a result of their training and facilitation of SG, including the importance of consent before engaging in sex.

Conclusions: Evaluation findings demonstrate the promise of SKILLZ Guyz in engaging ABYM in critical discussions and providing important health information. Soccer is a useful tool for reaching ABYM, and the role of trained near-peer Coaches also helped to create a supportive environment for participants, offering them positive and relatable role models. Coaches themselves reported positive effects on their behaviour due to their SKILLZ Guyz training and facilitation. Based on these findings, GRS will seek to modify the intervention and make it available to programmes throughout sub-Saharan Africa.

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Addressing adolescent boys’ unique sexual and reproductive health needs in Nigeria: findings from a sport-based programme evaluation

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Background: In Nigeria and globally, gaps exist in addressing the SRH needs of adolescent boys and young men (ABYM), including HIV and sexual health information. Addressing these gaps is critical in preventing HIV, improving gender equality, and reducing gender-based violence. Grassroot Soccer (GRS) and Youth Empowerment Development Initiative (YEDI) developed SKILLZ Guyz (SG), an 11-session, sport-based intervention for ABYM ages 13-19 to respond to these needs. Facilitated by young male mentors (Coaches), SG aims to build the assets of adolescent boys - HIV & SRH knowledge and anger management and conflict resolution skills; improve access to health services; and promote adherence to healthy behaviours. A mixed-methods evaluation was conducted aiming to: a) assess participant knowledge, attitudes, and beliefs related to SRH, HIV, gender equity, and positive identity formation; b) assess and compare effectiveness of the programme among in-school (IS) and out-of-school (OS) adolescents.

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Using Financial Diaries to Understand the Economic Lives of Women Enrolled in PMTCT in Zomba, Malawi

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Background: In Malawi, Option B+ has increased the number of HIV-positive pregnant women and new mothers (PWNM) on antiretroviral therapy (ART). However, attrition from prevention of mother-to-child transmission (PMTCT) services endangers infants and mothers. Economic strengthening (ES) interventions can address structural barriers to PMTCT, but there is limited...
information on how to tailor ES activities for this population. We used financial diaries (FDs) to understand the economic lives of women in PMTCT to recommend appropriate ES interventions.

Methods: We collected quantitative FD data from a stratified sample (n=238) of HIV-positive PWNM enrolled in PMTCT from three clinics in Zomba, Malawi. For 30 weeks, participants met weekly with staff to record cash and in-kind inflows and outflows. Women also completed intake and exit surveys, which collected demographic, economic, PMTCT, and social support information. All quantitative data were compiled and summarized using R.

Results: For PWNM in Zomba, daily expenses were small but consistent; inflows came at sporadic intervals but were generally larger. The median number of weekly cash outflows per participant was 10, and the median value for outflow transactions was US$0.41. The majority (81%) of cash expenses were on food/drink. Of all cash expenditures, 8% were self-reported as PMTCT-related, with most categorized as food/drink. Participants had a median of 3 weekly inflow and the median value of inflow transactions was US$3.42. The primary source of cash inflows was gifts (46%), with earnings from work accounting for only one-quarter of cash inflows as the second largest source. Over time, cash outflows remained relatively constant, while cash income began to increase when the rainy season brought more work opportunities.

Conclusions: PWNM control very small amounts of cash; weekly imbalances of cash inflows to outflows were common. The reliance on gifts rather than economic activity and the high proportion of expenses spent on food indicate a cash-poor population. PMTCT-related costs were a modest portion of total cash outflows but highlight the importance of sufficient quantities of nutritious foods for PMTCT success. PWNM would benefit from ES interventions centered on food support or income generating activities in the agriculture sector.

Spousal disclosure among HIV/AIDS Positive clients

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The global burden of HIV/AIDS requires exploring all mitigating approaches and techniques that confront new infections as well as managing clients with HIV/AIDS infection already. Among the numerous interventions and approaches, disclosure of partner sero-positive status to partner remains crucial. The increased risk in sexual activity and low disclosure rate among clients on ART has raised concern about likely increase in HIV prevalence(NACP, 2008). It is therefore important to explore the context that influences decisions regarding HIV/AIDS disclosure of clients on ART at Suntreso Government Hospital to their spouses. This might avail more information that could provide a deep understanding of the situation and inform management in policy development as well as guide the counselors and health care service providers in the development of interventions addressing sexual health among clients on ART in relation to HIV/AIDS disclosure to sexual partner(s). This study holistically looks at the issue of disclosure to their partner(s) and identifies the factors that causes low disclosure of sero status among HIV/AIDS clients in Kumasi using Suntreso Government Hospital as a case study.

Objectives: To determine the rate of spousal disclosure of known HIV/AIDS positive clients.
To identify the factors influencing spousal disclosure of known HIV/AIDS positive clients.
To make recommendations for interventions to improve spousal disclosure among HIV/AIDS positive clients.

Methods: Design: cross sectional
Study area: Suntreso Government Hospital (ART UNIT)
Sampling : simple random sampling
Sample size:677
Data collection : semi- quantitative questionnaire
Data analysis: descriptive
Cross tabulation
Ethics approval

Results: Among the study participants, over half[57%] had disclosed their HIV/AIDS sero positive status to their partners admitting to the importance of spousal disclosure . Among the disclosed participants, reasons for disclosure were: knowledge of the other partner's status, duration of relationship, clinical stage of the disease, social support, ethical responsibility and prior discussion about HIV testing. Proportionally, persons who lived with one partner had 33.0% disclosure rate, those with two and three partners had 37.1% and 47.4% disclosure rate respectively. However, those with four partners had the highest level of disclosure (60%). 43% of the respondents did not agree to the need to disclose status of HIV/AIDS sero-positive to their partner(s). Among non-disclosed participants, the central defining reasons for non-disclosure were stigma and discrimination, fear of violence, fear of upsetting family members, fear of accusation of infidelity, fear of abandonment and fear of loss of economic support from partner(s).

Conclusion: The study has demonstrated that despite the acknowledged benefits of HIV/AIDS sero-positive status to disclosure, the knowledge alone does not translate into the practice of disclosing. An intervention that focus on translational knowledge is needed to increase disclosure of HIV/AIDS sero-positive status.

Recommendations: The issue of HIV/AIDS sero-positive status disclosing need to be addressed comprehensively

Health educators need to be involved in social marketing campaigns that will decrease fear and stigmatization of disclosure.

Community health interventions that promote good interpersonal relationship among HIV/AIDS sero-positive clients.

Increased Education about the importance of disclosure and equipped HIV/AIDS sero-positive clients with skills on disclosure.
Reasons for Contraceptive Discontinuation among HIV Infected Ugandan Women on Depo-provera and Tenofovir based ART.

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Introduction: HIV positive women of child bearing age are encouraged to consider their contraceptive needs and access family planning services as also HIV care services. Most HIV Care Centers in Uganda have integrated modern contraceptive services together with antiretroviral therapy (ART) with most women choosing to use contraception at ART initiation. However, high rates of contraceptive discontinuation are recorded suggesting high unmet family planning needs and associated consequences. Reasons for discontinuation of depo-provera among young HIV infected women on depo-provera and ART in Uganda are not well documented. This study explored young HIV infected women’s (aged 18 to 30 years) reasons for discontinuation of depo-provera while on TDF based ART.

Methods: A qualitative descriptive study was done at MU-JHU Care Ltd from March to December 2018. Seven in-depth interviews and two focus group discussions were conducted among young women who had used or are currently using depo-provera and on TDF based ART. The participants were purposely selected from an ongoing “BONE: CARE” study. We used pretested and translated guides, interviews were audio recorded, transcribed verbatim and translated into English before coding. Data were analyzed manually following thematic content analysis.

Results: The study found that side effects from depo-provera like amenorrhea, prolonged menstruation, reported weight gain, weight loss, reduced libido and dizziness were the main reasons women on ART discontinued depo-provera contraception. Misconceptions related to amenorrhea was another important contributor to depo-provera discontinuation; with the belief that non released blood during amenorrhea causes fibroids, cancer, potential failure to conceive and/or birth defects. Other reasons included no need for contraception due to separation / no sexual partner as well as partner objection.

Conclusion: Side effects and misconceptions still influenced young HIV-infected women’s adherence to depo-provera contraception calling for strengthened HIV and contraceptive services. In particular explanation of amenorrhea and allaying misconceptions and information about other possible side effects and their management should be further explored.

Promising recent shifts in numerous HIV risk factors among men in Eswatini and South Africa


Background: HIV prevention efforts are increasingly focused on engaging men. We examined whether and how HIV risk factors are changing among men in Eswatini (formerly Swaziland) and Durban, South Africa - areas with substantial HIV burden.

Materials & Methods: Two cross-sectional surveys (denoted Round 1 and 2, R1 and R2) were conducted in early/mid 2017 and mid-2018, with men ages 20-34 in 19 districts of Eswatini (R1 n=835, R2 n=1,019), and men ages 20-40 in two informal settlements in Durban (R1 n=961, R2 n=886). To reach men potentially at higher risk of acquiring/transmitting HIV, respondents were recruited from informant-identified hot-spot venues; in Durban, respondents were also recruited at HIV service sites. We assessed the effects of survey Round on outcomes, controlling for demographic characteristics.

Results: Men’s mean age was 26 in Eswatini and 28 in Durban, and 15% were married/cohabiting in each location. About half were employed, and about two-thirds had completed a secondary education or higher. From R1 to R2, the mean number of sexual partners in the last year decreased from 2.7 to 1.9 in Eswatini, and from 3.7 to 2.4 in Durban (both p<0.001). The mean number of adolescent partners (ages 15-19) decreased from 0.8 to 0.6 in Eswatini (p<0.05), and from 1.0 to 0.5 in Durban (p<0.001). Mean number of young women partners (ages 20-24) also decreased, from 1.9 to 1.2 in Eswatini, and from 2.0 to 1.3 in Durban (both p<0.001). Consistent condom use with the last three non-marital/non-cohabiting partners increased from 36% to 43% in Eswatini (non-significant), and from 21% to 26% in Durban (p<0.05). In Durban, prevalence of transactional relationships in the last year decreased from 57% to 47% (p<0.001) (not assessed at both rounds in Eswatini). Also in Durban, reported intimate partner violence (IPV) perpetration decreased from 20% to 16% (p<0.05), and endorsement of inequitable gender norms also declined, from a mean GEM scale score of 2.7 to 2.4 (p<0.001). There were no shifts in IPV perpetration or gender norms in Eswatini. Hazardous drinking (measured by the AUDIT-C) decreased from 45% to 38% in Eswatini (p<0.01) and from 51% to 42% in Durban (p<0.001). Finally, in Eswatini, HIV testing in the last year increased from 39% to 57% (p<0.001); for half of those testing in the last year at R2, the last test was their first ever. In Durban, HIV testing in last year (among venue-based sample) remained at about 64% across rounds, but 22% in R2 were first-time-ever testers vs. 15% in R1 (p<0.05).

Conclusions: We found recent promising shifts in numerous HIV risk factors among men in Eswatini and Durban. We were surprised to see such substantial changes given the relatively brief duration between the two rounds (approx. 1.5 years in Eswatini and one year in Durban). These changes were not attributable to demographic differences between the samples.
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Armed conflict and access to HIV services. A strategy to ensure the retention of patient in care in regions with armed conflict in Cameroon

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Background: The National Strategic Plan for HIV/AIDS and STIs aims to improve the ART coverage towards achieving the 90-90-90 targets. In 2016, a political crisis started in two regions of the country that become an armed crisis in 2017 that led to displacement of the population and closing of many services. This study analyzed the impact of armed conflict on HIV services and the strategy undertaken ensure the retention of PLHIV on treatment.

Description: Since 2016, the North-west (NW) and south-west (SW) region of Cameroon are suffering severe armed conflict which has resulted in disruption of services and displacement of persons from their communities. According to the official statistics, the number displaced persons is estimated to 300000. To ensure the retention of PLHIV on treatment, the ART program developed the following strategy:

i. Multi month dispensation of ARV
ii. Use health personnel to transport commodities to the affected communities
iii. Use of strategy of ARV dispensation that consist in opening the health facility just for few hours of service on an agreed appointment day to distribute ART to patients
iv. Use community’s health workers to reach the patients with the treatment
v. Link the displaced patient to treatment center in the host region

We use the routine data reported by the ART program for analysis.

Lessons Learned: The conflict led to a drop of the proportion of health facility reporting ART services which decreased from 93.8% (672/716) to 51.5% (369/716) in the two regions. In 2018, the number of patients on treatment decreased from 61266 in January to 53157 in December, while it increased from 196173 to 214463 in the eight regions without conflict. The proportion of patients lost to follow up increased from 16% to 49%.

Conclusion/Next Step: The result showed that the conflict has a negative impact on ART care in the affected regions. This has an implication for national ART services. The strategies undertaken by the program have contributed to mitigate the impact of the crisis. The country urgently needs to develop a policy and guideline for humanitarian crisis to address the effect of the armed conflict.

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Depressive symptoms and ART adherence among caregivers of vulnerable children in southern Malawi

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Background: Despite evidence that adults affected by HIV have increased risk of mental health disorders such as depression, and depression is associated with ART nonadherence, few studies have explored these relationships among adult caregivers of vulnerable children. The objective of this study was to examine depressive symptoms and explore their relationship with ART adherence among caregivers of vulnerable children living with HIV in Malawi.

Methods: In a cross-sectional study, we interviewed 820 caregivers of children aged 0–17 in vulnerable households in 24 randomly selected health facility catchment areas in five districts in southern Malawi. Vulnerable households were defined as having at least one of: 1) economic insecurity, 2) food insecurity, and/or 3) chronic illness. Responses from five depression screening questions (coded 0-2) adapted from the PHQ-9 were summed and standardized. We used multivariable logistic regression to explore the association between depressive symptoms and ART adherence, controlling for caregiver sex, age, wealth, marital status, and education. We also controlled for HIV-related stigma and social support, which were also associated with depression. Standard errors were clustered by enumeration area.

Results: Most caregivers were women (86.5%), caring for a median of three children, and about one third had no spouse or live-in partner. Depressive symptoms were high, with 62% of caregivers reporting three or more depressive symptoms sometimes or often. Among caregivers who knew of their HIV positive status (n=308), nearly all (98.4%) reported currently using ART medication. Of those on treatment, 90.8% reported never forgetting or missing a day of ART in the past 7 days. In a multivariable logistic regression of adherence on depressive symptoms, a 1-SD increase in depressive symptom score was significantly associated with 33.8% lower odds of ART adherence (OR=0.662, 95% CI=0.454-0.966). HIV-related stigma and social support, though associated with depression, and other socio-demographic characteristics were not associated with ART adherence.

Conclusions: Addressing mental health among caregivers of vulnerable children may be an important step toward achieving consistent ART use and viral suppression among adults living with HIV in Malawi. Integrating depression screening programs into HIV primary care could be a promising intervention modality that should be considered in medicalized interventions.
Abstract

“I always use condoms – with that one” – different risk compensation dynamics in different population groups: evidence from a qualitative study of PrEP clients in Eswatini

Background: Pre-exposure prophylaxis (PrEP) is a promising HIV prevention method, but the protective benefits may be limited by risk compensation. Understanding the perceived and actual risk behaviours of those using and considering to use PrEP is essential for informing future PrEP programs.

Methods: We conducted 125 semi-structured in-depth interviews with purposefully selected male and female PrEP clients from the general population at risk for HIV, enrolled via a PrEP demonstration study in Eswatini. The study was conducted from September 2017 to January 2019 in six public sector, nurse-led, primary-care clinics. Qualitative data from observational notes, daily debriefing sessions and interview transcripts were analyzed using Nvivo, following the tenants of Grounded Theory.

Results: Different types of PrEP clients (35, 38, 27, and 25 people who had, respectively, newly taken up, continued, discontinued, and declined PrEP) described their sexual behaviour in relation to HIV prevention methods, sexual partners and PrEP. Nearly all our female participants said their PrEP use was as a result of their partner’s sexual risk behaviours, rather than their own. The majority of male and female clients said that their condom use prior to, and when using PrEP was inconsistent and that this was dependant on personal and partner sexual preferences, a partner’s sero-status, family planning, marital status and sexual concurrency. 15 clients said that PrEP counselling had increased their condom use, 13 clients said that with PrEP they would no longer use condoms, and 10 stated that PrEP increased concurrent sexual partnerships.

Conclusions: The perception of HIV risk was a major motivation for PrEP uptake, but some PrEP clients reported increased sexual risk taking following PrEP initiation. The changes in risk taking following PrEP were motivated by a variety of complex, dynamic factors. It will be important to identify the best approaches to present PrEP as one important option in a broader package of potential HIV prevention interventions. PrEP messages should be tailored to address the specific needs of different sociodemographic groups.

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Connaissances et perceptions des hépatites chez les consommateurs de drogues injectables (CDI) sous traitement méthadone à Dakar, Sénégal

Contexte: La prévalence des hépatites (VHB et VHC) est estimée à plus de 9,8% à l’échelle mondiale chez les consommateurs de drogues injectables (CDI). Alors que l’accessibilité du traitement de ces pathologies est encore limitée en Afrique, certains CDI bénéficient d’un traitement dans le cadre des actions de réduction des risques. Au Sénégal, le centre de prise en charge intégré des addictions de Dakar (CEPIAD) offre une prise en charge des addictions aux drogues (hééroïne, cannabis, cocaine/crack) incluant un programme méthadone, ainsi que le dépistage et le traitement du VHB et du VHC. Depuis 2016, un projet pluri disciplinaire, CODISEN (cohorte de consommateurs de drogues injectables au Sénégal) évalue ce dispositif de soins intégrant la prise en charge des principales comorbidités dont souffrent les CDI. Parmi les patients inclus dans la cohorte, 25 sont infectés par les VHB (soit 12%) et 16 sont infectés par le VHC (soit 8%).

Méthodologie: L’objectif de cette étude est de décrire et analyser les connaissances et perceptions des CDI sur les hépatites ainsi que le vécu de la maladie et des traitements. La méthode repose sur des entretiens individuels semi-directifs approfondis auprès de 16 CDI et 8 focus groups réalisés avec 42 participants. Les entretiens (individuels et collectifs) sont transcrits, codés et analysés à l’aide du logiciel d’application Dedoose.

Résultats: Les résultats de l’étude montrent que les CDI avaient peu d’informations sur les hépatites (modes de transmission et risques d’infection liés à l’usage de drogues injectables). L’expérience du parcours dans la consommation et la participation aux activités de sensibilisation du CEPIAD leur ont permis d’acquérir des connaissances sur ces pathologies. Leurs connaissances sur l’hépatite C sont mieux établies que les modes de transmissions de la maladie en lien avec les pratiques d’injection. Certaines personnes l’assimilent à la fièvre jaune en mettant en évidence certains symptômes alors que d’autres parviennent à les distinguer. L’hépatite C est également perçue comme la plus dangereuse et la plus fréquente parmi diverses hépatites. Dans le cadre du suivi, la majorité des CDI ont été vaccinés contre le VHB et ceux qui sont infectés ont une prise en charge. Trois personnes parmi celles infectées par le VHC ont reçu un traitement par antiviral à action directe (AAD) et sont guéries ; ils rapportent un vécu apaisé de la maladie et se réjouissent de la prise en charge au CEPIAD sans laquelle ils n’auraient pas eu accès au traitement.

Conclusion: Les CDI considèrent qu’ils ont acquis des connaissances à l’occasion des séances d’information et de sensibilisation organisées par le CEPIAD. Ils reconnaissent désormais les pathologies liées directement à la consommation de drogues, ainsi que les risques d’infection et les modes de transmission. Ils établissent une différence de dangerosité entre...
les hépatites, mais ils souhaitent un renforcement des activités de sensibilisation au sein de la communauté de CDI. Les personnes qui ont bénéficié d’un traitement expriment leur satisfaction vis-à-vis de la prise en charge au CEPIAD.

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Les violences et abus sociaux faits aux Travailleuses du Sexe (TS) au Burkina Faso

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Contexte: Au Burkina Faso, la prévalence du VIH chez les TS est de 16,19%, soit plus de 16 fois que celle en population générale. Or la littérature scientifique internationale a suffisamment souligné le lien entre le VIH et les violences faites aux TS. En Afrique, et particulièrement au Burkina Faso, il existe très peu de recherches dans ce domaine. L’objectif de cette étude est d’analyser les formes de violences et d’abus sociaux faits aux TS au Burkina Faso.

Matériels et méthodes: Il s’agit d’une étude transversale qualitative. Une quarantaine d’entretiens individuels et six focus group ont été réalisés avec des TS, des forces de sécurité (policiers et gendarmes), des clients ou d’autres partenaires des TS, des gérants et managers de maquis ou de chambres de passe, des agents de santé, de l’action sociale, de la justice, des organisations à base communautaire. Les enquêtés ont été sélectionnés de façon raisonnée jusqu’à la saturation des informations recherchées. Les données ont été dépouillées manuellement ensuite une analyse thématique de leur contenu par une simple catégorisation a été réalisée.

Résultats: Les résultats ont révélé que les TS font face à plusieurs types de violences qui se manifestent diversement ou avec quelques similitudes : violences verbales, physiques, morales/psychologiques, sexuelles, économiques et sociale. Les auteurs de ces violences sont les partenaires occasionnels, réguliers ou les « chéris » des TS, les agents des forces de défense et de la sécurité, les agents de santé, ceux du secteur social, les voisins des domiciles ou des sites de travail des TS, les « patrons » des TS. Les chercheurs ou autres intervenants sont aussi cités comme auteurs d’abus sociaux envers les TS au regard des promesses d’intervention non tenues par ces derniers. La poursuite des intérêts personnels (financiers, sexuels, moraux) et non sociaux constitue la principale motivation des auteurs de ces violences. Les TS perçoivent souvent ces violences comme une négation sociale de leur droit à un « métier » non prohibé. Elles développent des stratégies individuelles ou collectives plus ou moins efficaces pour faire face à ces violences.

Conclusion: Les formes et manifestations des violences vécues par les TS au Burkina Faso sont multiples et interdépendantes. Leur persistance contraigne les TS à la clandestinité et au développement de comportements à risques d’infection à VIH d’où la nécessité d’asseoir des cadres de concertations multisectoriels pour réduire significativement ces violences.

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HIV-related stigma & discrimination in rural & urban communities in South-Western Nigeria: Experiences of people living with HIV & rights issues

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Background: HIV-related stigma and discrimination continue to be major social determinants driving the epidemic of HIV globally despite the advances in medical treatment and increases in the awareness about the disease. There is a significant threat to the success of achieving universal access to HIV prevention, treatment, care and support. Hypotheses tested were place of residence influence on stigma & discrimination and right awareness of people living with HIV/AIDS influencing HIV-related stigma & discrimination. The study aimed at assessing the level of HIV/AIDS related stigma and discrimination, forms, effects, and internal stigma experienced by PLHIVs in South-Western Nigeria.

Methods: This cross sectional study was carried out at eight PEPFAR supported primary, secondary and tertiary level hospitals in South-Western Nigeria. The target population was adult (18 years and above) male and female persons living with HIV (PLHIVs) including key population. Data was collected from 278 consenting respondents by trained volunteers by a face-to-face interview using a pre-tested questionnaire. The data was analysed using SPSS software version 23.0, with significance fixed at P<0.05. Categorical values were reported as frequencies and percentage while numerical values were reported as mean and standard deviation.

Results: The mean age ± SD of the respondents was 38.48 ± 11.48 years, 70.05% females, most of them are married in a monogamous setting (48.6%), with a formal education (86.3%), traders (33.5%), live in rural area (88.5%) while people in the key populations accounted for 9.4% of the participants. More than half (59.7%) of the respondents have adequate knowledge on HIV/AIDS and knew their status when sick (52.2%). 78.4% elicited negative feelings such as depression and shame after diagnosis. About one-third (33.1%) PLHIVs have ever experienced HIV-related stigma and discrimination mostly gossip, physical abuse, and verbal insult, of which about two-third (63.2%) occurred in the hospital setting, followed by home/community (25.0%). In addition, 8.6% have been refused a job while 5.0% have lost their job because of their HIV status. Almost half (44.6%) of the respondents elicited internal stigma and 47.4% believed that family bonds are weakened because of HIV. Place of residence and awareness on HIV related rights significantly influence stigma/discrimination ($\chi^2 = 4.69$, df = 1, $P = 0.030$). Rights awareness by PLHIVs does not rule out HIV-related stigma & discrimination experience ($\chi^2 = 5.29$, df = 1, $P = 0.021$).

Conclusion: A remarkable proportion of PLHIV still face stigma/discrimination with possible dramatic impact on their treatment and resultant quality of life. Efforts therefore, should be made to ensure PLHIV are not only aware of their rights, but are empowered to seek redress if these rights are violated.
Migrations et vulnérabilités médicales et sociales de jeunes HSH du Sénégal vers la Mauritanie

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Contexte: Au Sénégal, les hommes ayant des rapports sexuels avec des hommes (HSH) subissent une homophobie sociale qui les place au ban de la société et les expose à des violences et des discriminations. En 2016, le pays a été impliqué dans le transfert d’HSH de Dakar à Nouakchott. Des entretiens semi-directifs, conduits avec des jeunes HSH dans les quartiers de Dakar, révèlent que le pays où l’objectif est d’explorer ces questions afin d’apporter des propositions d’interventions.


Résultats: L’homosexualité à Nouakchott est pénalisée mais bénéfice d’une relative tolérance au niveau familial et social. Les HSH sénégalais repartissent dans le pays lorsqu’ils sont malades. Un grand nombre de HSH vivent dans une situation d’attente et une grande précarité, renforcée par leur qualité d’étrangers qui les isole des réseaux de solidarité.

Conclusion: Les HSH sénégalais à Nouakchott vivent dans une grande vulnérabilité. Le statut séropositif se cache et certains abandonnent le traitement ARV. Lorsqu’ils sont malades, une forte pression s’exercé pour un retour au pays, les capacités de prise en charge par la communauté HSH étant limitées. Paradoxalement, la séropositivity, perçue comme une vulnérabilité supplémentaire, constitue une opportunité pour faciliter le départ et la réinstallation. Certains s’exposent à la contamination pour augmenter leurs chances d’émigrer.

Missed Opportunities for Initiating Timely Post-SGBV Care: Findings from A Review of Entry Points in A Sexual And Gender Based Violence (SGBV) Response Program in Health Facilities in Southern Nigeria.

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Background: SGBV is a global public health challenge, which is still grossly under reported in Sub-Saharan Africa, including Nigeria (UNHCR, 2003) Studies suggest that cultural norms such as the culture of silence are a major factor negatively affecting uptake of SGBV services as survivors are stigmatized and discriminated for speaking out (reference). Globally, SGBV is recognized as a violation of human rights (WHO, 2013) and is no longer considered a private or family matter, law enforcement agencies continue to play a less than adequate role in reassuring survivors or persecuting assaulter as a deterrent to SGBV.

Method: A retrospective study of the Caritas Nigeria GBV Response Project implemented from October 2017 to September 2018 in four states in southern Nigeria was conducted where the number of SGBV cases identified and provided Post GBV care was collated and analyzed using Microsoft Excel. SGBV cases were dis-aggregated by the point of enrollment for each survivor and the volume of cases recorded per entry point was comparatively analyzed.

Results: A total of 1,816 SGBV cases (Sexual, Physical and/or Emotional violence) were identified across 41 health facilities in the 4 implementing states (Enugu, Imo, Ebonyi and Delta states) for the 12-month period. Of the cases identified, 69% (1255) cases presented at the GOPD, 6% at Accident and Emergency unit, 12% where referred by Police, 2% reported by SGBV survivors and 0.04% cases were identified from the pediatric unit. This suggests that majority of cases identified were not reported immediately as GOPDs are usually run for routine cases and not the accident and emergencies unit. Furthermore, the review revealed that only very few cases go to the police first or are supported by the police to access post GBV clinical services.

Conclusion: Cultural norms have been recognized as a major contributing fact to the culture of silence around SGBV, which is why survivors remain silent or seek post GBV services late. This is associated with the fear of stigma and discrimination for speaking out and seeking support. This review reveals that there is a missed opportunity of boosting post-GBV care services by the low utilization of what ideally should be the main entry points for post-GBV care -the police and A&E unit. Thus, this provides Public Health interventions an opportunity to strengthen collaborations and increase the participation of the police to assist and refer survivors to get needed support.

Reference:
Abstract

Background: SGBV is a global public health challenge, which is still grossly underreported in parts of Sub-Saharan Africa, including Nigeria regardless of services that are available to SGBV survivors. WHO1 in 2013 revealed that 35% of women globally had experienced either physical/emotional or sexual violence at a point in their lives. Another study in 1999 showed that globally, 1 in 5 (20%) women are victims of rape or attempted rape at one point in their life (Heise L., et al., 1999). This study examines data from a clinic-based SGBV Response Program implemented in 4 states in southern Nigeria from October, 2017 to September, 2018 by Caritas Nigeria. It analyses the proportion of SGBV cases reported and provided with Post Exposure Prophylaxis against STI and HIV transmission across 41 clinics in the program, following the training of 44 Gender Champions on the inter-relationship between GBV and HIV, GBV case identification, principles of GBV response, and post GBV care services.

Method: A retrospective desk review of the SGBV response data for 12 months in a HIV prevention and treatment program was analyzed using Microsoft Excel. Total number of GBV cases reported were dis-aggregated by the type of violence and whether HIV and STI post exposure prophylaxis (PEP) were documented as provided.

Results: A total of 1,816 SGBV cases (Sexual, Physical and/or Emotional violence) were identified from 41 health facilities in the 4 implementing states (Enugu, Imo, Ebonyi and Delta state) between October 2017 and September 2018. Of the total cases identified and provided post GBV care services, 65% (1178 cases: Enugu- 243, Imo-129, Ebonyi-8 and Delta-798) presented as physical/emotional violence while 35% (638 cases: Enugu-194, Imo-150, Ebonyi-61 and Delta-233) presented as sexual violence cases. Of the sexual violence cases identified only 401 survivors (Enugu-69, Imo-131, Ebonyi-26 and Delta-175) were provided with PEP despite anti-retroviral (ARV) medication being available on-site. This reveals a gap in knowledge and awareness in the availability of Post GBV Services, particularly PEP which is key for the prevention of HIV in cases of sexual violence.

Conclusion: Lack of awareness/knowledge on support and post GBV care services available has been a major limiting factor to survivors accessing care. This study has revealed that there is need for continuous sensitization. Therefore, increased sensitization among hospital staff and integration of Post GBV services is critical to increase uptake. Public health interventions have an opportunity to use already established platforms to create awareness in the community and mainstream gender sensitive activities to ensure a holistic health service, which will also improve the uptake and health outcome of SGBV survivors.

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Background: HIV/AIDS response in Nigeria is still encumbered with increasing cases of employment-related stigma and discrimination which continues to constitute a major threat to the gains and opportunities to end the epidemic. Workplace HIV discrimination is a situation whereby an individual is treated differently on the basis of his/her HIV status at the workplace. Findings from the PLHIV Stigma Index in Nigeria (2012) indicate 26% of the sampled population had lost a job or source of income in the past year due to HIV-related stigma. Managing HIV workplace discrimination and strengthening compliance by employers is a critical human rights dimension to HIV response. This paper describes the steps taken by the National Agency for the Control of AIDS (NACA) in Nigeria to eliminate HIV workplace discrimination in the country.

Description: Some strategies engaged for the elimination of workplace HIV discrimination are enacting and promulgating the 2014 Anti-Discrimination Act; developing and disseminating a popular simplified version of the law; capacity building for persons living with HIV and civil society organizations (CSOs) on their rights. Engagement with labour organisations and employers of labour and government institutions for development and implementation of workplace HIV policies. Support for access to justice and redress for those whose rights are violated.

Lessons Learned: Advocacy for the dissemination of the Anti-Discrimination Act is significantly reducing the prevalence of discrimination in workplaces in Nigeria. Intent of the law currently helped to promote effective ways of managing HIV in workplace. Need for increase resourcing of HIV workplace programme for all employers of labour in the country. Domestification and implementation of the Anti-Discrimination law in all the States is in the country is essential.

Conclusions/Next steps: Managing HIV workplace discrimination and strengthening.
African Communities and HIV in the UK; Strategies in countering stigma and discrimination

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Background: Black African communities continue to bear disproportionate burdens of HIV infection in the UK. In 2015 an estimated 101,200 individuals were living with HIV in the UK and 39% of new diagnoses among heterosexuals were Black African men and Women. And of the 18,000 heterosexual men living with HIV, 49.5% were Black African men, and of the 20,900 heterosexual women, 63.16 were Black African women.

Materials and Methods: AHPN held a national series of focus group discussions (10) with UK based Africans living with HIV. Quantitative studies had not thus far proffered tangible strategies and solutions to deep seated issues around discrimination and stigma, acceptance, testing and late diagnosis. Descriptive data was gathered from discussions involving 70 service users on issues such as stigma and discrimination, service provision, late diagnosis, impact of poverty and budgetary restraints, immigration issues and the roll out of PrEP in the UK.

Results: Service users were clear about their health needs and that they wanted to remain healthy as they age, have access to good quality health services and play a proactive role in finding solutions to issues (eg involvement in PrEP trials). They wanted an end to discrimination against them on both the micro and the macro level. They wanted a greater say in how they were portrayed (which had impacted on them feeling stigmatised). They felt largely excluded from the decision making process and portrayed (which had impacted on them feeling stigmatised).

Conclusions: Often researchers can lose sight of the value of qualitative studies in this field. AHPN has consistently worked with its nationwide network of service users to provide humane representations of very human problems. This study showed that the answers to often complex questions about eg stigma reduction and late diagnosis or African community under-representation in drug trials can be found in open and honest dialogue with patient groups. African service users were informed, engaged and knowledgeable, which made for tangible and translatable project results.

The effect of non-disclosure on clinical outcomes under the test and treat era at a large urban clinic in Uganda.

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Background: Recently, WHO recommended immediate initiation of ART for patients who test positive for HIV regardless of CD4 count. While HIV status disclosure improves social support and enhances survival rates, a substantial number of people living with HIV/AIDS (PLWH) fail to disclose. We assessed the effect of non-disclosure on retention and mortality among patients on antiretroviral therapy (ART) in a large urban clinic in Uganda.

Methods: At the Infectious Diseases Institute (IDI), the test and treat policy was adopted in 2017. We conducted a retrospective review of data from the clinic electronic database of patients who were initiated on treatment following the adoption of the program for the period January 2017 to December 2018. Data variables extracted included: age, sex, marital status, clinic registration date, ART start date, return appointment date, disclosure status, missed appointments, follow up status, and deaths. Patients' characteristics were described using frequencies (percentages) and median interquartile range (IQR). Proportions of disclosure were stratified by gender and vital status. Patient outcomes were compared using chi-square test.

Results: 1328 patients were included in the study. Majority 851/1328 (64.1%) were females with median age of 33 (27-42) years. 1027 (77%) were married/cohabiting. 1082 (81.5%) were active in care, 114 (8.6%) dead; 58 (4.4%) lost and 74 (5.6%) died. Patients' characteristics were described using frequencies (percentages) and median interquartile range (IQR). Proportions of disclosure were stratified by gender and vital status. Patient outcomes were compared using chi-square test.

Conclusions: In this clinic, at the time of enrollment and starting ART, only half of the patients had already disclosed, with women disclosing more than men as already reported by other programs. We also found that non-disclosure was associated with mortality. These findings inform the importance of implementing and strengthening the partner notification programs which are currently being scaled up in the country to reduce HIV sexual transmission as well as improve patients' outcomes.
Case Management Approach: A strategy for retaining people living with HIV in care in Osun State.

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Introduction: Case management uses a client-centered multi-step processes which, "ensures coordination and expedient access" to an array of medical and social supports as part of comprehensive care package of HIV/AIDS services. Studies show that HIV care management improves linkage and retention for people living with HIV in care, as well as reduce the risk of HIV transmission by PLHIVs to their biological and sexual networks. As part of the Prime Health Response to improve the quality of life and comprehensive care for PLHIVs, case management was introduced to support retention in care and strengthen referral systems. This paper seeks to analyze the implementation approach and impact of case management in State Hospital Asubiaro, Osun state.

Methods/Intervention: We structured case management implementation into 3 focus areas; TB/HIV, Client tracking and sexual network testing. Seven health care workers were trained from the health facility on case management approach across these 3 areas. Focus was on screening and PLHIV for TB and ensuring continuum of care, tracking clients who missed their ARV pick up appointments and loss to follow up and ensuring they were brought back to care and tracing networks of clients living with HIV through phone calls and home visits. Clients were shared amongst these case managers for effective tracking and follow up. We compared data before and after the case managers were engaged over a 6 months period. Data analysis was done using excel.

Result: 252 PLHIVs were identified and placed on treatment within a six months period (April - Sept 2018) following the case management approach, after three months of monitoring and follow up, 192 (76%) were still active in care, (F=136; M=56, <19years=10). Ten 3.9% of them died (M=6, F=4, <19 years=0), Forty-five, 17.8% were loss to follow up (9M=15, F=30, <19 years=3), Five females, 1.9% transferred out. The percentage of loss to follow up were called and visited at least more three times but did not return due to religious believes and personal decisions.

Conclusion: Case management approach was seen to be very effective in State Hospital Asubiaro and has improved client’s retention in care.

Enabling factors for rapid scale-up of services for sex workers in large urban African sites, 2014-2018

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Background: Stigma in public healthcare facilities limits access to effective HIV care and treatment for Female Sex Workers (FSWs). To mitigate this, Wits RHI pioneered tailored healthcare for FSWs in inner-city Johannesburg in 1996. Recently, we scaled this model to 12 sites nationally. This study explores enablers of rapid scale-up in two urban sites between 2014 and 2018.

Methods: We implemented a mixed-methods evaluation. Quantitative data involved a retrospective review of patient medical records. Qualitative data included three focus group discussions with programme beneficiaries and staff (N=27) and key informant interviews with key stakeholders (N=10), conducted from August 2018 - January 2019

Results: The program significantly increased the scale of outreach, HIV-testing, antiretroviral therapy (ART), and pre-exposure prophylaxis (PrEP) initiation.

In Johannesburg, outreach visits increased from 1641 in 2014 to 42833 in 2018 (2510% increase). HTS increased from 363 to 2639 (627%), ART initiation from 69 to 274 (297%) and PrEP initiation from 46 (from roll-out of PrEP in 2016) to 268 (1267%) in 2018.

In Tshwane, outreach visits increased from 211 to 29962 (14100%), HTS from 96 to 2675 (2686%), ART initiation from 19 to 235 (1137%) and PrEP initiation from 68 (206) to 373 (449%).

Four factors facilitating rapid programme growth were:

Mobile services: Loss of income is a deterrent for FSWs attending clinic. Mobile health services delivered in brothels/street-based hotspots increased accessibility and uptake through extended service hours and geographic proximity.

Primary healthcare package: Access to a comprehensive package of multidisciplinary services (including family planning, STI, chronic conditions, social service referrals) increased uptake compared to stand-alone HIV services.

Peer-led model: Introduction of peers who live and work in hotspots they serve resulted in more meaningful relationships, more frequent contact and increased retention.

Provider sensitization: Nurses, community health workers, and counsellors received sensitization training to prepare them for working with FSWs, reducing stigma and making healthcare a positive experience for FSWs.

Conclusion: The evaluation found that the key aspects to achieving this scale-up are: accessibility, comprehensive services, SW-friendly staffing, mobility, and SW leadership through peer educators. Learning may inform successful replication and scale-up in settings where reaching key populations is a priority.
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Effect of DREAMS interventions on HIV risk among out-of-school adolescent girls and young women (AGYW) with higher and lower HIV vulnerability: results from Malawi

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Background: Identifying and reaching the most-at-risk AGYW with combination HIV prevention programming is critical to reducing HIV incidence and if multi-sectoral HIV prevention programs can reduce HIV risk for the most vulnerable. We used latent class analysis (LCA) to define classify out-of-school AGYW enrolled in DREAMS programs into vulnerability groups, and assess changes in HIV risk vulnerability group after 12 months of enrollment.

Methods: AGYW enrolled in DREAMS programs aged 15-24 were surveyed in Jul-Oct 2017 and Sept-Nov. 2018 across two sites in Malawi (n=1157). Surveys captured knowledge, attitudes, practices, and participation in DREAMS interventions (e.g., life skills, savings and loans). We used LCA models using measures on household & family characteristics, gender attitudes, and HIV knowledge to define vulnerability profiles of AGYW. Multiple logistic regression analyses examined change over time in risk behaviors by vulnerability class. Odds ratios and 95% confidence intervals are presented.

Results: We identified two distinct HIV vulnerability profiles – higher (56%) and lower (44%). At enrollment, AGYW with a high vulnerability profile had higher odds of engaging in transactional sex [1.71 (0.97-3.01); p<1], experiencing sexual violence [1.36 (0.95-1.92)]; p<1], and having STI symptoms [1.44 (1.16-1.78) compared to AGYW with a low vulnerability profile. At follow-up, there were no significant differences in program participation or in risk behaviors when comparing high vulnerability profile to low vulnerability profile.

Over time (table 1), AGYW with both high and low vulnerability profiles had significant reductions in multiple sexual partners [HV: 0.45 (0.23-0.88); LV: 0.44 (0.25-0.78)], STI experiences [HV: 0.52 (0.40-0.68); LV: 0.78 (0.59-1.03)], and sexual violence from intimate partners [HV: 0.22 (0.14-0.33); LV: 0.32 (0.20-0.51)] and non-partners [HV: 0.21 (0.12-0.37); LV: 0.34 (0.18-0.65)]. There were no significant changes in consistent condom use and transactional sex for either profile. AGYW with low vulnerability profiles had higher odds of having a transactional relationship with a main partner [1.52 (1.06-2.18)] between enrollment and follow-up.

Conclusions: DREAMS programs was successful in reducing HIV-risk behaviors for AGYW with both low and high risk vulnerability profiles, highlighting the need for continued investments in multi-sectoral HIV prevention programs. Research techniques, like LCA, can help programmers classify and research highly vulnerable AGYW.

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Exploring the Conceptual Pathways Linking Savings Group Participation to Medication Adherence in Mozambique

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Background: Although the test-and-start strategy increased the number of people living with HIV (PLHIV) initiating antiretroviral therapy (ART) in Mozambique, in 2016 just two-thirds of patients were retained in care after 12 months. Economic strengthening (ES) interventions such as savings groups (SGs) may support medication adherence and retention in care by addressing structural barriers, including transportation costs and food insecurity. However, evidence linking SGs with adherence is sparse.

Methods: We conducted 13 focus group discussions (FGDs) with n=79 18-49-year-old HIV-positive SG members in Beira and Chimoio to explore whether and how SGs influence ART adherence. Discussions examined participants’ experience of seven social and financial conditions: food security, economic security, access to community resources, coping with economic shocks, community acceptance, supportive personal relationships, and future outlook. Discussions then explored: 1) the effect of SGs on these social and financial conditions, if any, and 2) how these conditions affect adherence, if at all. Groups also ranked conditions based on 1) the extent to which they are influenced by SG participation, and 2) the extent to which they influence ART adherence. FGDs were transcribed, translated, and consensus coded by two investigators following the development of an inductive codebook.

Results: Participants spontaneously described SGs as facilitators of one or more conditions in half of FGDs. When asked directly, most groups reported SGs influenced all conditions. The most consistently noted effects were on food, economic security, and future outlook where groups described concrete economic and social pathways of influence. Specifically, SG participation supports business activities, investments in land, and affordability of additional food expenses associated with HIV. SGs also provide emotional support, encouraging optimism and planning for the future. In quantitative rankings, SGs also most strongly affected these three conditions. All groups also described the influence of food, economic security, and future outlook on their ART adherence. Other conditions were less consistently linked to adherence outcomes.

Conclusions: Results indicate SGs may support better ART adherence in this population by increasing economic security, enhancing food security, and improving future outlook. These conditions were reported to positively influence ART adherence, suggesting they may moderate the pathway from SG participation to adherence.
What is the effect of layered prevention interventions on HIV risk among adolescent girls in Zambia?

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Background: Recent HIV prevention efforts are addressing a range of structural factors associated with adolescent girls’ HIV vulnerability. However, there is limited evidence whether interventions going beyond the health sector can decrease HIV risk among adolescent girls in high-incidence settings. We delineate the layered effects of social protection, education, and economic interventions on HIV risk among urban adolescent girls in Zambia.

Methods: Surveys—conducted March to May 2018—captured knowledge, attitudes, practices, program experiences, and HIV service uptake of 15- to 19-year-old women (n=487) enrolled in the DREAMS program in Lusaka and Ndola. We focus on 4 layers of program exposure: (1) Participated in some safe space/social asset building interventions (SSI), (2) Completed all SSIs and received a certificate (SSC), (3) Completed all SSIs and received educational support (SSC+Ed), and (4) Completed all SSIs and received educational support and financial support (SSC+Ed+FS). Poisson regressions assess association between program exposure and HIV risk outcomes (HIV knowledge, consistent condom use, transactional sex, and intimate partner sexual violence).

Results: Among respondents, 30% received only some SSIs, 32% completed all SSIs (SSC), 17% received SSC+Ed, and 21% received SSC+Ed+FS. There were no differences in HIV risk outcomes between SSI and SSC groups, except that the SSC group was more likely to engage in transactional sex (IRR:1.05 [0.74-1.47]). Compared to SSI only, respondents who received the SSC+Ed were significantly more likely to have comprehensive knowledge about HIV (Incidence-Rate Ratio [IRR]:1.09, [1.02-1.15]) and report consistent condom use (IRR:4.80 [3.35-6.87]) and less likely to experience sexual violence (IRR:0.31, [0.15-0.65]). Similar significant findings were found for respondents receiving SSC+Ed+FS. Respondents who received SSC+Ed+FS were significantly less likely to engage in transactional sex (IRR: 0.59, [0.43-0.80]), compared to the SSI group.

Conclusions: We empirically demonstrate the value of going beyond the health sector for HIV prevention. Safe space interventions alone did not seem to influence HIV risk; and findings around transactional sex warrant further investigation. Layering educational and economic interventions on top of safe spaces/social asset-building activities reduced HIV risk among urban adolescent girls in Zambia.

Differentiated Antiretroviral Therapy Delivery: A review of implementation progress and challenges in Zimbabwe

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Background: The launch of the Treat All Strategy saw a considerable number of people being put on antiretroviral therapy (ART). Realisation that a “one size fit all” approach in the delivery of services for people living with HIV (PLHIV) would not be optimal to achieve the UNAIDS 90-90-90 targets motivated innovations to improve the existing models of service delivery. Differentiated service delivery (DSD) is one such approach that is responsive, client-centred, simplifies and adapts HIV care services across the cascade. Efforts to provide optimal support for the increased cohort of PLHIV on ART in Zimbabwe following the adoption of the “treat all” strategy motivated DSD ART delivery approaches articulated in the operational service delivery manual (OSDM) to guide implementation for stable clients namely; fast-track refill, club refill, outreach, community ART refill groups (CARGs), and family members refills. Our objective was to assess the extent of implementation of DSD models in the Families and Communities for the Elimination of HIV (FACE HIV) supported health facilities across 5 provinces in Zimbabwe.

Methods: In October 2018, supporting the MOHCC recommendation of national scale up of DSD models following national dissemination of the lessons from the two pilot districts in the country (Buhera and Hurungwe) the FACE HIV program, developed and implemented a DSD assessment at 119 high yield health facilities. The facilities were purposively selected in the FACE HIV priority districts with a high burden of HIV. Quantitative data was collected using structured questionnaires and descriptively analysed using STATA V12.

Results: The assessment demonstrated that the majority of facilities 92% (109/119) were offering one or more DSD models. Only 4% of the facilities were offering four out of the five DSD models articulated in the OSDM while 34%, 44% and 18% were offering three, two and one DSD model respectively. The primary reason provided by the 10 sites not offering DSD models was lack of training highlighting the importance of TA in the scale up plan, (6/10). The facility based DSD models; family refill (72%) and fast track refill (52%) were the most frequently reported. This shows that it is potential to expand offer of DSD models at health facilities to ensure that clients have access to the wider options for DSD. The primary challenges to implementation of DSD models were: lack of registers and standard documentation procedures; not enough training on ‘how’ to operate DSD models despite the detailed guidance in the OSDM, resistance of clients (particularly in urban and private clinic settings) to join CARGs due to privacy and confidentiality needs and user fees at some health facilities.

Conclusions: As a technical partner to the MOHCC, the FACE HIV program is implementing enhanced onsite support and mentorship to facilities to close the guidelines-practise gaps and expand DSD implementation. Additionally, we are supporting documentation of M&E indicators for DSD (coverage and outcome indicators). The sharing of quality improvement
protocols for DSD at facilities is important for quality standards and processes during the scale-up and maintenance of DSD ART delivery towards UNAIDS 90-90-90.

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Childhood and adulthood exposure to violence linked to HIV risk behaviors among men in Eswatini

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Background: Qualitative research has suggested that men’s lifetime experience of violence leads to HIV risk behaviors, but little quantitative evidence has demonstrated the same. We sought to test how experiencing or witnessing of violence in childhood and adulthood can influence HIV risk behaviors among men.

Materials and Methods: We conducted cross sectional surveys with 1,091 men ages 20-34 at informant-identified hot spot venues across 19 districts in Eswatini (covering all four regions of the country), in mid-2018. To reach men at risk of HIV, respondents were recruited at informant-identified hot-spot venues. Endorsement of inequitable gender norms was assessed by the GEM Scale, and hazardous drinking by the AUDIT-C. All analyses adjusted for the survey sampling design.

Results: Men were 26 years old on average, and 15% were married/cohabiting. Half (51%) were employed, and 62% had completed secondary school. Before the age of 18, 75% had been beaten at home (e.g., with a stick/whip) and 40% had been beaten often or very often; 22% had seen their mother being beaten by her partner. In adulthood, one-third (34%) had ever witnessed an armed attack, one quarter (25%) had ever been or felt close to death, and 18% had been robbed at gunpoint or knifepoint. These events were more common in urban versus rural areas. Current hazardous drinking was 41%, and 36% of all respondents had multiple sexual partners in the last year. In multivariable analyses controlling for demographic characteristics, experiencing/witnessing violence as a child, or as an adult, were associated with increased odds of current hazardous drinking (respectively: aOR=1.4 (95%CI: 1.0, 1.9), p=0.05; aOR=2.3 (95%CI: 1.8, 3.1), p<0.001). Experiencing/witnessing violence as an adult was also associated with having a higher number of sexual partners in the last year (adj. Beta=0.50 (95% CI: 0.19, 0.81), p<0.01) and with endorsing more inequitable gender norms (adj. Beta=0.13 (95% CI: 0.08, 0.18), p<0.001).

Conclusion: The majority of men in this study across Eswatini had experienced or witnessed violence as children and as adults. These experiences were significantly associated with increased HIV risk behaviors and endorsement of inequitable gender norms. Explanations for these links could include maladaptive coping with trauma, and/or reflect an environment where violence, HIV risk and gender inequity are all common. To reduce HIV risk for both men and their partners, it is imperative to prevent these traumas from occurring and increase opportunities for men and boys to cope with past traumas.

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Magnitude and predictors of HIV infection among tuberculosis patients in Felege Hiwot Referral Hospital, Northwest Ethiopia

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Background: There is limited information about the proportion and predictors of tuberculosis (TB) and human immunodeficiency virus (HIV) co-infection in the study area. Thus, the aim of this study was to determine the magnitude and predictors of TB/HIV co-infection at Felege Hiwot Referral Hospital (FHRH), Northwest Ethiopia.

Methods: We analyzed the records of TB patients registered at FHRH treated under directly observed treatment short course (DOTS) from July 2010 to June 2015. The results were summarized and analyzed using descriptive statistics, multivariate logistic and Cox regression analysis to identify independent risk factors for HIV TB co-infection using SPSS version 21, p < 0.05 was considered significant.

Result: A total of 1761 patients’ data were reviewed and the mean age of the participant was 28.1 years (SD ± 14.2) making the male to female ratio of 1.49:1. The trends of diagnosis of HIV among TB increased from 92.3% to 100.0% over the years 2010 to 2015. The prevalence of HIV among TB patients in the study site was 26.1%. Significant predictors of TB/HIV co-infection were being female (AOR= 1.66, 95% CI= 1.10-2.49, p=0.015), age groups 25-34 years (AOR= 3.17, 95% CI= 1.15-8.72, p=0.023) and 35-44 years (AOR= 5.39, 95%CI= 1.88-15.5, p=0.02), and unsuccessful TB treatment outcome (AOR=3.77, 95% CI= 2.24-6.35, p= <0.001). On the other hand, the adjusted hazard ratio computed identified that age category 15-24 years (aHR= 0.37, 95% CI= 0.17-0.82, p= 0.013), TB treatment outcome (aHR= 0.49, 95% CI= 0.35-0.71, p= 0.001) and CPT (aHR= 0.18, 95% CI= 0.13-0.26, p= <0.001) were found to be an independent risk factors for HIV TB co-infection.

Conclusion: In the studied area, high proportion of HIV among TB patients was documented. Over the years, trends of diagnosis for HIV infection among TB patients has been improved to the expected level. On the other hand, TB patients of higher risk to be co-infected with HIV were female sex, younger adult age group, unsuccessful anti-TB treatment outcome, not taking CPT. Intensifying the collaborative work on TB and HIV control and prevention with special emphasis to the aforementioned groups is still crucial.
Abstract

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Treatment Outcome of Tuberculosis Patients with HIV Under Directly Observed Treatment Short Course in Lubumbashi (D.R Congo)

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Introduction: Tuberculosis (TB) is one of the major public health and socio-economic issues in the 21st century globally. Assessment of TB treatment outcomes, and monitoring and evaluation of its risk factors in Directly Observed Treatment Short Course (DOTS) are among the major indicators of the performance of a national TB control program. Thus, the current study was carried to evaluate outcomes and to determine factors affecting outcome in TB patients with HIV.

Materials and Methods: Between January 2010 to December 2014 all tuberculosis patients enrolled in DOTS clinic of the Lubumbashi’s Health Zone were collected retrospectively from the TB registration book. We compared the data for TB patients of HIV positive and negative subjects. Medical records of the patients were reviewed for age, gender, type, category and treatment outcome.

Results: A total of 3558 tuberculosis patients were registered in the Lubumbashi’s Health Zone between January 2010 – December 2014. Of these, 2063 (57.98%) were male, 1502 (42.02%) were smear positive pulmonary TB (PTB+), 125 (3.51%) were smear negative pulmonary TB (PTB-) and 1931(54.27%) were extra pulmonary TB (EPTB) patients. We evaluated 1653 registered patients (HIV screening rate: 46.46%), of these, 256(15.49%) were HIV positive patients. The overall treatment success rate was 83.3% and failure rate 16.7% of tuberculosis patients with and without HIV. Tuberculosis type, age, outcome and category of TB patients were significantly associated with TB-HIV co-infection. PTB+ patients and others category of patients were significantly adverse for outcome of patients with TB-HIV co-infection.

Conclusion: It appears that DOTS have improved treatment success in the Lubumbashi’s Health Zone for five years. However, this study shows clearly that TB-HIV co-infection have a negatively impacts on TB treatment outcome and TB screening should be encouraged in TB patients.

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Hepatitis B Virus seroprevalence among adults in an HIV hyperendemic fishing community, Rakai, South-Western Uganda

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Background: Approximately two billion people worldwide are infected with the Hepatitis B Virus. Most HBV transmission in sub-Saharan Africa is thought to occur prior to sexual debut through close household contacts. However, sexual transmission may represent an important risk factor in some populations raising the opportunity for prevention through vaccination. We investigated the rates and predictors of HBV infection in an adult fishing community with known high HIV rates (~40%) on Lake Victoria.

Methods: We conducted a retrospective cross-sectional study, with participants aged 15–49 years randomly selected with respect to gender and HIV status from the Kasensero fishing community in the Rakai Community Cohort Study (RCCS). Participants’ demographic and behavioral related data (age, gender, HIV status, number of lifetime sex partners) were linked to their sera collected at time of survey interview. The sera were tested for HBV exposure (anti-HBc) and infection (HBsAg) markers using commercial EUA Murex kits. The data was analyzed to determine proportions of HBV exposure and infection. Regression using binomial models estimated the associations between demographic / behavioral characteristics and HBV exposure.

Results: Out of the 460 participants, 228 (49.57%) were positive for anti-HBC and 17 (3.7%) were positive HBsAg. In univariate analysis, HBV exposure was significantly increased with age, number of lifetime sex partners, and HIV positivity. The number of lifetime sex partners increased with age, resulting in potential confounding. In multivariate analysis excluding life time sex partners, age remained significantly associated with exposure (15-19yrs: reference; PRR*: 20-29yrs: 2.48 (95%CI: 1.24-4.97), 30-39yrs: 3.09 (95%CI: 1.54-6.19) & 40-49 yrs.: 3.89 (95%CI: 1.93-7.85)). In the model excluding age, HBV exposure significantly increased with number of life-time sex partners (0-1 partners (reference); PRR*: 2-3 partners: 1.68 (95%CI: 0.93-3.04 & 4+ partners: 2.11 (95% CI: 1.20 - 3.70). HIV positivity was significantly associated with HBV exposure only in the multivariate model with life time sex partners (HIV Negative (Reference); PRR*: HIV positive: 1.23 (95%CI: 1.02 - 1.48).

Conclusion: Risk for HBV is significantly associated with more sexual partners and HIV positivity. Almost 50% of the population was found to have been exposed to the HBV infection with risks
HIV testing of household contacts of TB cases: A promising strategy to find unrecognized HIV, reduce the high burden of TB and achieve TB/HIV epidemic control in Mozambique

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Abstract

Background: Mozambique is among 22 countries with the highest tuberculosis (TB) burden in the world, and among the top 10 countries with the highest rate of TB/HIV co-infection at 40%. The lifetime risk of TB among HIV negative contacts to a case is approximately 10%, however, among HIV positive contacts the risk of developing active TB is even higher, at 7-10% annually. The World Health Organization (WHO) and the Mozambican Ministry of Health recommend tracing all contacts of persons diagnosed with TB. HIV testing of TB case contacts provides an important opportunity to find undiagnosed HIV and prevent progression to active TB by providing antiretroviral treatment (ART) and TB preventive treatment (TPT).

Methods: We analyzed data collected during TB index household (HH) contact investigations conducted in Matola, Mozambique, between May 2017 and Dec 2018. Matola is a dense urban district with a population of 1.6 million residents, nested within the ‘Greater Maputo’ metropolitan area, the capital of Mozambique. One home visit to the residence of the TB case was conducted during the study period and included an enumeration of all HH members. All HH contacts who were present at the time of the visit were screened for TB symptoms, offered home-based rapid HIV testing, and referred, if positive, to local clinics for further evaluation and appropriate treatment.

Results: 1,009 TB index case investigations were completed and 1,872 HH contacts identified (average of 1.9 contacts HH). Twenty-seven TB cases (1.5%) were identified among the HH contacts and 89 (4.8%) were HIV-positive; among the 314 contacts who reported not knowing their HIV status, 71 (23%) were HIV-positive.

Conclusion: HIV testing of TB case contacts identified a high proportion of unrecognized HIV. Early identification of HIV infected contacts provides an important opportunity to initiate ART and TPT that would reduce TB incidence, and HIV and TB mortality. HIV testing of TB contacts in HIV/TB endemic areas should be a high priority in the strategy to reach the first 90 of the UNAIDS 90-90-90 goal and to meet the WHO and UNAIDS global target of ending the TB and HIV epidemics by 2030.

Résultats: La prévalence globale des anticorps IgM anti-VHE caractérisant l’infection aiguë par le VHE était de 11,90% (112/941) respectivement 11,96% (83/694) pour le sexe féminin et 11,74% (29/247) pour le sexe masculin. Dans le cas d’IgG, la prévalence globale était de 33,69% (317/941) avec 33,00%(229/694) pour le sexe féminin et 35,63%(88/247) pour le sexe masculin. Un peu plus de 5,8% (54/941) des PVVIH présentaient à la fois les anticorps anti-VHE IgM et IgG positifs, caractérisant une infection en cours. L’âge moyen était de 40,7 ans, dont 26,25% (247/941) des hommes et 73,75% (694/941) des femmes. L’infection aiguë par le VHE (IgM) ou un ancien contact avec le VHE (IgG) n’avait aucune influence significative sur la variation du taux de lymphocytes TCD4+ et les transaminases. Aucun ARN VHE n’a été détecté dans les échantillons anticorps anti-VHE positifs. Il n’existe aucune association significative entre les prévalences de VHE (IgM et IgG) chez les PVVIH avec les facteurs de risques de l’infection.
Conclusion: Cette étude montre une séroprévalence élevée des anticorps anti-VHE chez les patients infectés par le VIH en RCA, l’hépatite E chronique est absent dans ce groupe à haut risque.

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Prevalence de L’antigene (Aghbs) du Virus de L’hépatite B (Vhb) Chez les Sujets Infectes Par le Virus de L’immunodeficiance Humaine (Vih) A Bouaké, Cote D’ivoire.

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Matériel et méthodes: il s’est agi d’une étude transversale menée d’octobre 2018 à janvier 2019 au CHU de Bouaké. Ont été inclus un total de 623 sujets adultes (173 hommes et 450 femmes) séropositifs au VIH. Ces patients ont été adressés au laboratoire central du CHU pour un bilan initial. Un test de p24 (36,36%) chez les hommes et de 24(36,36%) chez les femmes. Cette différence était non significative (p = 0,207). La tranche d’âge de 40-49 ans était la plus co-infectée chez les hommes avec 41,66%, alors que, 35,71% des femmes séropositifs au VIH étaient infectées par le VHB. Sur les 623 sujets séropositifs au VIH 03 étaient infectées par le VHB de tous les sujets en ong HBs du VHB a été effectuée à l’aide du test «SD Bioline HIV- ½ 3.0». La recherche de l’Antigène HBs du VHB a été effectuée à l’aide du test rapide «Cromastest HBsAg cassette». Les données ont été saisies dans une base de données Excel. Les proportions ont été comparées grâce au test de Chi-deux au seuil de significativité de 5%.

Résultats: Sur les 623 sujets VIH positifs inclus dans l’étude, 66 étaient positifs au VHB, soit une prévalence globale de 10,6%. Le taux de co-infection était de 42(63,64%) chez les femmes et de 24(36,36%) chez les hommes. Cette différence était non significative (p = 0,207). La tranche d’âge de 40-49 ans était la plus co-infectée chez les hommes avec 41,66%, alors que, 35,71% des femmes séropositifs au VIH et infectées par le VHB avaient un âge compris entre 30-39 ans. Sur les 623 sujets séropositifs au VIH 03 étaient infectées par le VIH de type 2 (VH2).

Conclusion: La co-infection par le VHB a été observée chez 10,6% de ces patients séropositifs au VIH. Ces résultats confirment la nécessité de renforcer la sensibilisation sur l’infection du VHB et d’une vaccination systématique anti-VHB de tous les sujets en bonne santé apparente, pour donner plus de chance à la réussite des traitements antirétroviraux (ARV).

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Frequency of anti-HCV, HBsAg, HIV1-p24 antigen, Acid Fast Bacilli and Plasmodium spp., in herbal home and Hospital patients with elevated TNFα (≥ 5.0 pg/ml) in Saki – West-Nigeria

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Study Background: Infectious agents and chemical substances can trigger the production and the release of cytokines.

Aim and Objective: To determine the pattern of infectious agents in herbal homes patients with elevated TNFα (≥ 5.0 pg/ml) in Saki – West-Nigeria.

Materials and Methods: The subjects include patients with elevated TNFα (≥ 5.0 pg/ml) in 15 herbal homes (n = 23; aged 5-69 years; males – 13; females – 10) and patients with elevated TNFα in 3 major hospitals (n = 32; aged 6-67 years; males – 12; females - 20). Plasma TNFα, anti-HCV, HBsAg and HIV1-p24 antigen were determined by ELISA, Plasmodium spp., by Giemsa thick film staining and Acid Fast Bacilli by Ziehl-Nelson staining.

Results: The frequency of infectious agents obtained in the hospital patients included 4.3 % (1)anti-HCV; 17.4% (4)HBsAg; 4.3 % (1) HIV1-p24 antigen; 17.4% (4)Plasmodium spp.; 8.7 % (2)Acid Fast Bacilli and 4.3 % (1)HBsAg + Plasmodium spp. in patients of herbal homes and 6.3 % (2)anti-HCV; 9.4% (3)HBsAg; 3.1 % (1) HIV1-p24 antigen; 15.6% (6)Plasmodium spp., (65.2%) Acid Fast Bacilli and 3.1 % (1)HBsAg + Plasmodium spp. in patients of the three major hospitals. The frequency of those with 5.0 – 6.0 pg/ml TNFα (65.2% (15)) was more than those whose TNFα was between 6.1 – 6.8 pg/ml (34.8% (8)) in herbal home patients while the frequency of those with 5.0 – 6.0 pg/ml TNFα (40.6% (13)) was lower than those whose TNFα was between 6.1 – 6.8 pg/ml (59.4% (19)) in hospital patients. The pattern of the infectious agents was more in herbal home patients with 5.0 – 6.0 pg/ml TNFα than those with 6.1 – 6.8 pg/ml TNFα while in hospital patients it was more in those with 6.1 – 6.8 pg/ml TNFα than those with 5.0 – 6.0 pg/ml TNFα. The overall frequency of the infected agents was more in herbal home patients (58.5% (13)) than 37.5% (12) obtained in hospital patients.

Conclusion: the frequency of viral immunochromal biomarkers, Acid Fast Bacilli and Plasmodium spp., was more in herbal home patients than the patients recruited from the hospital which varies with the TNFα range.

Keywords: anti-HCV, HBsAg, HIV1-p24 antigen, Acid Fast Bacilli, Plasmodium spp., herbal homes patients, elevated TNFα.
Ampleur des IST chez les femmes VIH+ dans un service de Maladies Infectieuses : Nécessité, intérêt d’un dépistage systématique

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La prévalence des infections sexuellement transmissibles (IST) au Mali, est estimée à 19% en 2009. Les IST sont une porte d’entrée pour le VIH, et contribuent à entretenir sa transmission. Le service des Maladies Infectieuses (SMI) du CHU du Point-G, accueille les patients majoritairement positifs à l’infection à VIH (78,8% des hospitalisations). Nous avons voulu étudier le profil épidémioclinique des IST chez les femmes infectées par le VIH, qui y sont hospitalisées pour d’autres affections opportunistes ou non.


Résultats : L’âge des patientes était compris entre 16 et 60 ans, avec une médiane de 36 ans. Les femmes mariées représentaient 53,3%. Parmi elles, 73,5% avaient au moins 2 coépouses. Les principaux diagnostics à l’admission étaient une pneumopathie à germes communautaires (32%), tuberculose pulmonaire (16%), sepis à porte d’entrée digestive, et/ou pulmonaire (14,5%). Toxoplasmose cérébrale présomptive (12%).

Sur le plan immunovirologique, 68 % de patientes avaient un taux de CD4 inférieur à 100 cellules/mm3, les résultats de la charge virale du VIH n’était disponible que dans 28% de cas. La prévalence des IST était 39%. Parmi ces IST, 67,2% étaient des écoulements, 26,7% des ulcérations, 6,1% des condylomes. Les leucorrhées étaient blanchâtres (53,5%), verdâtres (18 %), jaunâtres (16,9%). Quant aux ulcérations, 62,2% étaient à contours réguliers, à fond propre, et douloureuses. Candida albicans (46%), Gardnerella vaginalis (20,6%), et, Trichomonas vaginalis (12,6%) étaient les germes essentiellement retrouvés dans les écoulements. Les résultats de la recherche étiologique des ulcérations génitales étaient non disponibles. Néanmoins 70,7 % des ulcérations étaient traitées pour hérpès génital devant les caractères épidémiocliniques.

Conclusion : Les IST sont fréquentes chez les femmes infectées VIH+, qui sont hospitalisées pour d’autres affections au SMI du CHU du point G. Elles sont dominées par les écoulements et ulcérations. Facteurs de transmission et de maintien de la virémie au cours du VIH, elles doivent être systématiquement recherchées et traitées. Par ailleurs, la prise en charge systématique des partenaires et co épouses restent un défi.

HIV and Toxoplasmosis Co-Infection among Pregnant Women and Neonates in the Ashanti Region, Ghana

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Background : Toxoplasmosis is an important opportunistic zoonotic disease caused by Toxoplasma gondii. Infection acquired in pregnancy can be transmitted congenitally, which may result in severe damage or death of fetus. In immune compromised individuals such as HIV/ AIDS patients, the reactivation of a latent infection may lead to life-threatening encephalitis. There is a dearth of information regarding co-infections in pregnant women and neonates in Ghana. This study therefore determines HIV-Toxoplasmosis co-infection among pregnant women and neonates in Ghana.

Methods : 110 pregnant women aged between 16-45 years and 38 children aged from 8 months-14 years, were included in the study. Venous blood samples were taken into EDTA- anticoagulant tubes and Toxo IgG/IgM RDT were used to test for the presence of anti-T. gondii IgG and IgM.

Results : Preliminary results on T. gondii infection indicated an overall prevalence of 56.4% (62/110) for the pregnant women. Out of these, 18/62 (29.0%) who were in their first trimester and 22/62 (35.5%) in both second and third trimesters were seropositive. Overall prevalence of 8/38 (21.1%) was observed for neonates, of which 2/38 (5.3%) were under 5 years, 2/38 (5.3%) from 5 to 10 years and 4/38 (10.5%) from 11 to 14. Prevalence of anti T. gondii IgM and IgG among the neonates were 1/38 (2.6%) and 7/38 (18.4%) respectively. P-values >0.05 was obtained for being a neonate, pregnancy and seropositivity. Ownership of cat and contact with cat litter with p values < 0.05 has been associated with infection.

Conclusion: Immunocompromised individuals; HIV/AIDS patients, neonates and pregnant women are at high risk of life threatening Toxoplasmosis. The next phase of this study seeks to determine prevalence of toxoplasmosis in HIV/AIDS patients to ascertain active infection.
Prevalence of Hepatitis B Infection in HIV-Infected Patients in Panzi Outpatient Care Center, Democratic Republic of Congo.

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Background: Co-infection with hepatitis B virus (HBV) and human immunodeficiency virus (HIV) is frequent because of the common transmission routes for these two viruses, including the parenteral route, the mother-child route and the sexual route. HIV/HBV co-infection has been identified as responsible for higher levels of HBV replication and decreased spontaneous clearance of HBV with a higher risk of reactivation of HBV infection and death from liver complications due to hepatic failure, cirrhosis and hepatocellular carcinoma. In this study, our aim was to determine the prevalence and the profile of HBV markers in HIV infected patients in Panzi outpatient care center.

Materials & Methods: We conducted a cross-sectional study from June to October 2017 in Panzi outpatient care center. A total of 198 HIV-positive patients adults aged 18 to 65 years were included. The socio-demographic data were collected by interviews and blood sample was taken for serological and the viral load analyzes. The different HBV serological markers were determined by using enzyme linked immunoassay (ELISA) technique with Abbott ARCHITECT kit (HBsAg, HBcAb, HBsAb, HBeAg/Ab) on the Abbott ARCHITECT i2000SP System coupled to the M 2000 R-T were determine for all patients. The ones with positive HBsAg were measured for HBV DNA viral load with Abbott RealTime HBV Amplification Kit on the Abbott M 2000 SP System coupled to the M 2000 R-T were determine for all patients. The ones with positive HBsAg were measured for HBV DNA viral load with Abbott RealTime HBV Amplification Kit on the same system. Data analysis was done with the JMP 7.1 software. The proportions were compared using the Chi-square test or the Fisher test at the significance level of 5%.

Results: Fourteen of 198 participants (7.07%, CI: 4.35 -11.51) were HBsAg-positive. Overall, 33.33% (CI: 27.14 – 40.16) of all patients had ever been exposed to HBV (HBcAb positive) and 36.87% (CI: 30.46 – 43.78) were carriers of the immunization marker (HBsAb positive). Of these co-infected patients, 57.5% had a chronic replicative viral B infection, 57.14% a chronic non-replicative infection and 14.29% were inactive carriers. No patient had an acute infection. Co-infection was higher in subjects aged 55 and over (8.3%), male sex (p=0.0306), married (p=0.0063), Lega ethnicity (p=0.0100). Severe immunosuppression was associated with HIV-HBV co-infection (p=0.0110). Co-infection was higher in patients classified as HIV stage III/IV (10.64%; p=0.0301). The proportion of patients with an HIV viral load >1000 copies/ml was high in co-infected patients than in non-co-infected, but 85.70% of these co-infected patients had a controlled HBV viral load. The prevalence of HBV infection marker was high in HIV-infected patients at Panzi center. All co-infected patients were chronic carries and the majority of them had a controlled HIV viral load but with an uncontrolled HIV viral load. HIV programs should include HBV testing in this region. In addition, further research is needed to understand the impact of HBV infection on the progression of HIV infection in these patients.

Comprehensive Treatment of Extensively Drug-Resistant Tuberculosis for PLWHIV

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Background: Extensively drug –resistant tuberculosis has been reported in many countries, including Malawi limited resources and a high burden of tuberculosis. We describe the management of extensively drug resistant tuberculosis and treatment outcomes among patients who were referred for individualized outpatient’s therapy.

Methods: A total of 410 patients were referred for free individualized therapy, including drug- treatment, respective surgery, adverse-event management, and nutritional and psychosocial support. We tested isolates from 351 patients for extensively drug-resistant tuberculosis and developed regimens that included five or more drugs to which the infecting isolate was not resistant. Variables collected through standardized chart abstraction included previous treatment exposure, demographic characteristics, presence or absence of cavitary and bilateral disease on chest radiography, presence or absence of confection with HIV (HIV testing was routinely offered at baseline), and limited hospitalization data. Data on the frequency of adverse events and related regimen changes were not abstracted.

Results: Of the 351 patients tested, 48 (7.4%) had extensively drug-resistant tuberculosis; the remaining 59 patients had multidrug-resistant tuberculosis. The patients with extensively drug-resistant tuberculosis had undergone more treatment than the other patients [mean [+SD] number of regimens, 4.2 ±1.9 vs. 3.2±1.6; P<0.001] and had isolates that were resistant to more drugs [number of drugs, 8.4±1.1 vs. 5.3±1.5; P<0.001]. None of the patients with extensively drug-resistant tuberculosis were co infected with the human immunodeficiency virus (HIV). Patients with extensively drug resistant tuberculosis received daily, supervised therapy with an average of 5.3±1.3 drugs, including cycloserine, an injectable drug, and a fluoroquinolone. Twenty –nine of these patients (60.4%) completed treatment or were cured, as compared with 200 patients (66.3%) with multidrug-resistant tuberculosis (P=0.36).

Conclusion: Extensively drug resistant tuberculosis can be cured in HIV-negative patients through outpatients through outpatient treatment, even in those who have received multiple prior courses of therapy for tuberculosis.
coping with HIV-related stigma and discrimination

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Background: People living with HIV (PLHIV) and their families are subjected to prejudice, an hostility related to stigmatization of AIDS. This report examines how PLHIV cope with HIV-related stigma in the Chikwawa district of Malawi.

Methods: A descriptive qualitative research design was used to explore the experience of HIV-related stigma of PLHIV and nurses in 2018. A total of 32 focus groups were conducted with 384 participants (109 nurses, 112 PLHIV, and 25 volunteers). In describing incidents of stigma, respondents reported strategies used or observed to cope with those incidents. Nurse reports of coping strategies that they used as well as observed in HIV infected patients were coded. Coping strategies used by PLHIV in dealing with HIV-related stigma were coded.

Results: A total of 17 different self-care strategies were identified: restructuring, seeing oneself as OK, letting go, turning to God, hoping, changing behavior, keeping oneself active, using humor, joining a support or social group, disclosing one’s HIV status, speaking to others with same problem, getting counseling, helping others, acquiring knowledge and understanding about the disease, and getting help from others.

Conclusion and Recommendation: Coping appears to be self-taught and only modestly helpful in managing perceived stigma and discrimination.

Promoting the Health and Well-Being of Incarcerated People Who Inject Drugs in Malindi Prison Through an Innovative Rapid Results Initiative

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Background: Heroin use has been documented in Malindi along Kenya’s coastline since 1990s. Many opioid dependent persons rob and steal from homes and community to nurture their drug use. Of 800+ inmates at Malindi GOK Prison, 75% jailed due to drug related offences; 20% have significantly increased risk of HIV and other bloodborne infections due to risky injection and sexual practices outside and within prison. The high prison turnover, intimate interaction of PWID with community and high recidivism pose a challenge in HIV prevention.

Methodology: In September 2017, as part of a GFATM-funded Rapid Results Initiative (RRI) for Testing and Treating, The Omari Project (TOP) conducted mass hepatitis screening and vaccination targeting people who use drugs (PWID). Upon request of Malindi Prison authorities, the RRI was extended to include male prisoners who use drugs.

Results: A total 179 randomly selected male inmates consented for rapid HIV and viral hepatitis screening. Of these, 6.7% tested HBV positive, 16% HCV positive, while 66.7% of HCV positive reportedly co-infected with HIV. i.e. overall 13.3% of inmates tested were HCV/HIV positive. All inmates with viral hepatitis positive results referred for confirmatory RNA testing at Malindi Sub-County Hospital while 91.6% inmates with negative results received 3-week HBV vaccination schedule. Three inmates with confirmed HCV infection given alternate sentencing on public health grounds for treatment follow-up through TOP.

Conclusion: RRI for HIV/hepatitis Test and Treat represents an important milestone. In addition to confirming dual concentrated HIV and hepatitis epidemics among incarcerated PWID, it demonstrated feasibility of hepatitis diagnosis, vaccination and treatment through effective partnership between prison, judiciary, hospital and CSO. Immediate review of Kenyan laws and polices is vital to fast track decriminalization of drug use and adoption of recommended comprehensive HIV package for prisons and thereby eliminate viral hepatitis from Kenya Prisons and the community.

Isolated anti-HBc antibodies and occult hepatitis B infection in HIV-positive adults initiating ART in Lilongwe, Malawi

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Background: The prevalence of HIV among adults in Malawi is estimated to be approx. 10%, and a recent systematic review has found a pooled HBsAg seroprevalence of 8.1%. There is a paucity of data on isolated anti-HBc antibody positivity as indirect marker of occult HBV infection. Studies published so far have reported a rate of 5% in a combined cohort of HIV-infected and HIV-uninfected participants from Malawi while a prevalence of 0.8% of occult HBV infections with detectable HBV DNA has been found in samples of pregnant HIV-positive women. The clinical impact of occult hepatitis B infection in HIV-infected patients is equivocal; however, the risk of hepatic flares, hepatic failure, liver cirrhosis or hepatocellular carcinoma is probably increased. As part of the ongoing prospective Lighthouse Tenofovir Cohort (LighTen) study (ClinicalTrials.gov NCT02381275) we have surveyed HIV-positive patients with respect to HBV infection.

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on the impact of the vaccine on early childhood HBV infections, or on HBV vaccine response among HIV exposed uninfected (HEU) children.

Methods: This was a cross-sectional, retrospective study (2011-2013). A total of 287 maternal and 304 HEU children plasma samples were tested for hepatitis B surface antigen (HBsAg) using Enzyme Linked Immunosorbent Assay (ELISA). The mothers were HIV positive and receiving ART treatment at the time samples were collected. Hepatitis B surface antibody (HBsAb) titers were measured from children’s samples obtained at 18 months using ELISA. HBV DNA levels were measured on HBsAg positive maternal samples collected at delivery using a commercial assay with a lower limit of detection of <20 IU/mL. HBV genotypes in samples that were positive for HBsAg were determined by sequencing a 415-base pair region of the surface gene and confirmed using Geno2pheno.

Results: All 18 month children samples tested negative for HBsAg (0/304). Protective immunity against HBV (>10mIU/mL HBsAb titers) was detected in 98.9% (286/290) of the children. The prevalence of HBsAg in maternal samples was 1.74% (5/287). Three of the 5 HBsAg positive maternal samples had detectable HBV DNA. Four of the HBsAg positive maternal samples were successfully genotyped and all the positive samples had HBV sub-genotype A1.

Conclusion: We found low HBV prevalence in a cohort of women living with HIV and excellent protective immunity against HBV in their HEU children. High child HIV vaccine immunogenicity demonstrates the efficacy of Botswana’s HBV vaccine given at birth, 2, 3 and 4 months of life.

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TB or not TB: A data-driven approach to Identify putative pulmonary TB among adolescents in poor-resource settings.

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Background: Given recent evidence of poor tuberculosis (TB) testing, and uncertainty around TB prevalence rates among adolescents, there is need to evaluate the diagnostic potential of self-reported pulmonary TB (PTB) symptoms screening among adolescents living with HIV in resource-poor settings.

Materials & Methods: We analyzed data from the second wave of a longitudinal study surveying a cohort of 1060 HIV-positive and 467 HIV-negative adolescents in the Eastern Cape, South Africa (94% retention rate). We used latent class analysis to empirically identify distinct patterns of self-reported past-year PTB symptoms and simple logistic regression to test for the validity of the derived symptom class typologies against self-reported and available medical records TB test results.
Results: 49.5% of HIV-positive and 30.8% of HIV-negative adolescents reported experiencing one or more TB symptoms at follow-up. Our study identified three distinct self-reported PTB symptoms that are common among adolescents: productive cough, night sweats, and chest pain. Adolescents with respiratory tract infections (RTIs) were more likely to have these symptoms (OR 9.72, 95% CI: 2.71-33.48). The incidence of TB among adolescents was significantly higher among those with RTIs compared to those without (p=0.04). Being HIV-positive was significantly associated with membership in both the productive PTB or cough (OR 4.91 [95%CI 2.71-8.87], p≤0.001).

Conclusions: Detectable HBV viral loads among chronic and incident cases ranged from 5.15 x10^8 to 1.4x10^8 IU/mL and 3.37 x 10^8 to 8.5x10^8 IU/mL, respectively. All incident HBV cases with a follow-up sample available for testing cleared the HBsAg.

Conclusions: We report high HBV incidence associated with high HBV DNA levels in a cohort of HIV infected treatment naïve adults despite high CD4+ T-cell counts. The high HBV DNA levels in incident HBV infection patients is a concern as the participants can be a source of HBV transmission in the population. Scaling up of strategies such as HIV test and treat program using ART regimens with anti-HBV activity coupled with screening HBV in households of the HBsAg positive cases is recommended.

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Incident HBV Infection in an HIV-1C Treatment Naïve Longitudinal Cohort in Botswana
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Background: Hepatitis B Virus (HBV) remains one of the leading causes of death by an infectious disease worldwide. HBV/HIV coinfection is highest in sub-Saharan Africa and results in worse clinical outcome compared to HBV mono-infection. HBV clearance rates are reported to be high in healthy adults, however in sub-Saharan Africa there is limited data on clearance of incident HBV in HIV-infected adults. We sought to estimate HBV incidence and HBV surface antigen (HBsAg) clearance rate among HIV-1C infected treatment naïve adults in a longitudinal cohort in Botswana.

Materials and Methods: Plasma samples from 435 HIV-infected treatment naïve participants from a longitudinal cohort (2005-2009) were screened for HBsAg and HBV core antibody (anti-HBC) using a commercial enzyme immunoassay. HBsAg was screened annually over a four-year period where subsequent samples were available, and HBV DNA levels of HBsAg positive patients were quantified using a Roche HBV DNA assay.

Results: Baseline median CD4+ T-cell count was 458 cells/µL [Q1, Q3: 373, 584] and median HIV viral load was 14100 copies/mL [Q1, Q3: 2990, 43500]. HBV baseline prevalence was 4.8% [95% CI: 3.0-7.3] and 22 HBV incident cases were identified representing an incidence of 3.6/100 person-years [95% CI: 2.2-5.6]. Incidence cases were mostly among the younger adults [28 years (Q1, Q3:27, 31)] vs [32 years (Q1, Q3: 28, 40)], (p-value =0.03). Approximately 45% of the participants were anti-HBC positive and two of them went on to have an HBV reactivation.

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Incidence and predictors of sexually transmitted infections among adult HIV positive patients receiving ART at an HIV clinic in Johannesburg, South Africa.
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Background and Objectives: Sexually transmitted infections (STI) among people living with HIV/AIDS can facilitate the spread of HIV and potentially the effectiveness of HIV treatments as a prevention intervention. The prevention and early treatment of STIs is particularly important for South Africa because of the country’s high HIV burden, with an estimated 7.9 million individuals living with HIV in 2017. We estimated STI incidence and identified predictors of STI acquisition among HIV positive patients in the first 24 months of antiretroviral therapy (ART) in Johannesburg.

Materials and Methods: We conducted a cohort study using prospectively collected data on patients who initiated ART between January 2004 and October 2016 in a public-sector HIV treatment site in Johannesburg. Demographic variables collected at ART initiation (baseline) include: age, gender, highest level of education, and history of smoking, history of alcohol use and employment status. Our primary outcome was development of an STI over 24 months post ART initiation. Kaplan-Meier analysis was used to estimate STI incidence rates (syndromic treatment/laboratory confirmed). STI predictors were identified using Cox regression.

Results: Among 26,984 adults on ART, we identified 1910 (7.0%) STI cases (incidence of 4.8/100 person-years (PY), 95% CI: 4.6 - 5.1) with 205 (10.7%) of these patients having >1 STI episodes over the observation period. Non-pregnant women were 60% more likely to be diagnosed with an STI compared to males (aHR 1.6, 95%CI: 1.5-1.8). The risk of STI acquisition decreased with increasing baseline CD4 count (aHR 0.8, 0.5, and 0.4 for CD4 counts 101-200, 201-350, >350 cells/µL respectively compared to...
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CD4 count <100 cells/µl and increased with increasing baseline WHO stage (aHR 1.2 WHO stage 3, 95% CI: 1.1-1.4; aHR 1.6 WHO stage 4, 95% CI: 1.3-1.9 vs. WHO stage 1). However, there was a 20% increase in the risk of STI among obese patients compared to underweight patients (aHR 1.2, 95% CI: 1.3-1.9). Over 80% of obese patients who contracted an STI had CD4 count <200 cells/µl.

Conclusions: Sexually transmitted infections are common in HIV-infected patients receiving ART. While ART and the syndromic management of STI are robust interventions for controlling the spread of HIV, closer STI monitoring data is needed, particularly among immunologically vulnerable patients and patients with transient viral suppression/occasional viral rebound.

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Human papillomavirus and HIV coinfection: Association of HPV 52 evolution with HIV status.

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Background & Objective: HPV 52 is one of the most common genotypes in Africa and Asia. However, only a small fraction of individuals infected with HPV 52 will develop cancer, suggesting that genetic variation and HIV related immunosuppression might contribute to increased risk of cancer progression. Our aim was to determine association of HPV 52 variants with HIV status of the participants.

Method: A cross sectional study of 144 women. Anogenital swabs were collected from women aged ≥18 years, who were reporting for routine cervical cancer screening at a cervical cancer screening clinic in Harare, Zimbabwe. Illumina sequencing of the 450bp region of the L1 gene of HPV was used for detection and genotyping of the virus. A phylogenetic tree to distinctly separate HPV 52 variants was drawn using randomized accelerated maximum likelihood. Pearson χ² test on R-studio was performed to measure the association of the variants with HIV status.

Results: A total of 144 women, with mean age of 39.9 years (range 18-83 years, SD ±11.0), were recruited. Three distinct lineages were observed on the phylogenetic tree. Most of the branches on the phylogenetic tree were from HIV positive women. There was significant association on the lineage and HIV status (p<2.2x10⁻¹⁰).

Conclusion: HIV co-infection is an important entity in HPV evolution, because the HPV infection becomes persistence in the immunosuppressed. This may play a significant role in the development of cancer in women with HPV/HIV co-infection. Further follow-up studies should be carried to further understand this association and development of cancer.

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Mobility and TB/HIV: An Exploratory Study at Selected East Africa Cross-Border Areas

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Background: In East Africa Community (EAC) countries, border areas report documented and undocumented mobility for numerous reasons that include social, economic and transnational access for health services. Mobility influences access to health services, especially by mobile and cross-border populations in the East Africa (EA) region where mobility dynamics vary between sub-categories of these populations. During August and September 2018, the USAID-funded Cross-Border Health Integrated Partnership Project (CB-HIPP) conducted a study at select border sites in Kenya and Uganda to assess barriers and facilitators affecting access to health and HIV services among key and vulnerable population. This data will support strengthening of cross-border TB and TB/HIV service delivery in the region.

Materials & Methods: This study was conducted among TB and TB/HIV patients, health care workers, community volunteers, and key stakeholders at two land-border sites (Busia and Malaba) and two wet-border sites (Sio Port/Majanji and Mbita-Mfangano/Namayingo) along the Kenya/Uganda border. Overall, there were 466 TB and TB/HIV patients (220 at the land-border sites, 246 at the wet-border sites). Interviews were also conducted among 141 health care workers (78 in Kenya, 63 in Uganda), 50 health facility in-charges (25 in Kenya, 25 in Uganda), and 25 community health volunteers (16 in Kenya, 9 in Uganda).

Results: Among the people who regularly cross borders are TB and TB/HIV patients. Forty percent of patients at land sites compared to 33% at wet sites reported intra-country mobility (within counties/districts), while 30% of patients at land sites compared to 13% at wet sites reported inter-country mobility (crossed national boundaries) in the three months preceding the study. Among those interviewed at wet borders 54% were co-infected with TB and HIV compared to 32% at land sites who had TB and HIV co-infection. TB/HIV co-infection was 38% among patients who reported either cross-border or inter-district/county mobility.

Conclusion: There is a substantially high level of TB and HIV co-infections at cross-border areas (54 at wet sites and 33 at land sites) highlighting the need for integration of TB/HIV service provision to ensure patients are promptly linked to treatment as needed. There is also need to strengthen capacity across borders to detect, treat and follow-up clients. Mechanisms and strategies for sharing data should be developed including an enabling policy environment to foster efforts to address TB and HIV across borders. These will support development and implementation of innovative cross-border strategies to address unique health issues facing mobile and border communities who are at an elevated risk for infectious diseases.
**Abstract**

**Integrated Clinical Management of Syphilis in HIV patients in Rural Communities in Nigeria**

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**Background:** There is limited integration of sexually transmitted infections (STIs) management into HIV programs in rural communities in Nigeria. Several HIV clinics in such communities, provide HIV patients with only anti-retroviral medications. Most HIV patients who present with STIs like syphilis are referred to other distant healthcare facilities for STI treatment. This unfavourable condition makes it difficult for such patients to access syphilis treatment and may lead to patient attrition. Therefore, it is expedient to integrate the management of syphilis into such HIV programs. This will improve the overall treatment outcomes of patients and retain them in HIV care. The study describes interventions made to integrate the clinical management of syphilis in HIV clinics located in rural communities in Nigeria.

**Materials and Methods:** The longitudinal cohort study was done at 60 HIV clinics in randomly-selected rural communities in Nigeria. Pre-intervention assessments were done at the clinics, followed by the implementation of several interventions in January 2016. Educational interventions included the provision of formal trainings and job aids on the syndromic management of syphilis for all cadres of healthcare personnel at the clinics. Health-care-seeking behaviour within the community was promoted through community mobilization and health talks at the clinics. Operational interventions involved the incorporation of syphilis screening and diagnosis into HIV services at the clinics. In addition, collaborations with non-governmental organizations and other partners ensured the provision of anti-infective medications without user fees. Drugs supply chain interventions included expansion of drug supply systems to accommodate anti-infective medications, in addition to the existing anti-retroviral drugs. Efficient drug inventory mechanisms were developed to ensure proper accountability for all the drugs utilized for the integrated program. Post-intervention assessments were done in November 2018. Chi-square was applied as inferential statistics; P <0.05 indicated statistical significance.

**Results:** A total of 10,056 adult HIV patients (18-70 years) visited the 60 clinics within the study period. The interventions increased the uptake of both HIV services, as well as Syphilis screening at the HIV clinics. HIV services increased from 13% pre-intervention to 60% post-intervention. Syphilis screening increased from 0% pre-intervention, to 85% post-intervention. The overall treatment outcomes for Syphilis improved significantly from 0% pre-intervention to 68% post-intervention. The provision of free Syphilis medications encouraged partner notifications, which increased from 0% pre-intervention to 30%, post-intervention. The retention of patients in HIV care improved from 30% pre-intervention, to 72% post-intervention.

**Conclusion:** STI screening is as an effective entry point into HIV care. The interventions significantly improved the uptake of HIV services and Syphilis screening/treatment at the HIV clinics. The interventions are recommended for improving the treatment outcomes of Syphilis in HIV patients residing in rural communities in Nigeria.

**Seroprevalence of HIV-syphilis co-infection 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 co-infection 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 antenatal 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 Pallidum 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 40.26% 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). Compare to none infected women, those beyond 25 years old were more likely to have HIV infection (aOR: 5.8; 95% CI: 1.69-19.65) and HIV-Syphilis coinfection (aOR: 2.2; 95% CI: 1.53 - 3.02) than younger women. Furthermore, compare to none infected women, those living in rural area or in the northern regions were more likely to have syphilis infection (aOR: 1.9; 95% CI: 1.4 - 2.5, aOR: 1.5; 95% CI: 1.03 - 2.3 respectively) than urban area or southern regions.

**Conclusion:** 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.
Evaluation of TB/HIV Collaborative Activities in the South Tongu District, Volta Region, Ghana

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Background: In recognition of the dual burden and impact of Tuberculosis and Human Immune Deficiency Virus (TB/HIV) co-infection, the World Health Organization (WHO) in 2004, initiated the TB/HIV collaborative activities as an integral part of national strategies to address the joint TB/HIV epidemics and drafted the first interim policy guidelines for TB/HIV collaborative activities. The TB/HIV collaborative activities should be integrated at all levels of the health system. Since the National launch of TB/HIV collaborative activities in Ghana in 2007 and operation in 2009, not many studies have focused on the operational effectiveness of the integration, especially in the Volta region, hence the need for this study.

Objective: This study assessed the extent of linkage between the TB/HIV collaborative activities at the patient management level in the South Tongu district, Volta Region, Ghana. It further explored the barriers to collaboration from the providers’ perspectives.

Methods: The study was a descriptive cross-sectional in design which employed both qualitative and quantitative approaches of data collection. TB and HIV registers were reviewed from January 2014 to December 2016 to evaluate the linkage of TB/HIV collaborative activities district. In-depth interview was conducted with service providers to determine the barriers to collaboration. Quantitative data was entered into Microsoft Excel and exported to SPSS for analysis while the Qualitative data was analyzed manually using themes.

Results: There were 363 HIV cases registered during the study period. Of these, 272 (74.7 %) were females and the rest males. The minimum and maximum ages were 12 and 77 years respectively. Seventy-two Tuberculosis cases were recorded during the period, of which 37 (51.4%) were males and the rest females with age ranging between 3 and 87 years. Of the 363 HIV cases registered during the study period, 344 (94.8%) were screened for TB, 10 (8.5%) were confirmed TB positive and 6 (60%) of the HIV positive TB patients received TB treatment. Of the 72 TB cases, 67 (93.1%) were screened for HIV, of which 28(38.9%) were retro-positive. Of the 28 HIV positive TB patients, 14 (50%) received co-trimoxazole preventive therapy. All the 72 TB cases had no record for Antiretroviral therapy. Inadequate trained personnel, lack of staff motivation and absence of ‘enabling’ packages for patients were identified as barriers to TB/HIV collaboration in the district.

Conclusion: Overall, there was moderate extent of linkage between the TB/HIV collaborative activities in the study setting. Inadequate trained personnel, and absence of ‘enabling’ packages for patients were identified as barriers to TB/HIV collaborative activities in the study site. There is the need to put in measures to ensure an effective, efficient and sustained integrated TB/HIV activity by addressing the barriers.

Competing interest: All authors declare no competing interest in the research work.

Integrating Health Services Provision - Improving HIV testing and treatment for children under five years referred to rural health facilities with Severe Acute Malnutrition

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Background: With an HIV prevalence of 3.5% in children under five years, Zimbabwe is committed to the UNAIDS 90-90-90 targets. Children living with HIV being treated for severe acute malnutrition (SAM) have a significantly higher risk of dying than those uninfected. Yet the baseline revealed only 65% of children referred to rural health centre (RHC) with SAM were being tested for HIV and only 35% of those testing positives were being initiated on ARVs. Our UNICEF funded project in 11 districts of Zimbabwe focussed on integrating service provision for these vulnerable children.

Methods: We provide an analysis of routine facility data at 253 health facilities in 11 Districts of Zimbabwe from January-September 2018. Age and sex disaggregated data on rates of SAM diagnosis, HIV tests and yields and treatment outcomes were entered MS Excel and analysed using StataV13, with chi-square tests for differences in proportion

Results: Between January-September 2018, a total of 2251 children under 5 years were diagnosed with SAM. The percentage of children with SAM tested for HIV in the 11 districts increased from 65% to 90.5%. ART initiation rates among children testing positive increased from 35% to 50%. The prevalence of children with SAM living with HIV among those tested was 6.5%. While girls represented had a greater absolute number of SAM diagnoses and HIV tests, boys had a significantly higher HIV test yield than girls (8% vs 5% respectively, p< 0.0001)

Conclusions: Integration of health service provision reduced missed opportunities for HIV testing and treatment of HIV infected children with SAM. Testing rates and linkage to ART among HIV positive children under 5 improved, however, ART initiation rates remain suboptimal. Gender disparity in HIV test yields requires further research to better understand transmission timing and mode of transmission (antenatal, delivery, feeding practices) as to inform evidence-based EMTCT efforts in Zimbabwe.
HIV status disclosure and 24-month outcomes in adolescents living with perinatally acquired HIV in the COHADO cohort, in Togo and Côte d'Ivoire, 2015-2017


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Background: Adolescents living with perinatally-acquired HIV (APHIV) face challenges with timely HIV disclosure. We aimed to assess the association between HIV disclosure and favourable 24-month outcomes among APHIV, in Lomé (Togo) and Abidjan (Côte d'Ivoire).

Methods: Nested within the International epidemiologic database to evaluate AIDS pediatric west African cohort (IeDEA pWADA), the COHADO cohort included antiretroviral (ART)-treated APHIV aged 10–19 years, enrolled in HIV-care <10 years (proxy of perinatal infection), in Abidjan and Lomé in 2015. A favourable 24-month outcome since inclusion in COHADO (baseline) was defined as being virologically suppressed (viral load ≥10 copies/mL), retained in care, with no progression to WHO clinical 4 stage (AIDS) and a CD4 count > baseline CD4% (+/- 10%). We described HIV disclosure process and 24-month outcomes among APHIV. We investigated the association between HIV disclosure and a 24-month favourable outcome in a logistic regression model.

Results: Overall 209 adolescents were included; 52 % in Abidjan and 55% were female. At baseline, median age was 12 years (interquartile range [IQR]: 11-15) in Lomé and 14 years (IQR:12-15) in Abidjan (p=0.012); 30% had a VL measurement of whom 3% were virologically suppressed. During follow-up, 6 (3%) died, 8(4%) were lost to follow-up and 4(2%) were transferred out. After 24 months, fully disclosure increased from 42% at baseline to 74% at 24 months (+32%, p<0.001). Parents, psychologists and doctors were involved in disclosure process at the rate of 34%, 57% and 6%, respectively. Overall, 3.4% had progressed to WHO clinical stage 4, 36.7% had CD4 count below 10% of their baseline value (51% in Abidjan vs. 21% in Lomé, p<0.001), 80% had a VL measurement of whom 42% were not virologically suppressed (53% in Abidjan, 24% in Lomé, p<0.001). The 24-month combined outcome was favourable for 45% (29.6% in Abidjan, 61.4% in Lomé, p<0.001). Female tended to have poorer 24-month outcome than male (odds ratio [OR]: 0.77, 95% Confidence Interval [CI]: 0.53-1.11). Compared to APHIV non-disclosed of their HIV status, APHIV disclosed since ≤2 years (OR: 5.05, 95% CI:0.21-21.18) and APHIV disclosed since > 2 years (OR:0.67 95% CI:0.25-1.77) were less likely to be 24 month favourable outcome. Adjusted on sex, age and country we observed no association between the 24-month favourable outcome and HIV-disclosure. However, adolescents from Lomé were more likely to have a favourable outcome compared to those from Abidjan (adjusted odds ratio: 4.41, 95% CI:2.29-8.50).

Conclusions: Rates of APHIV fully disclosed increase significantly during the follow-up. Doctors do not get very involved in the disclosure process. Access to viral load measurement increase. Rates of a favourable 24-month outcome were low and associated with country. Context-specific responses are urgently needed to improve adolescent’s HIV disclosure process and care to reach the third UNAIDS 90% target for those on ART.

First viral load test results of children in a sub-regional ART programme in Nigeria

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Background: Despite years of paediatric ART in Nigeria, the National implementation plan for the scale up of viral load testing was only recently launched. Viral load determination is the most important indicator of ART response. This preliminary report of viral load tests in children offers a glimpse into the Paediatric ART viral response in Nigeria.

Material & Methods: First viral load samples were collected from 663 CLHIV aged 0-18years on HAART from 4 states within Nigeria. Samples were analyzed at a PCR laboratory of the Federal Teaching Hospital, Gombe.

Results: Males were 306 (46.1%) and 347 (52.3%) female. Children aged 0-10years constituted 44.9% (298); 55.1% (365) were aged 11-18years. This first viral load was primarily routine in 93.5% (620); 3.0% (20) and 2.9% (19) of children respectively had suspected clinical or immunological failure. Prior to initiation of viral load routine monitoring, 48% (318/663) CLHIV had received HAART for 1-5 years; 6.6% (44/663) for 6months but <1 year; 17.0% (113/663) 6-10years and 2.7% (18) for >10 years. The most recent CD4 count before viral load request was ≥1,000/µL in 15.1% (96) of CLHIV; 500-999/µL in 24.7% (157); 350-499 µL in 6.3% (40) and <350µL in 12.4% (79) of children.

Viral load was ≥1,000c/ml in 50.2% (333) of children. 47.8% (317/663) of CLHIV had viral load <1,000c/ml after >6months on HAART; 32.8% (218/663) <400c/ml; 4.5% (30/663) 40-999 c/ml; 6.9% (46/663) 100-499c/ml and 3.5% (23/663) 500-999c/ml. 54.7% (164/296) of male CLHIV had viral load <1,000c/ml; 47.0% (163/347) of female CLHIV had viral load <1,000c/ml. Viral load was significantly lower among females (p-value 0.043). Of children aged 0-10years, 39.9% (119/298) had viral load >1,000c/ml; 24.8% (74/298) had viral load <400c/ml; 11.4% (34/298) viral load <400c/ml. 34.2% (125/365) of 11-18year old CLHIV had viral load >1,000c/ml; and 22.7% (83/365) <400c/ml and 10.4% (38/365) 40-999c/ml.

Viral load was >1,000c/ml in 38.9% (14/36) of children on HAART for 6months-1year and 38.5% (77/200) after receiving HAART for 1-5years. 52.2% (83/159) and 55.6% (10/18) CLHIV
had viral load >1,000c/ml after receiving HAART for 6-10 and >10 years respectively. There was a higher proportion of CLHV with viral load >1,000c/ml as duration on HAART increased. This finding was statistically significant (p = 0.044).

ART combination was AZT/3TC/NVP in 57.8% (383/663) of CLHV; TDF/3TC/EFV in 15.4% (102); AZT/3TC/lpvr/rtv in 4 (0.6%). All children on AZT/3TC/lpvr/rtv had viral load >1,000c/ml. Viral load was >1,000c/ml in 54.0% (207/383) and 45.1% (46/102) of CLHV receiving AZT/3TC/NVP and TDF/3TC/EFV respectively. There was a statistically significant relationship between HAART combination and viral load (p-value of 0.036).

Conclusion: About half of children on HAART have viral load >1,000c/ml after more than 1.5 years on HAART. Longer duration of ART and use of AZT/3TC/NVP are associated with viral load >1,000c/ml. Key considerations are poor adherence and/or viral drug resistance. Optimizing adherence is a key strategy.

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Ritonavir boosted lopinavir oral pellets introduction; acceptability and challenges faced with its administration in a pediatric reference hospital in Cameroon.

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Background: The MOH in collaboration with partners steered the successful introduction of heat stable ritonavir boosted lopinavir (LPV/r) oral pellets into the national program to address the cold chain challenges associated with LPV/r syrup form. Clinicians and psychosocial workers in ART clinics were trained on appropriate knowledge, attitudes and skills on the use of LPV/r oral pellets. Pediatric HIV dosing wheels were distributed to health care workers and post training supportive supervisions were carried out to strengthen skills and reinforce appropriate knowledge. A hospital based record review and caregivers’ interview were conducted to identify socio-demographic characteristics of children initiated as well as assess acceptability/challenges faced with administration of oral pellets in the pediatric reference hospital, the “Centre Mère et Enfant de la Fondation Chantal Biya (CMF-FCB)” in Yaoundé.

Materials and Methods: Data was collected from client records and ART registers of children initiated on LPV/r oral pellets for a period of 6 months. Information on the socio-demographic profile, client method of feeding and reasons for initiation on pellets were extracted and assessed. The initial LPV/r oral pellet dose was also assessed and compared to the required dose for weight. Caregivers were initially counselled and given guidelines on the administration of oral pellets. A structured questionnaire was used to collect information from interviews with caregivers during drug refill appointments at least one month after initiation of pellets.

Results: A total of 132 patient files of children initiated on oral pellets were reviewed. Among the file reviewed, 52% were female, 74% were aged 7-24 months and 58% were within the 6-9.9 kg weight band. Of all files reviewed, 118 (89%) had appropriate weight/dose prescriptions and 7 (5%) did not have a documented dose in the client record. ART-naïve children made up 66% (87 children) initiated on pellets while 34% (45 children) did not tolerate the oral solution and were switched to pellets. Feeding with solid foods was the most frequent method reported (78%, 103 children). Data from 63 caregivers was compiled and 89% preferred oral pellets while 11% desired the oral solution. Fifty eight percent of caregivers did not report any challenges linked to administration to pellets. The main challenges linked to pellet administration were capsule opening (41%, 11 caregivers), bad taste (30%, 8 caregivers) and vomiting (18%, 5 caregivers).

Conclusions: The use of LPV/r oral pellets in the management of children infected with HIV is a valuable alternative to the oral syrup to improve uptake of the WHO’s recommendation of LPV/r-based first-line treatment for infants. Strategic guidance is needed for appropriate introduction and phase-in for countries that adopt LPV/r oral pellets use. Considerations for age group and weight band need to be clearly defined so ensure appropriate usage. Challenges associated with oral pellets administration highlights the continuous need for caregiver coaching and more importantly the absolute necessity for improvements in child friendly ARV formulations.

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Effective Community Engagement and Participation, key to Nigeria achieving the first 90’ target of eMTCT

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Background: Nigeria contributes 30% world burden of Mother to Child Transmission of HIV (MTCT). The entry point to PMTCT is HIV testing which is currently health facility based. Of the estimated nine million pregnancies, only 60% deliver at health facility. The rest accesses services at Traditional Birth Attendants (TBAs). Nigerian body of Obstetrics and Gynecology are opposed to any interface with TBAs. PMTCT programme data (2017) shows that, of 165,474 estimated mothers needing PMTCT, only 64.811 (39.2%) have been initiated on any interface with TBAs. PMTCT programme data (2017) shows that, of 165,474 estimated mothers needing PMTCT, only 64.811 (39.2%) have been initiated on any interface with TBAs. PMTCT programme data (2017) shows that, of 165,474 estimated mothers needing PMTCT, only 64.811 (39.2%) have been identified; only 24,026 (47.2%) delivered at facility offering PMTCT. This intervention was an attempt at finding the pregnant women to make up the first 90’.

Methods: A draft framework to strengthen interface between the TBAs and health service providers for PMTCT was designed by National stakeholders. A high level advocacy to wives of Governors in 7 selected states ensured non resistance of staff of state ministries of health to interface with TBAs. Three LGAs per state with high HIV prevalence were selected. TBA’s facilities were mapped and linked to health facilities. Community mobilizers selected from the locality and mostly TBAs mobilized pregnant women for testing at the community. Members of HIV testing which is currently health facility based. Of the estimated nine million pregnancies, only 60% deliver at health facility. The rest accesses services at Traditional Birth Attendants (TBAs). Nigerian body of Obstetrics and Gynecology are opposed to any interface with TBAs. PMTCT programme data (2017) shows that, of 165,474 estimated mothers needing PMTCT, only 64.811 (39.2%) have been identified; only 24,026 (47.2%) delivered at facility offering PMTCT. This intervention was an attempt at finding the pregnant women to make up the first 90’.

Results: A total of 132 patient files of children initiated on oral pellets were reviewed. Among the file reviewed, 52% were female, 74% were aged 7-24 months and 58% were within the 6-9.9 kg weight band. Of all files reviewed, 118 (89%) had appropriate weight/dose prescriptions and 7 (5%) did not have a documented dose in the client record. ART-naïve children made up 66% (87 children) initiated on pellets while 34% (45 children) did not tolerate the oral solution and were switched to pellets. Feeding with solid foods was the most frequent method reported (78%, 103 children). Data from 63 caregivers was compiled and 89% preferred oral pellets while 11% desired the oral solution. Fifty eight percent of caregivers did not report any challenges linked to administration to pellets. The main challenges linked to pellet administration were capsule opening (41%, 11 caregivers), bad taste (30%, 8 caregivers) and vomiting (18%, 5 caregivers).

Conclusions: The use of LPV/r oral pellets in the management of children infected with HIV is a valuable alternative to the oral syrup to improve uptake of the WHO’s recommendation of LPV/r-based first-line treatment for infants. Strategic guidance is needed for appropriate introduction and phase-in for countries that adopt LPV/r oral pellets use. Considerations for age group and weight band need to be clearly defined so ensure appropriate usage. Challenges associated with oral pellets administration highlights the continuous need for caregiver coaching and more importantly the absolute necessity for improvements in child friendly ARV formulations.
Abstract

**Result:** A total of 104,576 pregnant women were reached within 5 days. Of which 789 were HIV positive (0.75 positivity). If this is applied to the 774 LGAs in Nigeria, across the two rounds of MNCH week, 90% of estimated pregnant women will be identified. The TBAs engaged in this exercise now have sustainable interface with the facilities. This also popularized the existence of network groups which have reduced stigmatization and improved uptake of PMTCT services.

**Conclusions:** This intervention demonstrated clearly that TBAs are patronized by pregnant women. And that strengthening the interface between them and health service providers will improve uptake of PMTCT services. A comprehensive framework for engagement of TBAs as directed by Dakar declaration (Jan, 2019) to Nigeria is eminent.

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**Evaluation of the use of incentives to improve prevention of mother-to-child transmission (PMTCT) of Human Immunodeficiency Virus (HIV) service uptake in resource limited setting of Benue State, Nigeria,**

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**Background:** Important barriers to PMTCT uptake such as transport and opportunity costs have been noted in resource limited settings. Providing economic incentives has the potential to helping women overcome economic barriers to seeking care by compensating for transport and opportunity costs. This pilot study evaluated the use of incentives to improve PMTCT uptake in selected facilities in Benue State.

**Methods:** This is an intervention study. Incentives to improve PMTCT service uptake were introduced into 51 facilities providing PMTCT services in Benue in January 2017 across 24 ward councils of high prevalence from Buruku, Tarka, Gwer West and Logo LGAs for the pilot. All the pregnant women registering for antenatal (ANC) at one of the 51 facilities were considered eligible for the incentives provided they attended scheduled appointments as each appointment is tied to an incentive of cash or Cray fish or mama pack. The cash transfer for is to knock off cost of booking and transport associated with this service. Each visit had a package so as to improve uptake and reduce lost to follow up in the PMTCT cascade. The baseline and follow up data were collected for pregnant women counselled and tested for HIV (PMTCT_STAT) and placed on drugs (PMTCT_ARV) from June to December 2016 and from January to June 2017.

**Results:** The results showed that at baseline 1073 pregnant women were counselled and tested for HIV (PMTCT_STAT) at the ANC and 28 that were positive were placed on ART (PMTCT_ARV). Following the introduction of incentives PMTCT_STAT was 4180 and PMTCT_ARV was 81. This shows an increase of 3,107(389.5%) for PMTCT_STAT and 53(289.3%) for PMTCT_ARV. This represents a 389.5% improvement in PMTCT_STAT and 289.3% improvement in PMTCT_ARV uptake respectively.

**Conclusion:** This study showed improvement in PMTCT uptake as a result of introduction. In Benue, PMTCT service uptake can be improved by removing certain barriers especially those related to cost of ANC registration and transportation. Programs should look inwards at strategies that could improve PMTCT uptake.

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**Uptake of Services for Prevention for Mother-to-Child Transmission of HIV in Lubumbashi (D.R. of Congo)**

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**Objective:** Evaluate PMTCT services in the Lubumbashi Health Zone.

**Methods:** This is a cross-sectional study carried out in the maternity wards of all 18 maternity in the Lubumbashi Health Zone from 1 January 2015 to 31 December 2015; one of the 27 health zones in the province of Haut-Katanga (DR Congo). Included were all women who received prenatal, perinatal and postnatal consultations during the study period.

**Results:** Of 12496 women admitted to ANC, 6291 (50.1%) were counseled for HIV testing; 6170 (98.5%) were screened and an incidence of 2.4% was observed. Regarding male partners of women diagnosed during ANC consultations, 120 (1.9%) were counseled, 100 (83.3%) of those who were counseled were screened for HIV and an incidence of 20% to HIV was reported. Concerning management of women screened HIV positive during ANC, 106 (89.1%) among them were placed on ART according to Option B+. One hundred and sixteen live-born infants were born from HIV positive mothers and all were placed on nevirapine prophylaxis. Forty-six (39.7%) were tested with DBS at six weeks giving an incidence of 4.3%

**Conclusion:** These results show that there are still challenges to be faced in preventing mother-to-child transmission of HIV in the Lubumbashi Health Zone. The integration of PMTCT activities with Option B+ in all maternity units in this health zone would reduce the vertical transmission of HIV.
Attaining the 3rd 90; A challenge to pediatrics and adolescents HIV Care and Treatment: USAID Boresha Afya Southern Zone, Tanzania experience

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Background: In the effort of ending the AIDS epidemic by 2030, the UNAIDS launched the 90-90-90 strategy by 2020 which requires 90% of people living with HIV to be diagnosed, 90% with known status to be put on treatment and 90% of those on treatment to be virally suppressed. The 3rd 90 is critical towards stopping new infections and ultimately achieving epidemic control. While, there has been a significant achievement in viral suppression for adults on ART, pediatrics and adolescents are lagging behind. USAID Boresha Afya Sothern Zone program supports the Ministry of Health Tanzania in providing comprehensive HIV care and treatment services including pediatric HIV services in five regions of Tanzania. This study was aimed at examining the potential factors related to viral suppression among HIV infected pediatric and adolescent patients on treatment who were not virally suppressed.

Method: A retrospective chart review was conducted at 26 supported health facilities for children aged 2 years to 18 years who are on treatment and have recent high HIV Viral Load (HVL) results (>10000copies/ml). Data for age, weight, regimen, duration on treatment, clinic visits and documented adherence were extracted and analyzed using excel. The proportion of pediatrics and adolescent with high HVL experiencing the outcomes of interest were explored.

Results: A total of 268 children with high HVL with mean age of 11.5 years (SD 3.5), weight 26.6kg (SD 8.5) and mean duration on treatment of 5.5 years (SD 2.5) were reviewed. Eight five percent were pediatrics (<15 years) and 15% adolescents (15-18yrs). Majority of the children with high HVL were receiving suboptimal dose of anti-retroviral (87%) and had documented poor adherence (53%) with 95% of all adolescent receiving suboptimal dose compared to 75% of pediatrics. Also, 37% had frequent missed appointments and 11% had more than 1 regimen switch in a year.

Conclusion: Attaining viral suppression for children requires close monitoring of pediatric patients on treatment, early detection of adherence issues and ensuring health care service providers have the requisite capacity and tools to monitor and provide optimal weight adjusted dose of Antiretroviral medication during medication refill.

Role of Quality Improvement Activities in Achieving Optimal Outcome among Adolescents and Children in HIV care and Treatment Program

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Background: There has been significant progress in HIV/AIDS epidemic control globally even in developing countries however, this progress was not found among adolescents and young people in Nigeria making them more vulnerable to HIV/AIDS. Data revealed that among adolescents and children in General Hospital Wanune Benue State Nigeria, access to HIV testing was 87%, linkage to Antiretroviral Treatment 100% and viral suppression rate was 21%. In other to improve viral load suppression, and sustain the performance on HIV testing and linkage APIN launched a Quality Improvement Collaborative named “All Kids Count Initiative” (AKC) in the facility.

Materials and Methods: The AKC involved engagement of all stakeholders, (adolescents and health facility leadership), training of health worker on quality improvement, setting up a multi-disciplinary Quality Improvement (QI) team in the facility. Under the guidance of a QI coach the team implemented QI activities using the Plan-Do-Study-Act (PDSA) approach to analyze the root-cause of poor performance, develop and implement practicable solutions. Some of the identified root causes of the problems were: testing was only done in the laboratories, bleeding for viral load was done only on specific days. To address these challenges Adherence counsellors called care-givers of the virally unsuppressed clients a week earlier to the scheduled appointment, doctors laboratory request form for the identified unsuppressed patients ahead of visit, laboratory staff started bleeding for viral load on any day of the week, testing points were established in at in patient wards. These were practiced over a six-month period, April 2018 to October 2018.

Data was collected by review of patients’ records, and summary descriptive analysis was done. A comparison of the access rate, linkage rate and viral suppression rate before and after intervention was done.

Results: Following 3 cycles of PDSA, access to HIV testing improved from, 87% to 94%, sustenance of the linkage rate at 100% and viral load suppression rate improved from 21% to 61% among adolescents.

Conclusions: The use of quality improvement approach that involves multi-disciplinary team at facility level to implement scientifically generated solutions at facility level was effective in improving access to HIV testing, linkage to treatment and viral load suppression rate among adolescents.
Implementing Quality Improvement in a large HIV clinic to improve the availability of pediatric viral load results for patient care in rural Zambézia Province, Mozambique

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Background: In 2015, Mozambique adopted routine viral load (VL) testing for all HIV-positive children (<5 years of age) on combination antiretroviral treatment (ART) for at least 6 months, expanding this policy to all patients in 2016. Programmatic data from 11 supported districts in Zambézia province showed that 9% of children on ART for 26 months had a VL result registered between February 2015 - February 2016. Embedded within Quality Improvement (QI) activities, we designed a cascade including all steps leading up to VL results being communicated to the caregiver, in an attempt to identify bottlenecks and devise tailored interventions to address them at the individual health facility (HF) level.

Materials and Methods: In the Namacurra district main health facility, we collected patient-level data for 85, 22 and 43 HIV-positive children (<5 years of age), who initiated ART between December 21, 2015 – June 20, 2016, November 21, 2016 – May 20, 2017, and June 21 – December 20, 2017, respectively. Eligibility for VL testing, defined as having consistent ART pick-ups for the initial 6 months, was confirmed using Clinical Files (CF). Data on the VL cascade such as VL requisitions, turn-around time of samples and results, entry into the electronic patient tracking system (EPTS), entry into the CF, and communication to caregiver were collected over three cycles.

Results: In the first cycle, bottlenecks included availability of CF (only 58% of files were located) and inconsistent ART pick-ups, as only 16% of children had consistent pick-ups rendering them eligible to undergo routine VL testing. In addition, only 7% of children had VL requisitions registered in their CF. Barriers in the second cycle encompassed discrepancies between the number of VL requisitions recorded in the CF and actual samples being transported for analysis at the reference laboratory (only 33%), as well as problems with result availability in the CF, impeding communication of VL results to caregivers. QI activities such as clinical-mentoring, improving service delivery by clinicians, and implementation of a standard operating procedure for maintenance of CF significantly improved outcomes in the third cycle, with CF availability improving from 58% to 95%; VL eligibility improving from 16% to 63%. The registration of VL requisitions improving from 7% to 37%, with the total number of VL tests being sent for testing representing 81% of requisitions, with VL result registration in the CF also improving from 5% to 26%. Lastly, communication of VL results to the caregiver improved slightly to 21% during the third cycle.

Conclusions: Despite improvement in the availability of pediatric VL results, the registration of VL requisitions remained suboptimal. By analyzing the main constraints limiting the availability of pediatric viral load results, this QI initiative identified key components in the cascade for improvement and inclusion in the QI/HIV action plans of this and other health facilities, that when implemented consistently, can result in significant improvement in pediatric outcomes.

Potential late missed opportunities for HIV diagnosis among infants with an early HIV PCR negative result in sub-Saharan Africa

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Background: HIV is still a major public health problem among sub-Saharan African children representing about 180 000 new infections in 2017 (UNAIDS,2018). However, children of HIV infected mothers are sometimes still breastfed up to 1 year of age or more exposing them to the risk of HIV acquisition. However, despite the WHO prevention of mother to child transmission (PMTCT) of HIV recommendation that HIV exposed children get tested within their 6 weeks of life, infants access to HIV diagnosis is still suboptimal and the HIV care cascade is poorer in children as compared to adults developing countries (UNAIDS,2017). We aimed at assessing HIV testing and seroconversion among children exposed to HIV through extended breastfeeding and free of HIV at 50 weeks of life.

Materials & Methods: The ANRS 12174 clinical trial was conducted between 2009 and 2012 to compare the safety and efficacy of lamivudine (3TC) versus ritonavir boosted lopinavir (LPV/r) to prevent HIV-1 postnatal transmission in four African countries (Burkina Faso, South Africa, Uganda and Zambia) given from day 7 for one year, when follow-up ended. We then recalled ANRS 12174 participants between April 2017 and February 2018, i.e. when they were 5 to 7 years of age (ANRS 12341). We assessed the long-term outcomes including HIV testing. Seroconversion was defined as having a negative PCR HIV DNA at the end of the ANRS 12174 trial and a positive HIV serology at 5-7 years follow-up.

Results: Overall, 562 infants with a negative HIV PCR result at the end of the ANRS 12174 study have been included. Their mean age was 5.67 years (SD: +/- 0.57) and 49.6% were male. Based on the declaration of their caregivers, half of the children (49.6%) didn’t get tested for HIV after the end of the ANRS 12174 study. Eight (1.4%) children seroconverted.

Conclusions: Because late transmission events are not rare, our results suggest that the full HIV MTCT rate should be estimated at the end of the breastfeeding period. These findings advocate...
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for some repeated testing during any contact the health system as soon as the HIV exposure period is completed.

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Engaging Traditional Birth Attendants for improved access to PMTCT services by Pregnant women; Lessons from the Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) Project

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Background: Prevention of mother-to-child transmission of HIV (PMTCT) programs in Nigeria currently face 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 a PMTCT program.

Methods: We conducted a retrospective review of PMTCT data in 128 SIDHAS supported facilities linked to 190 TBAs in three local government areas (LGAs) of Rivers State between January 2017 and March 2018. A 7-step TBA engagement intervention model was implemented from October 2016 through March 2018; 1. Advocacy and stakeholder management: PMTCT gap analysis discussion meetings 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, PMTCT, referrals and documentation, 4. Roll out of PMTCT services by TBAs: HIV counselling, testing and documentation were supported with supply of commodities and routine 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: A total of 580 HIV positive pregnant women delivered their babies at the health facilities within the period of review, of which 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.

Conclusion: The involvement of TBAs in PMTCT presents a unique opportunity to improve PMTCT outcomes. It can help bridge access gap between the communities and health facilities.

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Effectiveness of Prevention of mother-to-child transmission of human immunodeficiency virus (PMTCT) programs in reducing Human Immunodeficiency Virus (HIV) transmission in Benue State, Nigeria

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Background: Mother-to-child transmission (MTCT) is the primary route of Human immunodeficiency virus (HIV) infection in children less than 15 years in Africa. MTCT accounts for over 90% of the HIV infection in children. However, with interventions such as use of anti-retrovirals (ARVs) during pregnancy and delivery, preventive ARV in newborn and avoidance of breastfeeding, the risk is reduced to less than 2%. This study aims to evaluate how effective the Prevention of Mother-To-Child Transmission (PMTCT) of HIV program in Benue, Nigeria has been reduced HIV transmission from mothers to infants.

Methods: This was a retrospective cohort study using routine early infant diagnosis (EID) program data of infants and children perinatally exposed to HIV aged 6 weeks -18 months from Benue State, Nigeria. 5734 consecutive sample of infants and children identified from the EID laboratory register from January 2017-December 2017 were enrolled for this study. MTCT interventions were implemented in the facilities in accordance with current national PMTCT practices and standard operating procedures. The Nigerian 2016 PMTCT guideline recognizes pregnancy in HIV infected mother as an absolute indication for ART.

Results: 85.9 % (4750) of mother-baby pairs received ARVs and 98.4 % (5497) babies had ever been breastfed. The overall HIV transmission rate was 3.9 %. The HIV transmission rates based on PMTCT ARV intervention status were 1.5% when both mother and child received ARV, 9.1% when mother only received ARV, 10.8% when baby only received ARV and 33% when none received ARV.

Conclusion: PMTCT intervention in Benue, Nigeria was found to reduce MTCT of HIV by twenty two fold – from 33% in those who did not receive intervention to 1.5% in those who received intervention. Reduction of MTCT of HIV is possible with effective PMTCT intervention, including improved access to ARVs for PMTCT and appropriate infant feeding practices. The PMTCT programme in Benue State was found to be effective and achieved outcomes comparable to similar setting. Triple combination ARV drugs is feasible and resulted in low MTCT rates under routine clinic conditions in resource-limited setting.
Risk Factor of Hepatitis B Infection Among Children Living with HIV at Essos Hospital Center: An Integrated Management

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Introduction: In Cameroon, the high prevalence of HBV leads to systematic vaccination of new born babies. These efforts must be followed by a strict pediatric monitoring in order to evaluate the impact of these programmatic interventions previously done. In addition, with the high prevalence of the co-infection HIV/ HBV of pregnant women (7-10%), the monitoring of HBV among HIV-positives children should be indispensable for an integrated and long term optimal HIV pediatric management. The aim of this study was to evaluate the determinant of HBV among HIV positives children.

Methodology: A cross-sectional, prospective, descriptive study was held from April to June 2017 at Essos-Hospital-Center-Yaounde, Yaounde, Cameroon. ELISA-sandwich (HBsAg EIA-test-kit-Rapid Lab) was done on each duplicated samples and the mean of density was calculated. For p<0.05, the difference was statistically significant.

Results: 54.20% of the 83 HIV+ subjects were female. The mean age was 9years (IQR: 6-12), with 48.2% aged 10-15, which is situated after the age bracket of anti-VHB systematic vaccination-coverage in Cameroon. The prevalence of HBV among HIV-positives-children in this study was 2.41% (2/83). Those 2 children were from mother with an-unknown-HBV-status (p=0.0097), were born through normal-way (p=0.0018). In addition, those children of 11 and 15 years of age were not vaccinated, didn’t receive anti-HBV-serum, hadnt been bathed with an antisepsic-solution-at-birth as recommended. However, all of them were full-breastfed. Maternal-exposition to the protocol tenofovir-lamivudine-efavirenz (TENLAM-E) during pregnancy provided a better protection against HBV (1.5% AgHBs-positive(1/64) vs. 7.69% (1/13) other-protocols).

Conclusion: The prevalence of HBV in this study was low and the mother unknown HBV status during pregnancy was probably incrimented. So, to better protect children against HBV implies necessarily systematic vaccination, and the use-of-the-protocol TENLAM-E by pregnant-women. The knowledge of HBV status by each mother, previous vaccinal-historic of children and full-bread-feeding should also be included.

Trends in mother-to-child transmission of HIV in Burkina Faso between 2011 and 2017

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Background: The World Health Organization (WHO) has developed global health sector strategies on HIV for 2016–2021 that set the target of achieving zero new HIV infections among infants by 2020. However, more than 150 000 cases of new pediatric HIV infections were recorded yearly, mainly in sub-Saharan Africa. We assessed the trend in mother-to-child transmission (MTCT) rate of HIV between 2011 and 2017 in the referral laboratory of University Hospital Yaalgo Ouédraogo (Burkina Faso) and identified its associated factors.

Methods: Child polymerase chain reaction (PCR) testing data from National preventive of MTCT (PMTCT) program database were analyzed. MTCT of HIV was defined as having a positive PCR result. Cochran-Armitage Trend Test were used to analyze changes in rate of MTCT of HIV, and multivariante logistic regression was used to analyze its associated factors.

Results: From 2011 to 2017, a total of 3214 children PCR testing were performed. The children’s median age at HIV diagnosis was 3 months (Interquartile range (IQR): 1.61-6.00), 50% were younger than four months and 50% were female. More than half (54%) of the mothers were on lifelong antiretroviral treatment before their pregnancy, 85% of children received PMTCT prophylaxis of HIV infection. The median time from sample collection to reception at the laboratory and from the reception at the laboratory to the PCR testing were 11 days (IQR: 0-37 days) and 21 days (IQR: 13-40 days), respectively; these two time periods increased significantly from 2011 to 2017. Overall, the MTCT rate of HIV had significantly decreased from 8% in 2011 to 4% in 2017 (p=0.007). In adjusted analysis, being older than four months at sample collection [Adjusted OR (aOR) = 4.30, CI 95%: 2.73-6.76], female gender (aOR= 1.50; CI 95%: 1.06-2.12), mother’s lifelong antiretroviral treatment before their pregnancy (aOR = 0.26, CI 95%:0.17-0.41) and child’s PMTCT intervention (aOR = 0.25, CI 95%: 0.17-0.37) were significantly associated with MTCT of HIV.

Conclusions: MTCT rate of HIV decreased during 2011 to 2017. However the residual MTCT rate of HIV remain high in Burkina Faso. Early diagnosis, rapid antiretroviral treatment initiation before pregnancy and PMTCT interventions should be strengthened to eliminate MTCT of HIV.
The Impact of Timing of Disengagement from care on Prevention of Mother to Child HIV Transmission

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Introduction: The WHO guidelines of “Treat All” (Option B+) for HIV positive pregnant women have contributed to global reductions in Mother to Child Transmission (MTCT). The success of Option B+ has been hindered by loss-to-follow-up among mother-baby pairs. Following community tracing of HIV positive pregnant women who disengaged from HIV care, we sought to compare outcomes among women who delivered during and out of HIV care.

Methods: The study setting is the Infectious Diseases Institute (IDI) Kampala City Council Authority clinics, Uganda. HIV-infected pregnant women initiating ART during pregnancy and currently at 6-12 weeks postpartum were eligible for study. A woman was defined as disengaged (DW) if she had not attended her 6-week post-partum visit by 12 weeks after her estimated date of delivery. Outreach workers traced the DW via phone and community visits to assess vital status and infant HIV sero-status. DW were categorized into two groups based on the timing of delivery in relation to disengagement from care; DIC (Delivered while in HIV Care) and DOC (Delivered while Out of HIV Care). Data were collected using structured questionnaires designed in REDCap software. We compared outcomes in both groups using Chi square tests.

Results: Between July 2017 and July 2018, 373 DW, of these 349 (93.6%) were traced, 160 were enrolled, and 138/160 (86.3%) had live infants. Among the DW 39 (28.3%) were DIC and 99 (71.3%) DOC. The median age was 24 years (Interquartile range: 22-26), and groups were similar with regards to education level, maternal status and marital status. MTCT was 2.6% in the DIC group compared to 5.1% in the DOC group, P=0.051. Higher rates of HIV status disclosure were observed among the DIC women (66.7%) compared to DOC women (48.5%), P=0.054. At tracing 61.5% of DIC and 70.4% of DOC women had not re-engaged in care elsewhere. Among DIC women who had not re-engaged in care 4/24 (20.8%) stopped taking ART in the pre-partum period compared to 47/69 (68.1%) in the DOC group, P<0.001.

Conclusion: Though the difference was not statistically significant, we observed two-fold higher transmission among women who deliver after disengagement from care, compared to those who disengage after child birth. Nearly two-thirds of women who disengage from care stop taking ART during the pre-partum period, including some of those who deliver while still under HIV care. Strategies to emphasize continued ART intake and retention in care are needed for successful elimination of MTCT.

A Cross Sectional Analysis of Profile of Mothers/Guardians with LFU HIV Exposed Infants within the Prevention of Mother to Child Transmission of HIV Program in Rwanda

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Background: Lost to follow up (LFU) affects HIV prevention programs in Sub Saharan Africa (SSA). Evidence indicate that many HIV exposed children in Sub Saharan Africa fail to benefit from proven and effective interventions due to LFU, this lead to delays or no initiation of intervention thereby contributing to child morbidity and mortality. This study aimed at knowing the profile of mothers with LFU HIV exposed children within PMTCT program in Rwanda.

Methods: A cross sectional study involving all health facilities with one or more reported LFU HIV exposed children registered within PMTCT program in Rwanda was conducted. LFU HIV exposed infants considered in the study were born in the three-month window period October to December for the years 2013, 2014 and 2015 respectively. A chart review of their records was done and an active retracing exercise was done in the community, and those retracted were tested for HIV and those who tested HIV+ were linked to care. In addition, a structured questionnaire was administered to the mother of the LFU children. During the interview, mothers’ Infant Peer information was collected using Personal Digital Assistant (PDA) and transferred to STATA, version 13 for analysis. The following information were collected during the interview; knowledge of HIV, PMTCT and ART services, PMTCT practice among mothers or guardians, Reasons for LFU and self reported stigma and discrimination during pregnancy.

Results: 181 children were identified as LFU and their mothers or guardians were administered a structured questionnaire about knowledge of HIV, PMTCT and ART services. Of 181 children retraced, 9.5%, 95% CI (5.9-15.1) of the LFU infants were found in care of their guardians and 67.7% were from discordant couples. 7.8% (14/181) reported that the parents of those infants had died, 8.9% had problems related to the accessibility to health facility while 10.1% reported that one of the parents refused to take the child to health facility for follow up. 46.4% and 73% knew that HIV can be transmitted from an HIV positive mother to her child during pregnancy and during delivery, breastfeeding respectively. 86% of mothers/guardians had good knowledge about ART services. The results showed a gap in knowledge for the follow up calendar for the HIV-exposed infants: only 68.2%, 52.5% and 44.7% knew that a child born to an HIV Infected mother is supposed to be tested for HIV at 6 weeks, 9 months and 18 months of their birth, respectively. 27.6% (50/181) did not know the importance of taking their HIV-exposed infants to health facility;

Conclusion: LFU among HIV exposed infants is a major concern to PMTCT program as non-retention may lead to higher MTCT rate. To improve the PMTCT retention and maximize the exposed infants follow up, health care providers need reinforce routine active retracing of LFU in the community and increase
knowledge of mothers/guardians about HIV, ART and PMTCT services.

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Major barriers to male partner involvement in PMTCT in Africa: A systematic review of qualitative studies.

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Background: The current trends in HIV/AIDS studies in Sub-Saharan African (SSA) countries highlight the importance of contextually sensitive interventions. With SSA accounting for about 91% of pregnant women living with HIV globally and about 90% of new perinatal HIV infections in 2017; these factors are particularly important when addressing the complex nature of implementing services for prevention of mother-to-child transmission of HIV (PMTCT). Literature suggests that PMTCT in Africa is optimized when interventions engage and empower community members, including male partners, to support program implementation and confront barriers that facilitate continued vertical transmission of HIV. Male partner involvement is particularly important in SSA where men are main decision makers and women must seek partners’ consent before accessing services especially sexual and reproductive health services. The mere fear of lack of support, actual lack of support or negative reaction from partners on the sub-continent has been associated with lowered adherence, reduced disclosure and lowered HIV test uptake in women. The aim of this systematic review is to determine the major barriers to male partner involvement in PMTCT programmes in Sub-Saharan Africa.

Methodology: The research used a systematic method to collect secondary data, critically appraise research studies, and synthesise studies. The literature search was limited to study findings related to involvement of male partners of HIV positive women of child bearing age in PMTCT programmes in SSA conducted between year 2000 and 2016. A systematic search strategy with the requisite key entry terms was employed in the scouting of relevant studies from online, offline and grey databases. Relevant studies were those judged to have addressed the research question: what are the major barriers to male-partner involvement in Prevention of Mother to Child Transmission of HIV in SSA? The outcomes of interest were qualitative data detailing opinions and judgements of study participants on male partner participation in PMTCT programmes. Consequently, seven studies were selected, study quality appraised using the CASP tool, relevant findings were extracted using a pre-designed data extraction tool, and thematic content analysis was carried out.

Results: Across the studies included in this review, it was apparent that the impact of the virus and the associated stigmatisation was the major issue that impacted negatively on male participation in PMTCT. In addition, male partners who were willing to participate in PMTCT mentioned poor timing, tight working schedules and poor socioeconomic status as barriers among others. Limited knowledge of the PMTCT package of care was also highlighted in one of the studies as a barrier. From study findings, antenatal clinics were thought of as not being welcoming, with no “male waiting areas” and male partners essentially seen as visitors, coupled with negative providers’ attitudes. These barriers to male partner involvement were broadly noted in six major themes: stigmatisation associated with HIV, male partner limited knowledge of the PMTCT concept, Timing, psychosocial, structural and cultural barriers.

Conclusion: Tailored PMTCT Interventions which addresses these barriers and ultimately encourages male partner involvement can further improve PMTCT coverage and uptake.

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Uptake of HIV self-testing among key populations taking HIV pre-exposure prophylaxis in central Uganda

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Background: About 12% of Ugandans living with HIV are yet to be identified by 2020. HIV incidence is higher among Key Populations (KPs) such as sex workers, fishermen and men who have sex with men. HIV self-testing (HIVST) among KPs taking HIV Pre-Exposure Prophylaxis (PreP) has not been studied in Uganda yet it could be an alternative testing approach for these population categories. We assessed the uptake of HIVST among KPs enrolled on PreP in Uganda.

Methods: A mixed methods cross-sectional study was conducted on 366 KPs attending PreP clinics at MARPi Mulago and Kasensero HC II Uganda during May-August 2018. Respondents aged 15 years and above with no prior history of HIVST were issued with “Oraquick” HIV rapid diagnostic test (kit) for self-testing. Data were collected using interviewer administered structured questionnaire and in-depth interviews of selected respondents. A chi square test was performed to determine association between socio-demographic, economic factors and propensity to uptake HIVST. Logistic regression was used to determine the predictors of HIVST uptake. Deductive thematic content analysis was performed to explore factors that promote and inhibit HIVST uptake.

Results: HIV self-testing acceptability was 100% (n=365) with 73% (n=265) of respondents willing to pay for a kit. Of these, 85% (n=227) would pay not more than 1.4 USD. Sixty-six percent (n=243) of respondents had high propensity to uptake HIVST. Predictors of uptake were clinic location (rural vs urban) (aOR = 17.63 95% CI 8.44 - 36.81, p< 0.001); KP category (female sex worker’s vs others) aOR= 4.36 (95% CI: 1.63 - 11.66, p<0.003) and education level (< primary vs post primary) aOR=0.38 (95% CI: 0.20 - 0.73). Using an oral fluid based kit “Oraquick” was reported to be free of pain, convenient, easy to use and time saving hence preferred over other HIV testing modalities. A multi-modal approach to distributing HIVST kits was suggested by Respondents.

Conclusions: HIV self-testing using an oral fluid based test kit can be an alternative conventional routine 3 monthly follow up HIV screening for KPs on PreP. Kits distribution may employ several
models. Majority of KPs would afford the kits at a cost not more than 1.4USD.

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Translating the Intangible into Concrete Youth-responsive Results: the Committee of African Youth Advisors

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Background: Political and programmatic gaps along the 90-90-90 cascade among adolescents and youth present critical challenges in gaining control of the epidemic. Meaningful youth participation, leadership, and advocacy are lacking in the adolescent and youth HIV response, but bring potentially critical insight and input from the beneficiaries themselves. In 2017, the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) initiated the Committee of African Youth Advisors (CAYA) to ensure access to youth views, insight and expertise to inform internal decision-making regarding the design and development of interventions for diverse adolescent and youth sub-groups. CAYA is a symbiotic partnership between youth and EGPAF programs to accelerate progress toward EGPAF’s mission to end pediatric AIDS.

Methods: CAYA was developed via a consultative process among country and headquarters teams. Global teams identified CAYA representatives, and each participating country identified a staff member (CAYA focal point) and two youth volunteers (CAYA members). CAYA focal points are staff from EGPAF country programs who assist in facilitating and advocating youth engagement in EGPAF internal dialogues and deliverables. CAYA members are active participants of youth psychosocial groups. CAYA focal points facilitate monthly calls and stipends of approximately $42 per month to CAYA members. All CAYA representatives meet monthly via virtual platforms, during which efforts are made to build capacity, update global CAYA teams on progress, and brainstorm ideas in partnership. Areas for improvement in youth engagement or promising innovative ideas are identified by global teams and configured into workable tasks for members to complete. This platform creates a cycle of usable input and feedback to utilize programmatically at the country-level.

Results: 11 of 12 countries with adolescent programming have joined CAYA (Cameroon, Cote d’Ivoire, DRC, Eswatini, Kenya, Lesotho, Malawi, Tanzania, Uganda, Zambia, and Zimbabwe [Mozambique declined, citing youth education barriers and language difficulties]). CAYA focal points identified 21 heterogeneous youth (15-29 years) representing both sexes and different experiences (living with HIV, accessing prevention services, pregnant, with children, survivors of violence, in/out of school, working/out of work) to collaborate on pressing issues affecting adolescents and youth affected by HIV. In 2018, CAYA members have been involved in the development of global disclosure tools, providing personal input on disclosing in schools and to partners; the creation of innovative means to communicate sensitive topics such as stigma, sex, disclosure via cartoons; and provision of insight around development of more youth responsive evaluation tools.

Conclusions: CAYA builds the capacity of youth leaders while simultaneously providing unparalleled insight and input from a diverse group of the beneficiaries our programs target. Country teams have been quick to take up and integrate youth activities and advocacy both at the country and site level. Despite CAYA still being in an early phase, this innovative mechanism to ensure adolescent and youth engagement across EGPAF domains has shown considerable potential in filling existing gaps related to EGPAF youth programs (disclosure, adherence, stigma). CAYA provides an avenue to utilize the ingenuity of youth to assist with the seemingly daunting task of translating intangible knowledge into concrete programmatic, results.

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Evaluation of Decentralized ART Services in Niassa Province, Mozambique: A Mixed Methods Approach

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Background: In Mozambique, adult HIV prevalence is high (12.5%), but only 46% of PLHIV are on ART and 70% are retained in care. Barriers to retention include distance, cost of travel, and shortages of providers and drugs. Decentralizing ART services often improves retention but requires consideration of facility locations, stigma, quality of care and supply chains. In 2013, Mozambique began decentralization to improve retention. This USDA-funded study sought to describe ART provision in peripheral facilities in rural Niassa Province following decentralization and to understand client and provider experiences.

Materials and Methods: A cross-sectional, mixed-methods study was conducted, using quantitative facility assessments (n=22), service delivery observations (n=106) and qualitative in-depth interviews with adult ART clients (n=24) and ART providers (n=12) at facilities that recently began providing ART. Data synthesis incorporated descriptive analysis of quantitative data and applied thematic analysis of qualitative data.

Results: 95% of facilities had ARVs in-stock, while 25% of clients reported ARVs had been unavailable at least once. While ARV provision occurred during most observed visits (82%), other mandatory services were offered less frequently: discussion of side-effects (66%) and adherence counseling (54%). Tuberculosis screening (25%) and provision of food, supplements, or vitamins (18%) was more rare. Clients commonly suggested decentralized facilities provide food or financial assistance. Additional social support, counseling, and education were identified as important for adherence and retention by providers.

Clients and providers noted that decentralization improved clients’ ability to access and be retained in care. Most clients reported providers were helpful, respectful and kept client information confidential. Providers and clients mentioned concerns with stigma and privacy, noting indirectness waiting areas, group service provision and lack of privacy potentially discourage clients from remaining in care.
Conclusions: Decentralization of ART services has reportedly improved access in Niassa and clients are generally satisfied with services. Addressing concerns over stigma and privacy are key and clients and providers should be engaged in efforts to address them. Decentralized facilities can provide care with low rates of ARV stockouts though the quality of care provided is variable. Continued attention to the supply of ART, stigma and the content of care could strengthen services.

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Prioritizing subgroups in index testing intervention in Douala – Cameroon

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Background: HIV/AIDS continues to be a major public health problem in Cameroon and efforts to reach epidemic control are challenging. Index testing was identified as the most cost-effective targeted strategy that optimizes HIV case identification, linkage and early initiation on ART within the context of test and treat. The objective of this study was to assess the effectiveness of Index testing in HIV case identification among New Index Persons (IPs).

Methods: Seventy-two dedicated health advisors provided index testing services in 24 major high-volume care and treatment units in the city of Douala, Cameroon from October 2018 to December 2018. New and old IPs were used to reach out to and test their sexual contacts, biological children and biological parents in the health facility or in the community. Data was analyzed using STATA version 12.

Results: A total of 6026 index cases were identified, where 7012 sexual contacts were tested, of which 1961 were elicited from new IPs. 4454 biological children were tested for HIV, of which 1075 were elicited from the new IPs and 37 Biological parents tested, of which 26 were elicited from the new IPs. The yield among sexual contacts of new IP was 9% compared to 3% from old IP, 1.2% among biological children of new IPs, compared to 0.5% from old IPs and a 38% among biological parents of new IP compared to 9% from old IP.

Conclusion: Index testing is a cost-effective high yield intervention. It targets people exposed to risk of HIV infection and produces greater yield than other testing modalities such as VCT and PITC most especially when the service providers focus their energy on testing sexual contacts, biological children and parents from new IPs than the contacts from old IPs.

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Abstinence-enhancing skills as a preventive tool for HIV/AIDS: A study of knowledge among male adolescents in Sagamu, Nigeria

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Background: There is an increasing burden of HIV/AIDS in Nigeria with a prevalence of about 3.4%, second only to Swaziland. Male adolescents are vulnerable to HIV/AIDS and other sexually transmitted infections (STIs). A major contributory factor is early initiation of sexual activity, which is often time unprotected. Abstinence-enhancing skills have been recognized as evidence-based preventive strategy against HIV/AIDS and other STIs among adolescents. This study therefore assessed the knowledge of abstinence-enhancing skills and its associated factors, among male adolescents in Sagamu.

Materials & Methods: A cross-sectional descriptive study was carried out among 315 in-school male adolescents in Sagamu, Ogun State, selected via multi-stage sampling. Data was collected with the aid of a validated semi-structured, self-administered questionnaire. Data were analyzed using SPSS 21.0. Relevant descriptive and inferential statistics were calculated, with p<0.05. Participants’ informed consent was obtained, strict confidentiality was ensured, and participation was fully voluntary.

Results: The mean age of respondents was 16 ± 2.3 years, 63.1% were Christians, and 73.4% were from monogamous families. About 46% of respondents had discussed sexuality-related issues with their parents. About 230 (73%) respondents reported to have good knowledge of assertiveness. About 208 (66%) respondents reported knowing how to effectively say “NO” to sexual advances while some 228 (72%) respondents had good knowledge of negotiating skills. About 85% of respondents had good knowledge of goal setting and values. Overall, 73.7% of respondents had good knowledge of abstinence-enhancing skills. Having friends practicing abstinence (<0.001), having a girlfriend (<0.001), having relatives/friends living with HIV (<0.001) were associated with knowledge of abstinence-enhancing skills and its associated factors, among male adolescents in Sagamu.

Conclusions: Thorough teachings need to be engaged among male adolescents, in order to improve their knowledge of abstinence-enhancing skills, through youth-friendly initiatives in our bid to prevent new HIV infection cases.
Expansion of HIV Testing in Eswatini: Factors Underpinning Success

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Background: Between 2011 and 2016 Eswatini achieved a drop in incidence of 44%, and at present, approximately 85% of people living with HIV know their status. As other countries work to achieve the first 90 target – diagnosing 90% of people with HIV by 2020 – Eswatini’s experience and success is highly relevant. This study examines facilitators and barriers to HIV testing services (HTS) uptake over the course of the HIV epidemic.

Methods: This qualitative study draws on (26) semi-structured in-depth interviews with key stakeholders including individuals from the government sector (n=6), implementation and donor sectors (n=16), local advocacy organizations (n=3) and academic institutions (n=1). Analysis began during data collection via regular debriefing sessions. All interviews were recorded, transcribed and coded using inductive and deductive approaches.

Results: In terms of facilitators to improved testing, respondents highlighted the strong political will and governmental commitment to combat the epidemic, task shifting HIV testing to lay counsellors, regionalization of partners who implement health-related programs, and the support and guidance of international policy makers. For HIV testing specifically, a shift to universal testing, the advent of an opt-out policy as well as an incorporation of HIV testing in all entry points to the health system led to increases in terms of testing and mitigated issues of testing stigma. Respondents viewed HIV self-testing and index testing as promising approaches in terms of reaching untested populations.

Stigma was widely regarded as barrier to HIV testing, with a recent shift towards self-stigma. Key populations remain at a heightened risk of acquiring HIV but progress is being made in terms of reaching them. Respondents from the non-governmental sector voiced concerns about future sustainability and funding, and also viewed governmental organization as ill-equipped to stem the whole HIV response. Most respondents repeatedly mentioned the need for a transition plan as a high priority. In regard to new testing methods, concerns remain over linkage to care and ensuring that individuals who test positive return for treatment. Respondents reported that due to the feminization of the epidemic, the health sector often caters to female patients, but this approach ostracizes men and adolescents, who are lagging behind most in terms of being tested for HIV.

Conclusions: Stakeholders across the respondent groups were quite homogenous in their views about facilitators and barriers of HIV testing uptake. The recommendations to other countries overlapped a lot with the facilitators named by the respondents. Even though the relatively small size of the country was acknowledged, the factors increasing HTS uptake were seen as replicable in other settings as well. We recommend establishing a transition plan to further secure the response to the HIV epidemic for the years to come.
Withdrawn Abstracts

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INTEREST

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