INTERNATIONAL WORKSHOP ON

# HIV & WOMEN 2023

FROM ADOLESCENCE TO MENOPAUSE AND BEYOND

# ABSTRACT BOOK

**HIV & Women**

Seattle, WA, United States | 17 - 18 February 2023

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# International Workshop on HIV & Women 2023

**17 – 18 February 2023**
**Hybrid Meeting**
**Seattle, WA, United States**

# Abstracts
# Oral Presentations

1

# Implementation of the Women-Centred HIV Care Model: A Multimodal Process and Evaluation

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**Background**: Women comprise over half of all people living with HIV globally, and one quarter of all people living with HIV in Canada. Their sex and gender based differences necessitate specialized care. We developed the Women-Centred HIV Care (WCHC) model to inform care delivery to women with HIV by addressing their unique needs. Below, we describe and evaluate the implementation of the WCHC model in Canada.

**Methods**: We operationalized the WCHC model by developing two online toolkits (one for clinicians [English] and one for women with HIV [English and French]) using the knowledge-to-action model and the Centre for Effective Practice's evidence-based integrated knowledge translation approach. We also employed community based research principles, involving women with HIV as knowledge experts at every stage of development and implementation. We developed a multimodal implementation strategy for the toolkits. After usability testing, the toolkits were launched online in July 2020. In 2020/21, three national webinars were hosted for care providers and women with HIV in English and French. Evaluations were collected from attendees at each. WCHC clinician toolkit training was developed using the Project ECHO case-based learning model and piloted in Ontario. An evaluation program was carried out concurrently including pre and post-training surveys and a focus group. Incorporating lessons from the pilot, a national cycle is currently underway and will conclude in December 2022.

**Results**: During toolkit development, clinical stakeholder interviews and focus groups with women with HIV revealed the toolkits addressed an unmet need for a care model and health self-management resource. As of November 2022, there were 5716 downloads of the toolkits. The national webinars saw a total of 315 attendees and a mean knowledge increase of 29% (SD 4.25%), with evaluations revealing high satisfaction with the model and toolkits. After the English webinars, online traffic to the toolkit webpage increased by 45%. The Ontario ECHO training pilot consisted of thirteen one-hour sessions spanning nine months. 34 care providers participated with representation from 25 institutions across the province. Weekly evaluations demonstrated the training positively impacted provider's attitudes and behaviours around WCHC. Summative focus groups revealed high satisfaction with the ECHO format for implementing the WCHC model. The current national ECHO cycle has 95 registrants from seven provinces. In October 2021, when the ECHO pilot was launched, online traffic to the toolkit webpage increased by 85% and in October 2022, when the national ECHO was launched, it increased by 69%.

**Conclusions**: The WCHC toolkits were successfully developed and implemented to meet the needs of clinicians and women with HIV in Canada. Webinars had high attendance and were an effective dissemination method. Training was successfully piloted using the ECHO model but had significant participant drop-off rates, demonstrating an opportunity to increase retention in the current national cycle. Recording sessions and posting for asynchronous viewing was an effective strategy for maintaining engagement. Other areas for improvement included modifying the training schedule and integrating a dedicated section for unique considerations for sub-populations of women (e.g. Indigenous, Black, pregnant women, youth, or substance users).

2

# The Implementation of Integrated Cervical Cancer Screening and Management in HIV Programming for Women Living With HIV

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**Background:** Human Papilloma Virus (HPV) is one of the most common STIs worldwide affecting both men and women. From over 200 HPV variants, types 16 and 18 cause 70% of cervical cancer occurrences. Women living with HIV (WLHIV) are at increased risk of HPV acquisition and are more prone to rapid progression, presentation at a younger age, and require a more aggressive clinical response. The Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) integrates comprehensive cervical cancer programming across its supported countries for WLHIV. The scope of programming across countries includes screening, diagnosis, management, and prevention of cervical cancer, and integrating services into HIV programming. Moreover, capacity building of providers at supported sites provides competent prevention of cervical cancer and management of precancerous lesions using relevant technologies and equipment to optimize care. We analyzed aggregated program data on cervical cancer screening among WLHIV across EGPAF-supported countries.

**Methods:** We analyzed routinely-reported PEPFAR program data across six EGPAF-supported countries (Eswatini, Kenya, Lesotho, Malawi, Mozambique, and Tanzania). Cervical cancer indicators included the number of WLHIV on ART who received cervical cancer screening and the outcome of the screening. A positive result indicates the presence of a precancerous cervical lesion, a negative result suggests the presence of neither a lesion nor any indication of cancer, and a suspected result indicates the finding of a mass or another sign of invasive cancer. Global guidance recommends that WLHIV with a previous negative test be screened every two years. Data were evaluated across timeframes from October 2019 to March 2022. We disaggregated data by country, age, and type of screening completed (first time, follow-up, re-screened).

**Results:** Across the six countries, from October 2019 to March 2022, EGPAF screened a total of 478,856 WLHIV. Mozambique screened the majority of women over that period (139,617 women), followed by Lesotho (101,826 women). The majority of women (93.5%; n=447,937) screened negative with 6% (n=26,355) screening positive and less than 1% (n=4,564) receiving a suspected result. Of those screening negative, 83% were screened for the first time, 15% were re-screened following a previous negative test, and 2% received follow-up screening following treatment of a precancerous lesion identified at their last screening. Of those screening positive, these proportions were 86%, 3%, 11% respectively. Of the women receiving a suspected result, these propositions were 71%, 12%, and 17% respectively. Women ages 35-39 years made up 16% of those screened, with women 30-34 years being the second most represented age group at 15%, followed by women 25-29 years at 14%. Women 35-39 years were the age group that had the highest proportion of those screening positive (19%) as well as those with a suspected result (16%).

**Conclusions:** Integrating cervical cancer screening and management services for women living with HIV into HIV programming is feasible. Ensuring regular preventative screening as well as re-screening women with a previous positive result and initiating treatment, remain critical for early detection and management. The majority of women screened were screened for the first time.

3

# Impact of the COVID-19 Pandemic on the Pregnancies of Women Living With HIV in British Columbia, Canada

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**Objective**: To examine the impact of the COVID-19 pandemic on pregnant women living with HIV and early neonatal outcomes in British Columbia (BC), Canada.

**Methods**: This is a retrospective comparative study using data from the provincial Perinatal HIV Surveillance Program. This database consists of pregnant women with documented HIV infection and their infants from across BC. Primary outcomes were vertical transmission rate, maternal, perinatal, and neonatal outcomes. Mother-infant pairs were compared between the pre-pandemic time period (2010-2019) and the first two years of the pandemic (2020-2021).

**Results**: A total of 27 infants were born to 42 pregnant women living with HIV during the pandemic time, representing a 33% reduction in live births in 2020 ($p<0.01$) and 54% reduction in 2021 ($p$ 0.07) compared to pre-pandemic. Two infants born during the pandemic time were diagnosed with HIV in the neonatal period, reflecting a significantly higher ($p<0.01$) rate of vertical transmission compared to the ten years preceding, during which only one infant was perinatally infected. In evaluating maternal adherence to antiretroviral therapy in pregnancies leading to live births, we found that 94% were optimally adherent in the pre-pandemic group. This decreased significantly to 81% in 2020 ($p<0.01$) but returned to baseline levels at 100% in 2021.
There was one laboratory-confirmed case of SARS-CoV-2 infection in a pregnant woman in 2021 in the second trimester, but the HIV viral load was suppressed and the pregnancy was uncomplicated by COVID-19. In 2020, there was one maternal death due to overdose, resulting in stillbirth of the infant. This was the first recorded maternal death in over ten years. Maternal demographics, substance use, and complications of pregnancy were not significantly different when comparing pre- and post-pandemic groups. The COVID-19 pandemic also did not statistically significantly affect other perinatal outcomes including caesarean section rate, gestational age, and NICU admission.

**Conclusion**: Restrictions during the COVID-19 pandemic likely resulted in the observed higher rates of unsuppressed HIV viral load in 2020 among pregnant women living with HIV in BC, leading to a greater vertical transmission rate. Both HIV suppression and vertical transmission returned to pre-pandemic levels in 2021. It can be surmised that COVID-19 restrictions limited access to HIV care and may have contributed to the vertical transmissions and even perhaps the death due to overdose. Considerations of the secondary sequelae of pandemic restrictions on other health care will be important in the future.

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# Plasma Osteopontin Relates to Myocardial Fibrosis and Steatosis and to Immune Activation among Women with HIV

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**Background**: Women with HIV (WWH) have heightened heart failure (HF) risk compared to women without HIV (WWOH). We previously showed that WWH have higher myocardial extracellular volume fraction (fibrosis) and myocardial intramyocardial triglycerides (steatosis) as well as diastolic dysfunction compared to WWOH. Since plasma osteopontin (OPN) is elevated in people with heart failure with preserved ejection fraction (HFpEF) and is a powerful predictor of HFpEF severity, HFpEF-related hospitalizations, and mortality, we aimed to identify the relationships between plasma OPN and surrogates of HIV-associated HF risk in WWH.

**Materials and Methods**: Twenty asymptomatic, antiretroviral-treated WWH and fourteen WWOH matched on age and body mass index underwent cardiac magnetic resonance imaging and immune phenotyping. Here, we analyzed relationships between plasma OPN with cardiac structure and function and markers of immune activation among WWH, WWOH, and the whole cohort. Multivariable modeling among the whole group was performed using myocardial fibrosis and myocardial steatosis, respectively, as the dependent variable and HIV status, atherosclerotic cardiovascular disease (ASCVD) risk score, and plasma OPN as independent variables. Among WWH, multi- variable modeling was performed using plasma OPN as the dependent variable and CD4+ T-cell count, HIV viral load, and the respective immune parameter, relating to plasma OPN in bivariate analyses, as an independent variable.

**Results**: Plasma OPN did not differ between groups. Among WWH, plasma OPN related directly to cardiac fibrosis markers, growth differentiation factor-15 (ρ=0.51, P=0.02), and soluble interleukin 1 receptor-like 1 (ST2) (ρ=0.45, P=0.0459). Among WWH (but not among WWOH or the whole group), plasma OPN related directly to both myocardial fibrosis (ρ=0.49, P=0.03) and myocardial steatosis (ρ=0.46, P=0.0487). Among the whole group and WWH (and not among WWOH), plasma OPN related directly to the surface expression of C-X3-C motif chemokine receptor 1 (CX3CR1) on non-classical (CD14-CD16+) monocytes (whole group: ρ=0.36, P=0.04; WWH: ρ=0.46, P=0.04). Further, among WWH and WWOH (and not among the whole group), plasma OPN related directly to the surface expression of CC motif chemokine receptor 2 (CCR2) on inflammatory (CD14+CD16+) monocytes (WWH: ρ=0.54, P=0.01; WWOH: ρ=0.60, P=0.03), and in WWH, even after controlling for HIV-specific parameters.

**Conclusions**: Among WWH, plasma OPN, a powerful predictor of HF outcomes, related to imaging-based myocardial fibrosis and steatosis, circulating biomarkers of cardiac stress GDF-15 and ST2, and the expression of CCR2 and CX3CR1 on select monocyte subpopulations. To our knowledge, our study is the first to demonstrate key relationships between plasma OPN and HIV-associated myocardial dysfunction in PWH and, particularly, WWH. While this study is limited by its cross-sectional design and small sample size, our study demonstrates a potential role of OPN in heightened HF risk among WWH.

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# Maternal Hormonal Dysregulation in Pregnant Women with HIV Correlates With HIV-Exposed Infant Growth Outcomes

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**Background**: Many hormones in pregnancy regulate fetal growth. However, studies investigating levels of these hormones in pregnant women living with HIV, and whether maternal alterations in these hormones correlate with infant growth are limited.

**Methods**: The Botswana-based Tshilo Dikotla study enrolled pregnant women with and without HIV, between 16-36 weeks gestation and followed their infants. Women with HIV receiving dolutegravir/tenofovir/emtricitabine and HIV-seronegative women were included in this analysis. Levels of estradiol (E2), sex-hormone binding globulin (SHBG), cortisol, growth hormone 1 (GH1), insulin-like growth factor 1 (IGF-1), and insulin-like growth factor binding protein 1 (IGFBP-1) were measured by ELISA in plasma collected between 24-28 weeks gestation. Bioavailable E2 was calculated using measured values of E2 and SHBG. Infant anthropometrics were converted to weight-for-age and length-for-age Z-scores (WAZ, LAZ) at birth and 1 year of life. Data was normalised by log transformation. Generalized linear models were fit to evaluate associations between each hormone and 1) HIV status, and 2) infant anthropometrics at birth and at 12 months. The anthropometrics model included an interaction term between HIV status and each hormone to assess effect modification by HIV status.

**Results**: Plasma specimens were available from 114 women (46 women with HIV), of which 95 had a live birth while in the study. Women with HIV were older (27 vs. 26 years), had higher gravidity (3 vs. 1), and were less likely to breastfeed (78% vs. 100%) than women without HIV. In the women with HIV median enrollment CD4 count was 494 cells/mm3, and 90% had HIV RNA levels <40 copies/mL at enrollment. After adjusting for maternal age, BMI, and gestational age of specimen draw, women with HIV had lower mean log bioavailable E2 (β: -0.22, p=0.028), cortisol (β: -0.22, p=0.001), and IGF1 (β: -0.81, p=0.007), but higher GH1 (β: 0.91, p=0.011). Log bioavailable E2 was positively associated with birth WAZ (β: 0.91 (95% Confidence Interval (CI) 0.41, 1.40, p<0.001) for all infants. HIV status modified the associations of log GH1 (β: -0.22, p=0.05) and log IGF1 (β: 0.40, p=0.004) with infant WAZ at 12 months after adjusting for maternal age and BMI, duration of exclusive breastfeeding, and birth WAZ.

**Conclusions**: Levels of steroid and growth hormones are dysregulated in women with HIV suggestive of impaired placenta function. The dysregulation, particularly of GH1 and IGF1, may influence growth in the first year of life among infants who are HIV exposed but uninfected.

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# Angiogenic Biomarkers of Adverse Pregnancy Outcomes in Women With HIV in Botswana

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**Introduction**: Data from the Botswana-based Tsepamo study showed that pregnant women with HIV receiving dolutegravir (DTG)-containing antiretroviral therapy (ART) regimens initiated prior to conception had higher incidence of maternal hypertension (HTN) and small for gestational age (SGA) births compared to HIV-seronegative pregnant women. Early biomarkers that can be used to detect and intervene on pregnancies at elevated risk of adverse pregnancy and birth outcomes are needed.

**Methods**: The Botswana-based Tshilo Dikotla study enrolled pregnant women with and without HIV, between 16-36 weeks gestation and followed their infants. This analysis included 114 women (46 with HIV) with maternal plasma samples collected between 26-28 weeks gestation. Women with HIV were on DTG/TDF/FTC. Levels of angiopoietin 2 (Ang2), placental growth factor (PlGF), and soluble Fms like tyrosine kinase 1 (sFlt-1) were quantified by enzyme-linked immunosorbent assay. Differences in log-transformed values between groups were compared using Student's t-test. PlGF levels and sFlt-1:PlGF ratios were assessed using standard cut-offs, where a PlGF level of <12pg/ml or a sFlt-1:PlGF ratio of >85 is indicative of a high-risk pregnancy. Proportions of women below or above cut-offs, as applicable, were compared by maternal HIV status using chi2 testing. Logistic regression models were fit to assess associations of each biomarker with maternal HTN and infant SGA (<10th percentile), stratified by HIV status and adjusting for maternal BMI.

**Results**: Log-transformed levels of Ang2, PlGF, and sFlt-1 were similar between groups. A higher proportion of women with HIV had levels of PlGF <12pg/ml and a sFlt-1:PlGF ratio >85 compared to women without HIV (PlGF <12pg/ml: 17.4% vs 1.5%, p=0.002, sFlt-1:PlGF ratio >85: 19.5% vs 2.9%, p=0.0036). PlGF below and sFlt-1:PlGF ratio above cut-offs were significantly associated with maternal HTN at 26-28 weeks (PlGF: aOR 11.2 [2.4–51]; sFlt-1:PlGF ratio: aOR 7.8 [1.8–33]) and with infants born SGA (PlGF: adjusted odds ratio (aOR) 10.3 [95%CI 2.0–53] sFlt-1:PlGF ratio: aOR 10.6 [95%CI 2.4–47]). Prevalence of maternal HTN at draw and infant SGA did not differ by HIV exposure status (women with HIV vs. without HIV for HTN: 13% vs. 7.6%, p=0.35; for SGA: 13% vs. 8.8%, p=0.54).

**Conclusion**: Angiogenic biomarkers known to be associated with placenta dysfunction and adverse pregnancy outcomes were identified more commonly in women with HIV on DTG-based ART than women without HIV. Larger studies are needed to validate these findings and explore underlying mechanistic pathways.

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# Comparing Total Testosterone Levels in Women Living With HIV and HIV-Negative Women in Canada

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**Background**: Testosterone is an essential hormone for women that plays an important role in regulating numerous organ systems, with both high and low levels potentially contributing to morbidity. As women living with HIV experience a disproportionate burden of comorbid disease, understanding the role of testosterone could aid in optimizing their healthy aging. Literature is inconsistent on whether women living with HIV have low testosterone, and few studies include HIV-negative controls. Our objective was to compare total testosterone levels in well-matched women living with and without HIV.

**Materials and methods**: Women living with HIV and HIV-negative controls were recruited in the British Columbia CARMA-CHIWOS Collaboration (BCC3), a community-based study of healthy aging. Participants completed bloodwork and anthropometric measurements, along with surveys querying demographic and clinical variables. Exclusion criteria included use of medications known to impact testosterone levels, bilateral oophorectomy, polycystic ovary syndrome, thyroid stimulating hormone levels >10 mU/L, or assigned male sex at birth. Plasma total testosterone levels were assayed by ELISA and normalized by log-transformation. Groups were compared by t-, Mann-Whitney U, or Chi-square tests, as appropriate. Univariable and multivariable linear regression models were constructed using variables and potential confounders selected based on a priori literature review, removing those with collinearity or that increased the Akaike Information Criteria value. Regression coefficients were back-transformed to percentage change for ease of interpretation.

**Results**: Ninety-eight women living with HIV and 125 controls were included in the analysis. Compared to controls, women living with HIV were more likely to have current/past hepatitis C virus infection (HCV) (p<0.001), current or past smoking history (p=0.012), and current opioid use (p=0.009), and were less likely to have ≥high school education (p=0.021). Women living with HIV and HIV-negative women were similar with respect to age (median [IQR]: 50.4 [42.2 to 58.1] vs 49.2 [28.7 to 56.7], respectively; p=0.08), ethnicity, income, body mass index, and current use of stimulants (methamphetamine and/or cocaine) (all p>0.05). Among women living with HIV, 91.4% had undetectable viral loads (<40 copies/ml). In univariable analyses, women living with HIV had lower total testosterone levels compared to HIV negative women (median [IQR]: 32.6 [20.0 to 45.7] vs 41.3 [26.0 to 66.5] ng/dl; p=0.007). In multivariable analyses, HIV status remained independently associated with lower testosterone levels ((-11.1 (95% CI: -18.0 to -3.56) %), after adjusting for age, body mass index, opioid use, stimulant use, and HCV. Older age was also independently associated with lower testosterone levels (-0.77 (-1.04 to -0.50) %), whereas HCV was associated with higher levels (16.8 (4.86 to 30.1) %).

**Conclusion**: Our results indicate that women living with HIV have lower total testosterone levels than HIV-negative women, independent of age, body mass index, opioid/stimulant use, and HCV. As testosterone is commonly bound to sex hormone-binding globulin (SHBG), this will be considered in future analyses. This may be particularly important for interpretation of HCV results, as HCV infection may increase SHBG levels. These data provide novel insights into the impacts of HIV on hormone health as women age in the era of effective antiretroviral therapy.

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# Clinic-based Interventions to Increase PrEP Awareness and Uptake Among U.S. Patients Attending an Obstetrics and Gynecology Clinic in Baltimore, Maryland USA

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**Background**: Cisgender women account for one of every five new U.S. HIV diagnoses, with the majority (86%) attributed to heterosexual contact. HIV pre-exposure prophylaxis (PrEP) is an effective prevention strategy; however, PrEP awareness and prescriptions among women are low. Our objective was to increase PrEP counseling and uptake among cisgender women attending obstetrics/gynecology (OB/GYN) clinics.

**Methods:** The study included three OB/GYN clinics within a single health system in a high HIV prevalence region. There were three phases: 1) baseline, the three months period before the trial that included provider education and PrEP-nurse training; 2) intervention, where eligible patients were randomized to an active control or PrEP-nurse intervention arm; and 3) maintenance, three months after the trial. Electronic medical record clinical decision support tools (CSTs) were available to both arms during the intervention phase, which included best practice alerts, order sets, progress note templates, and written and video PrEP educational materials for patients. A PrEP-nurse contacted and counseled patients in the intervention arm, ordered laboratory tests, completed the medication prescription, provided patient educational materials, and scheduled follow-up appointments. All orders and prescriptions were sent to Medical Directors for review and signature. We evaluated interventions based on the RE-AIM framework. The primary outcome of the study was effectiveness, defined as the percentage of eligible patients with documented HIV prevention discussions in the EMR or electronic PrEP prescriptions. Secondary outcomes included: 1) Reach, defined as the percentage of BPAs that providers took action upon or the percentage of eligible patients who spoke with the PrEP-RN; 2) Adoption, defined as the percentage of eligible patients with a BPA that triggered or the percentage of eligible patients the PrEP-RN attempted to contact; and 3) Maintenance, defined as the percentage of patients with documented HIV prevention discussions or PrEP prescriptions in the three months after the trial ended.

**Results :** There were 904 women in all phases with a mean age of 28.8 7.7 years and 46% were pregnant; 436 patients were randomized in the clinical trial. BPAs were triggered 100% for eligible encounters; however, providers took action on 52% of them. The PrEP-nurse attempted to contact every patient in the PrEP-RN arm and spoke with 81.2% of them. Compared to the active control, there was a significant increase in PrEP discussions in the PrEP-nurse group (66.5% vs. 12.3%, $p<0.001$), while PrEP prescriptions were equivalent ($p=1.0$). Among patients counseled on PrEP, 18.5% of patients in the active control and 3.4% in the PrEP-nurse arm were prescribed PrEP ($p=0.02$). The PrEP discussion was increased from 0.6% at baseline to 11.2% after interventions but fell to 1.0% in the maintenance phase ($p<0.001$). PrEP prescriptions were not different between the three phases ($p=0.096$).

**Conclusion**: Both the PrEP-RN and CSTs were effective in increasing HIV prevention discussions, with the PrEP-RN being more effective than EMR changes alone. PrEP discussions initiated by the providers led to a greater number of PrEP prescriptions than the PrEP-RN. However, the increased PrEP discussions were not sustained after interventions were halted.

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# Increasing Access to Maternal HIV Retesting Using HIV Self Test Kits and Conventional Rapid Diagnostic Testing for Pregnant and Breastfeeding Women in Nigeria

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**Background**: HIV retesting for pregnant and breastfeeding women (PBFW) can help detect incident HIV infection for prompt elimination of maternal-to-child transmission (EMTCT) and infant HIV testing and treatment for HIV-positive infants. In Nigeria, maternal retesting is recommended for pregnant women in the third trimester of pregnancy, or as soon as possible thereafter, and in breastfeeding women whose most recent HIV-negative test result was more than 6 months ago. Barriers to implementation of maternal retesting in Nigeria include limited availability of conventional HIV test kits and human resources. In 2021, the Faith-Based Action for Scaling up Testing and Treatment for Epidemic Response (FASTER) initiative, in collaboration with the National AIDS and STI Control Program, designed an implementation strategy to support maternal retesting using conventional test kits and provider-assisted HIV self-testing (HIVST).

**Methods**: Between June and December 2021, FASTER secured HIVST kits for 57 health facilities across eight states in Nigeria and trained 223 health care workers and 27 traditional birth attendants to conduct provider-assisted HIVST. HIV testing was available in antenatal care, labor and delivery, and postpartum clinics. Descriptive analyses were conducted using monthly data reports to determine maternal retesting conducted and HIV positivity at various time points (third trimester, labor and delivery, <72 hours postpartum, 72 hours-6 months postpartum, and >6-12 months postpartum), maternal linkage to treatment, infant HIV testing coverage and positivity among HIV-exposed infants (HEI), and infant linkage to treatment.

**Results**: A total of 10,781 PBFW were retested (7,151 (66.3%) using provider-assisted HIVST and 3,630 (33.7%) using conventional kits) with 26 women (0.2%) who seroconverted. Out of 7,188 HIVST kits given to clients for provider-assisted HIVST, 7,151 HIVST results were recorded (99.5% result return). There were 6640 retests (61.5%) done in the 3rd trimester of pregnancy, 762 retests (7.1%) done at labor and delivery, 273 retests (2.5%) done < 72 hours postpartum, 1761 retests (16.3%) done 72hrs-<6mo postpartum, and 1345 retests (12.5%) done 6-12months postpartum. Thirteen women were diagnosed HIV-positive in the 3rd trimester of pregnancy (0.2% positivity), 1 at labor and delivery (0.1% positivity), 1 at <72 hours postpartum (0.4% positivity), 9 at 72 hours to <6 months postpartum (0.5% positivity), and 2 at 6-12 months postpartum (0.1% positivity). All 26 HIV-positive women were linked to treatment. Three women were still pregnant at the end of the study period. Of the 23 HEI, 22 (96%) received a HIV test and one mother/HEI was lost to follow-up. Four of the 22 HEIs (18%) tested were HIV-infected and initiated on treatment.

**Conclusion**: Maternal retesting positivity among PBFW was low at all time points, illustrating the importance of selecting optimal time points and risk populations for maternal retesting in lower HIV-prevalence settings. However, the positivity of infants born to mothers with incident HIV infection was high, illustrating the importance of providing comprehensive EMTCT services for PBFW, including maternal retesting, to identify at-risk infants and link them to care.

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# "Our Community Comes First": Creating Appealing Recruitment Ads That Represent Black Women for Online, HIV-Related Research Studies

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**Background**: Black women (BW) are commonly underrepresented in health-related research studies for a variety of reasons. As such, BW receive less benefit from novel research that could help address the disproportionate health disparities they experience. How Black women learn about a study and their perception about it largely centers on the recruitment materials used. Using BW to inform creation of recruitment materials may help increase their representation in research studies. The aim of the current analysis was to examine whether advertisements created using feedback from BW were effective in enticing other BW to participate in an online research study about HIV prevention.

**Materials and Methods**: A pre-post focus group study design was used to solicit and create online ads from feedback received from 10 adult BW. The ads created were then used recruit BW to participate in a cross-sectional, online study (December 2020 – January 2022) about HIV prevention. To address the study aim, questions were embedded in the online eligibility screener to examine which ad women saw (Ad 1: Young vs Ad 2: Aging), and via open text responses, understand what aspects of the ad women dis/liked, and other attributes that piqued their interest in the research and start the screener. Quantitatively descriptive and qualitative content analyses were employed.

**Results**: 301 BW provided consent and answered questions about the ads in the screener. Many reported seeing Ad1:Young (n=260, 86.4%) vs Ad2: Aging (n=41, 13.6%). Six themes, many with subthemes, emerged from the content analysis about what aspects of the ads BW liked: 1) Research focus: study topic, relevance to the Black community; 2) Representation of BW: race, age, hair type, skin tone; 3) Ad color; 4) Ad language: headline and messaging – "Our Community Comes First," "Help our community by taking an online survey!"; 5) Ad design: ad layout and content, image diversity (by age), positive images; and 6) Comprehensive ad content: description of the study – who can participate, study duration, incentive amount, how to participate. Two themes emerged about aspects of the ads BW did not like: 1) Image and 2) Color. BW wanted to see young and aging women together in one image, and the use of more noticeable colors. Four themes, some containing sub-themes, emerged to describe aspects of the ads that made women want to participate in the study: 1) Research focus: BW, HIV/STI prevention; 2) Supporting the Black community; 3) Provide personal perspective, "I don't mind giving my opinion on topics"; and 4) Ad content: description of the study (purpose, study location, study duration), images (picture of BW, age diversity), and incentive.

**Conclusion**: The current study extends existing literature by describing aspects of recruitment ads that appeal to BW. Ads should display diverse images of BW (hair type, skin tone, age), comprehensive and relevant study information, and display a community inclusive or "call to action" headline. Our findings showcase how ads informed by BW could help increase their interest and potential participation in HIV-related research, providing valuable information that other researchers can use.

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# Mental Health Among Adolescent Mothers Living With HIV in South Africa Throughout the COVID-19 Pandemic

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**Background**: The COVID-19 pandemic negatively impacted the lives of young people living in adversity, increasing the risk of unintended adolescent pregnancies and exacerbating mental ill-health. Pre-COVID-19, adolescent mothers living with HIV were identified as being at a greater risk of poor mental health compared to their peers not living with HIV, and non-parenting adolescents. Understanding the possible impact of COVID-19 on the mental health of young mothers affected by HIV is critical to current and future response planning.

**Methods**: We analysed longitudinal data from n=704 adolescent mothers (first child <=19 years), living with (n=213) and not living with HIV (n=488), residing in the Eastern Cape Province, South Africa (age at follow-up interview: M=22.2 [IQR21.1-23.3]). Symptoms of depression, anxiety, posttraumatic stress, and suicidality were assessed using validated measures in two waves of data collection (pre-COVID-19 in 2018-2019, and post COVID-19 in 2021-2022). X2/t-tests explored changes in mental health symptom prevalence over time (using cut-off scores), differences according to HIV status, and differences in sample characteristics according to mental health status. Resilience was examined by comparing those with constant or improved mental health to those chronically or newly symptomatic. Structural equation modelling will be utilised to further explore pathways for mental health risk and resilience among this group.

**Results**: 30.3% (213/704) of adolescent and young women in the sample were living with HIV. Significant increases in poor mental health were identified on all measures of mental health symptoms post onset of the COVID-19 pandemic. Any common mental disorder symptomology rose from 13.4% pre-COVID-19 to 49.7% post-COVID-19 onset (X2=215.5, p=<0.0001). This increase was similar for all individual mental health symptoms, including comorbid mental health conditions (scoring above the cut-off on one or more mental health scales). A half (49.7%; 350/704) of participants reported chronic or deteriorating mental health symptoms. In univariate analyses, changes in mental health prevalence over time were not found to differ by HIV status. Participants reporting resilient mental health were more likely to report no baseline experience of abuse (p=0.007), domestic violence (p=<0.0001), or community violence (p=<0.0001), and were more likely to be food secure (baseline; p=<0.0001).

**Conclusions**: Globally, this is the largest longitudinal exploration of mental health among adolescent mothers, including young mothers living with HIV. These analyses identify a critical need for mental health provision to support all adolescent mothers and identify possible factors (violence reduction and food security) to promote resilience and mental health. Further explorations of pathways to mental health risk and resilience among this group are needed. COVID-19 responses need to incorporate mental health considerations into service provision, particularly for those who are most vulnerable.

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# HIV and Breast/Chestfeeding: Experience from Multiple Sites in the United States and Canada

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**Background**: In the United States and Canada, guidelines for preventing perinatal HIV transmission have recommended that women living with HIV not breastfeed due to formula being feasible, affordable, sustainable, and a safe replacement for breastfeeding. The purpose of this study is to better understand the motivations of individuals with HIV who chose to breastfeed in the United States and Canada, the duration of breastfeeding and challenges encountered, and institutional policies and practices including those related to infant prophylaxis and maternal and infant testing.

**Material and methods:** A retrospective cohort multi-site study was performed for individuals with HIV who breastfed from 2014-2022 in the United States and Canada. Study sites were recruited via announcements at HIV conferences, the ReproID listserve sponsored by the University of California San, and word of mouth. Twelve clinical sites obtained approval from their respective institutional review boards, received data abstraction forms, and entered data into a secure, de-identified RedCap database. Appropriate summary statistics were used to describe the results.

**Results**: Information was collected from 3 clinical sites in Canada and 9 in the United States. Total volume of the sites ranged from 10-120 pregnant patients with HIV cared for annually, with 1-18 total patients with HIV electing to breastfeed during the study interval. Six sites have policies in place regarding breastfeeding in patients with HIV. Obstetricians are most commonly involved in counseling patients regarding infant feeding options, followed by pediatricians, adult HIV specialists, lactation specialists, and social workers. Seventy patients who chose to breast/chestfeed were included in the analysis, most of whom were born in Africa (64%), with about 2/3 currently living in the United States and the remaining in Canada. Over 90% were diagnosed prior to the study pregnancy, and 84% were on antiretroviral therapy prior to pregnancy. Approximately 80% had undetectable viral loads (<40 copies/mL) at entry to care and delivery. The most common reasons to breastfeed were health benefits to the baby (24%), community expectations and fear of disclosure of HIV status (20%), and bonding with the baby (16%). The median duration of breastfeeding was 24 weeks (IQR 12.7-28), with 10% breastfeeding for less than one week. Two-thirds of patients weaned rapidly, while the remainder weaned gradually. No infants tested positive for HIV at any time in the first year of life.

**Conclusion**: To our knowledge, this is the largest studied cohort of patients with HIV who chose to breastfeed their infants. At the institutional level, it demonstrates the variability in breastfeeding policies, involved specialties, antiretroviral infant prophylaxis, and infant and maternal testing intervals. For patients, it highlights the struggle they face in weighing the potential risks of perinatal transmission with multiple other community expectations, infant and maternal health concerns, and concerns about bonding with their infant. Finally, it highlights the small numbers of patients at any one location, and the need for further cooperative multi-site trials to answer the many remaining questions regarding breastfeeding in patients with HIV.

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# Maternal Immunosuppression and Adverse Birth Outcomes in a Linked Cohort of Pregnant Women Living With HIV Delivering in the UK

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**Background:** Women with advanced HIV disease in pregnancy may have higher risk of adverse birth outcomes (ABO), with specific questions remaining on the effect of immunosuppression. Our aims were to describe and compare ABO in pregnancies where women had immunosuppression markers in the 12 months before and/or during pregnancy with pregnancies in women with no evidence of immunosuppression.

**Methods:** We included pregnancies resulting in a singleton birth at ≥24 completed gestational weeks that were reported to the Integrated Screening Outcomes Surveillance Service (ISOSS) and were linked to women in the UK Collaborative HIV Cohort (UK CHIC) study (1996-2019). Stillbirth, preterm birth (<37 completed weeks gestation), low birthweight (LBW) (<2500g) and small for gestational age (SGA) (birthweight <10th percentile based on gender-specific UK-WHO growth standards) were the ABO of interest. Women with maternal immunosuppression were defined as having ≥1 of: (1) AIDS event in 12 months prior to pregnancy; (2) AIDS event during pregnancy; (3) CD4+ T-cell count <200 cells/mm3 during pregnancy; or (4) CD4+/CD8+ T-cell ratio <1 measured during pregnancy; they were compared to a control group of pregnancies in women with no evidence of immunosuppression and a nadir CD4 count >200 during UK CHIC follow-up. Multivariable logistic regression models were used to estimate odds of ABO with a nonparametric percentile-based bootstrap used to obtain 95% confidence intervals (CI). Population-level impact of maternal immunosuppression on ABO was estimated using population attributable fractions.

**Results:** Overall, 22.7% (5650/24188) of ISOSS pregnancies were matched to UK CHIC records and 4801 pregnancies met inclusion criteria. There were 1278 (22.6%, 1278/5650) pregnancies in 1080 women with maternal immunosuppression and 2082 (36.8%) pregnancies in 1641 women in the control group. More women with maternal immunosuppression were from Black African ethnic backgrounds (82.6% vs. 73.6%, p<0.001) and had pregnancies in earlier years (2015-2019: 13.2% vs. 26.7%, p<0.001) than in the control group. The prevalence of stillbirth, preterm birth, SGA and LBW was 1.07%, 12.9%, 15.6% and 13.0% respectively. In pregnancies with maternal immunosuppression, 31.9% (409/1284) had ≥1 ABO compared to 26.8% (558/2086) in the control group (p: 0.001). The odds of having an ABO (excl. stillbirth) after adjusting for year of delivery, PI use in pregnancy, parity since diagnosis, ethnicity, region of birth, mode of HIV acquisition, hypertensive disorders, and gestational diabetes was 36% (aOR: 1.36, 95% CI: 1.04-1.85) greater in pregnant women with immunosuppression compared to the control group. Preterm birth and LBW were similarly associated with immunosuppression (aOR: 1.65, 95% CI: 1.09-2.48; aOR: 1.74, 95% CI: 1.15-2.63). The population attributable fractions for any ABO (excl. stillbirth), preterm birth and LBW were 8.36%, 12.5% and 10.4% respectively.

**Conclusions:** Maternal immunosuppression in the year prior to and during pregnancy was associated with increased odds of preterm birth and LBW but not with SGA. If the relationship between maternal immunosuppression and these adverse birth outcomes were causal, then approximately 10% of ABOs among pregnant women living with HIV would be attributed to maternal immunosuppression.

# International Workshop on HIV & Women 2023

**17 – 18 February 2023**
**Hybrid Meeting**
**Seattle, WA, United States**

# Abstracts
# Poster Presentations

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# Real World Clinical Outcomes of Long-Acting Cabotegravir and Rilpivirine in Cisgender Females

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The first complete long-acting injectable ART regimen (LAI-ART) was approved in January 2021 as an office-administered drug for persons with HIV. Although 3-drug regimens (3DR) have served as the foundation of treatment for HIV for the last two decades, newer evidence suggests 2-drug regimens (2DR), such as long-acting injectable cabotegravir and rilpivirine (LA CAB/RPV), provides durable virologic suppression and is well tolerated, providing persons living with HIV with additional treatment options. However, prior research has shown an association between increased virologic failure and BMI ≥ 30. This study describes demographic and clinical outcomes in cisgender females, with a median BMI 29.8, across Midway Specialty Care Center, a multi-clinic infectious disease organization in the southeast United States.
A retrospective observational study was conducted in adult cisgender females prescribed LA CAB/RPV between July 2021 through July 2022 across 8 clinics in Florida. Baseline demographics collected included age, race, ethnicity, body mass index (BMI), presence of prior diagnosis of mental health conditions defined as depression, anxiety, and/or bipolar disorder, prior ART regimen and existing comorbidities. Clinical outcomes such as HIV-1 RNA level at baseline and most recent viral load while on treatment with LA CAB/RPV were collected.
37 cisgender females received LA CAB/RPV during the specified time period. The median age was 47, with a minimum of 29 years and a maximum of 71 years. 68% (25) of the participants identified as Black, 32% (12) identified as White, of those 14% (5) identified as Hispanic. 32% (12) had a mental health condition at baseline. The median baseline BMI was 29.8 with 46% (17) of the women having a BMI above 30. 62% (23) of participants were on INSTI/NRTI regimen prior to CAB/RPV LA, 19% (7) were on INSTI/NNRTI, 14% (5) were on NNRTI/NRTI, and 5% (2) were on a PI/NRTI regimen. Median duration of prior ART regimen was 2.5 years, with a range of less than 1 year to 7 years.
Treatment time on LA CAB/RPV for the participants ranged from 4 to 60 weeks, with a median of 26 weeks. 97% (36) were virologically suppressed while on LA CAB/RPV. 8 women discontinued treatment, of those 2 were due to RPV resistance mutations, 3 patients had scheduling conflicts and could not commit to appointments, 1 experienced headaches, and 1 had insurance coverage change resulting in coverage loss. One patient experienced virologic failure, as evidenced by viral rebound and the presence of the following mutations: K101E, K103R, Y181C, at week 9 on treatment with LA CAB/RPV.
Regardless of baseline BMI, 97% of cisgender females maintained viral suppression while on treatment with LA CAB/RPV. This demonstrates favorable results among cisgender females in underserved populations that switched from various ART regimens to LA CAB/RPV.

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# Recency of HIV Infections, Viral Load Suppression, and Risky Sexual Behaviour Among Adults Living With HIV in 10 African Countries and Unaware of Their HIV Status

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**Introduction:** According to the UNAIDS fast track targets by 2030, 95% of people living with HIV should be aware of their HIV-positive status, 95% of people who know their status are receiving treatment and 95% of people on HIV treatment have a suppressed viral load so their immune system remains strong, and the likelihood of their infection being passed on is greatly reduced. Having long-term infection with viral load non-suppression increases the likelihood of transmission of HIV. In Africa, majority of women have new HIV infections compared to Men and are unaware of their HIV status, hence not

suppressed. They are also vulnerable to contracting HIV because of the inequitable access to sexual reproductive health and rights services, coupled with survival through a low socio-economic status. We aimed to determine the recency of HIV infection, viral load suppression, and engagement in risky sexual behavior among adults newly diagnosed with HIV in Africa.

**Methods**: This was an analysis of data from the HIV Impact Assessment Surveys conducted in Uganda, Cameroon, Ivory Coast, Eswatini, Ethiopia, Lesotho, Namibia, Rwanda, Tanzania, and Zambia between 2016 to 2019. Each country's data was analyzed separately using its sampling weights in STATA 16. We included people aged 18 years or older who were not aware of their HIV-positive status. Risky sexual behavior was measured by the number of sexual partners in the past 12 months and condom use. Variables of interest included demographic characteristics, viral load, and recency of HIV infection. A laboratory-based recency determination algorithm (HIV-1 limiting antigen (LAg) avidity + viral load (VL) + antiretroviral (ARV) detection) was used to distinguish recent from long-term infections. Recent infections are those acquired within the last 12 months.

**Results**: Of the 4,835 study participants, the mean age ranged from 32.5 to 38.7 years with the majority being female, having at least one sexual partner in the past 12 months before the survey, and did not use a condom during sexual intercourse. The majority were not virally suppressed [Overall: 78.7%, 95% CI, 77.4 – 80.0] and the majority had long term infection [Overall: 97.5%, 95% CI: 97.1 – 98.0]. Of the participants who had a long-term infection and were non-suppressed, the majority did not use condoms during sexual intercourse with their partners [Overall: 82.2%, 95% CI: 78.1 – 86.5]. From a meta-analysis, people younger than 35 years were less likely to have HIV viral load suppression compared to those 35 years or older [OR: 0.55; 95% CI. 0.46 – 0.67]. From a meta-analysis, people of the female sex were more likely to have HIV viral load suppression compared to those of the male sex [OR: 1.36; 95% CI. 1.12 – 1.65].

**Conclusion**: There is a high number of people unaware of their HIV-positive status, have long-term infections with high viral loads, and have at least one sexual partner with whom they had condomless sex. To reach the UNAIDS 95-95-95 targets, there is a need for innovative ways of identifying the most vulnerable PLWHIV, who are unaware of their HIV-positive status and initiating them on HAART, and evidently women make the biggest percentage of these.

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# An Innovative New Model for Investigating Early Subtype-Dependent HIV-1 Infection of the Human Cervical Mucosa

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Women across the globe are disproportionately impacted by HIV-1, with women in Sub-Saharan Africa (SSA) accounting for much of the infection burden. Most new infections in this population occur following heterosexual transmission, but the mechanism(s) through which HIV-1 is sexually transmitted across mucosal barriers remain poorly understood. HIV-1 Subtypes A and D are among the most prevalent subtypes found in SSA and are similarly distributed and subjected to identical selective pressures. Yet, the pathogenesis of Subtype D virus is far more severe than Subtype A, including greater incidences of resistance to anti-retroviral therapies, faster disease progression, and higher likelihood of death. The precise mechanism(s) causing this difference in pathogenesis are currently unknown, but disease progression has been previously correlated with viral fitness mechanisms occurring early in infection.
Understanding differences in Subtype A and D virus dissemination through the mucosal surface during the early stages of infection may inform potential subtype-based mechanisms affecting HIV-1 infection severity and disease progression. However, current models to study HIV subtype differences in women outside of long-term epidemiological studies have limited biological relevance, lack sensitivity, or fail to detect viral infection at early time points. We have therefore optimized an innovative new model for investigating acute HIV-1 infection in remnant cervical explant tissue (CET). By infecting CETs with two reporter viruses (containing the same Subtype A or Subtype D env) resulting in two separate data readout types, we were able to directly observe and quantify early viral infection and

dissemination of Subtype A and D virus in both whole CETs and isolated cell populations from CETs.
Data from 40 donor CETs demonstrated that our dual reporter HIV-1 model enabled unprecedented sensitive, precise, and reproducible detection of early infection. Although CETs were cultured for 2 weeks, differences within Subtype A and D HIV-1 infection of CETs were detectable within 72 hours following virus inoculation. Subtype D-exposed CETs were significantly more likely to become infected than those exposed to Subtype A. Further, Subtype D replicated and disseminated more efficiently in infected CETs than Subtype A. Analysis of HIV target cell populations derived from digested CETs showed that significantly more T cells and CD14+ cells became infected by Subtype D virus than Subtype A. We also observed modest differences when we compared data from ectocervix and endocervix suggesting that ectocervix was more susceptible to HIV-1 infection than endocervix, regardless of viral subtype. Overall, we demonstrated that our reporter approach enabled the sensitive, precise, and highly reproducible quantification of early HIV infection in CETs and CET-derived cells. This model represents a significant step forward in our approach to investigating and understanding the biology of HIV-1 at the site of heterosexual transmission in women. Use of this model to interrogate acute HIV-1 infection in the human cervical mucosa will inform subtype-dependent mechanisms that affect early viral infection and spread, ultimately elucidating factors influencing infection severity and disease progression.

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# Intention to Use Long-Acting Injectable Preexposure Prophylaxis (LAI-PrEP) Among Black Women at risk for HIV in the Southern United States

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**Background**: Long-acting injectable pre-exposure prophylaxis (LAI-PrEP) for HIV prevention has been proposed as an alternative to address PrEP non-adherence and for individuals with concerns with daily pills. Studies have investigated the LAI-PrEP acceptability in individuals who could benefit from this HIV prevention method, but these studies have primarily focused on sexual minority men. There is limited data on the acceptability of injectable PrEP among Black women, an important key population highly vulnerable to HIV. We examined the willingness to use LAI-PrEP among Black women at risk for HIV in the Southern U.S.

**Methods**: Participants were 491 HIV-negative Black women recruited online from March to June 2022. Inclusion criteria included being 18 years or older, identifying as Black, female or non-binary, residing in the Southern States as defined by U.S. federal government, self-reported HIV-negative status, reported unprotected sex in the past six months, having ever been diagnosed with sexually transmitted infection (STI), and speaking English. Multivariate logistic regression models were used to determine factors associated with willingness to use LAI-PrEP.

**Results**: Mean (SD) age was 40.1 (17.5), and 45% were aware of PrEP before the study. 36.7% of women were willing to use LAI-PrEP. Independent correlates of participants' willingness to use LAI-PrEP were being aware of PrEP [adjusted odds ratio (aOR=2.29, 95% CI 1.46, 3.57, p <0.001), having a personal healthcare provider (aOR=2.13, 95% CI 1.18, 3.83, p=0.012), worrying about contracting HIV aOR=1.77, 95% CI 1.10, 2.83, p=0.018, and greater trust in the health care system (aOR=1.50, 95% CI 1.10, 2.09, p=0.010).

**Conclusion**: The findings of this study suggest that Black women at risk for HIV infection are interested in PrEP if they are aware of HIV risk factors, knowledgeable about PrEP, and trust the medical care system. We assessed PrEP stigma and it was not associated with willingness to use PrEP in this population, meaning greater attention should be devoted to patient education and strengthening relationships between patients and their healthcare providers. Interventions focused on patient-centered care may reduce the effects of medical mistrust and increase patient willingness to engage in HIV prevention services.

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# Let's Talk About Sex: Facilitating Engagement about Sex and Pleasure between Providers and Women Living with HIV

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**Background:** Despite the fact that most women acquire HIV through sexual transmission, and the fundamental role of sex in women's health and well-being, sexual health remains disconnected from HIV prevention, care, research, and policy, contributing to failures in reaching and serving vulnerable women. Sexual agency, pleasure, justice, and well-being for women living with HIV are rarely studied; as a result, providers lack informed practice guidance on these topics and insufficiently address them with their clients.

**Material and Methods:** In 2021, the Women's Research Initiative on HIV/AIDS (WRI), a program of The Well Project (a non-profit organization), convened a multi-disciplinary, multi-sectoral group of expert stakeholders focused on HIV and women to develop recommendations to better integrate HIV into sexual and reproductive healthcare for women living with and vulnerable to HIV. Questions for the convening participants focused on identifying best practices, gaps, and barriers in research and policy at the intersection of HIV and women's sexual and reproductive health. Detailed notes were taken of the discussion, and recommendations were identified related to education, advocacy, research, and policy to improve sexual health for women living with HIV, which will serve to ensure that they have access to comprehensive information and services that address the whole woman—not just focusing exclusively on viral suppression.

**Results**: The 2021 WRI meeting engaged 34 multi-disciplinary thoughtleaders from the US and Canada, including clinical care, HIV research, social science, academia, advocacy, policy, government, the pharmaceutical industry, and women living with HIV. Below, we describe the recommendations for one of the key areas of discussion: how to better integrate sexual and reproductive health, with an emphasis on sex positivity, into HIV care for women. Recommendations included:

- Creating and disseminating educational resources highlighting the intersection of HIV and sexual health for all stakeholders, including women living with HIV, healthcare providers, policymakers, and researchers
- Undertaking efforts across HIV research and policy to ensure integration of sexual and reproductive health
- Highlighting best practices and developing educational resources to help providers better engage women living with HIV around pleasure, bodily autonomy, reproductive freedom, etc.
- Incorporating training on sexual health into continuing education programming required to renew clinical licenses
- Pursuing efforts to collaborate with medical schools to ensure the early integration of sexual and reproductive health into healthcare provider training and approaches to the HIV care continuum

**Conclusions:** An opportunity exists to examine the links between HIV, sexual justice, and pleasure through a lens that moves beyond vulnerability to a holistic approach that addresses the intricacies of women's lives, including their resilience, agency, and pleasure-seeking. Comprehensive and appropriate sexual healthcare for women living with HIV must acknowledge and address their lives in all their complexities (including race, socioeconomics, gender identity, motherhood/care provision, geography, etc.). Centering sexual pleasure in provider discussions with women living with HIV can start to build trust, improve women's engagement in their care, and ensure that the full range of their needs is being met.

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# Comparing Self-Reported vs. Clinical Estimate-Based Prevalence of Common Age-Related Comorbidities Among Women Living With HIV and Hiv-Negative Women in British Columbia, Canada

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**Background**: Despite effective antiretroviral treatment, the burden of age-related comorbidities remains a priority research area for women living and aging with HIV. The literature on comorbidity prevalence is inconsistent, which could reflect the various ways through which comorbidity data are obtained. We compared self-reported prevalence of common comorbidities with clinical estimates, to inform comorbidity survey data collection and interpretation for cohort studies focusing on women living with HIV.

**Methods**: The British Columbia CARMA-CHIWOS Collaboration (BCC3) is a prospective cohort study of healthy aging in women ≥16y living with and without HIV in BC, Canada. Women were asked if they have ever been diagnosed with kidney problems, liver disease/cirrhosis or high cholesterol, and if they are currently living with diagnosed depression. Clinical estimates included the Kidney Failure Risk Equation ≥stage 3 for kidney disease, FIB-4 index ≥2.67 or ≥3.25 for liver fibrosis or cirrhosis, triglycerides ≥1.7 mM or LDL ≥3.5 mM for dyslipidemia, and CES-D10≥10 for depression. Discordance was defined as "no" based on self-report and "yes" based on clinical estimates. Statistical analyses used Chi-Squared, Mann-Whitney, or Fisher's exact tests as appropriate.

**Results**: Women living with HIV (n=91) were older than controls (n=126) (median [IQR] 51 [43-58] vs. 46 [27-58] years, p=0.02). They were more likely to be unemployed (54% vs 38%), have an income <$20,000/year (62% vs. 37%), be HCV-seropositive (42% vs. 6%), currently smoke (46% vs. 25%), and currently use illicit substances (35% vs 18%); all p≤0.02. Discordance rates for women living with HIV and controls were as follows: dyslipidemia (35% vs. 26%), depression (30% vs. 28%), kidney disease (8% vs. 2%) and liver disease (13% vs. 2% for FIB-4 ≥2.67; 3% vs. 1% for FIB-4 ≥3.25). Within the HIV group, self-reported prevalence was lower than clinical estimate-based prevalence for dyslipidemia (22% vs 52%, p<0.0001) and depression (31% vs 56%, p<0.001), but not kidney (14% vs 10%, p=0.4) or liver disease (18% vs 20%, p=0.7 for FIB-4 ≥2.67; 18% vs 9%, p=0.08 for FIB-4 ≥3.25). A similar trend was seen among controls, whereby self-reported prevalence was lower than clinical estimate-based prevalence for dyslipidemia (20% vs 40%, p<0.001) and depression (34% vs 49%, p=0.015), but not kidney (9% vs 3%, p=0.1) or FIB-4 ≥2.67 liver disease (10% vs 4%, p=0.1). However, self-reported prevalence was higher than FIB-4 ≥3.25-based prevalence of liver disease (10% vs. 1%, p<0.01).

**Conclusions**: Our findings suggest that self-reported data yields generally lower prevalence than clinical estimates for these age-related health problems. High proportions of women living with HIV and controls appear unaware of the likely presence of important physical/mental health concerns that can affect their long-term health outcomes, quality of life, and aging. This could result in missed opportunities to improve their aging trajectory through risk factor modification. It could also adversely impact comorbidity data quality and interpretation in studies that rely solely on self-report. It is imperative to clearly communicate health information to women and ensure they are empowered with the knowledge and tools to inform daily behaviors, adherence to treatment, and engagement in care.

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# Mental Health Diagnoses Association with Viral Suppression in Women Living with HIV

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Approximately 63% of people living with HIV (PLWH) have a mental health diagnosis, compared to 31% of the general population. In the U.S., prevalence of HIV among women is 18%, with Black women accounting for 64% of new diagnoses. Mental health diagnoses, including depression and anxiety, are associated with poorer health outcomes for PLWH along the HIV care continuum, with decreased rates of retention in care and viral suppression. Women living with HIV (WLWH) have been diagnosed with depression four times higher than those not living with HIV and anxiety was diagnosed as high as 40%. In 2020, only 69% of PLWH were virally suppressed, with lower suppression rates within Black (62%) compared to Hispanic (70%) and White (77%) in Florida.
Data was extracted from an electronic medical record system (EMR), filtered by concurrent diagnosis of HIV, anxiety disorder and/or depression, and sex (female). Population demographic was captured by self-identified responses in the EMR, which included Race (Black, White, and Other), Ethnicity (Hispanic or Non-Hispanic), age (18-24, 25-34, 34-49, and ≥50), and sex (female or male). We compared the percentage of viral suppression to race and mental health diagnosis to determine if female patients within specific racial groups living with HIV had lower rates of viral suppression at Midway Specialty Care Center (Midway). Viral suppression was defined as HIV viral load of <200 copies/mL on most recent laboratory results, with undetectable defined as <20 copies/mL.
Of 5177 PLWH, 1415 were female. 221 of those female patients were identified to have been diagnosed with at least one mental health diagnosis of depression and/or anxiety and had at least one viral load laboratory result within the last two years (2020-2022). The self-reported racial and ethnic demographic of the patient population is 52% (116) Black, 10% (22) Hispanic, 27% (59) White, and 11% (24) Other. The median age of the patient population is 54 years old, with a minimum of 19 and a maximum of 85 years. 17% (38) of patients were identified as not virally suppressed, which is much lower than the State (31%). Increases in non-viral suppressed groups were seen in Black (10%) and White (13%), compared to Hispanic (5%) and Other (5%). Among the mental health diagnoses, non-viral suppression was comparable, with anxiety (9%), depression (9%), and anxiety/depression (7%). Within the sample population, 91% was virally suppressed with 85% of that population being undetectable.
There was not a clear association between decreased viral suppression rates and mental health diagnoses alone at Midway. Among Black and White WLWH there were lower rates of viral suppression compared to Hispanic and Other. Viral suppression was significantly higher at Midway within all demographics in comparison to the State of Florida.

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# Xpert HPV Molecular Point of Care for Cervical Cancer Screening Among Women Living With HIV in High-Burden, Low-Income Settings; “We Owe It to the Girls, Their Mothers and Grandmothers”

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**Background:** Cervical cancer accounts for 311,000 deaths globally with >85% of these deaths occurring in low- and middle-income countries. In Sub-Saharan Africa (SSA), cervical cancer disproportionately affects women living with HIV (WLHIV). The current methods used for cervical cancer screening among WLHIV in Kenya, specifically visual inspection of the cervix with acetic acid (VIA), are insensitive and underutilized. This has sustained the incidence and burden of cervical cancer among WLHIV. This study aimed to determine whether integrating Xpert HPV within

routine HIV care will influence the uptake of cervical cancer screening among WLHIV attending HIV care clinics at the Kenyatta National Hospital (KNH).

**Methods:** This was a cross-sectional study among WLHIV aged 18 years and above enrolled in HIV care at KNH HIV clinics. In the first phase, we reviewed existing medical records on the uptake of cervical cancer screening via VIA among 691 consenting WLHIV receiving care at KNH's HIV care clinic to establish baseline VIA uptake pre-introduction of Xpert HPV. In the second phase, we offered Xpert HPV testing among the 647 consenting WLHIV who accepted to test with this method. Participants were also interviewed using structured and pre-tested questionnaires to collect socio-demographic and behavioral data. Cervical smears were collected with a cervix brush device which was placed in preservCyt solution and analyzed with Gene Xpert HPV ® platform. Quantitative data were analyzed using SPSS version 23.0 at a significance level of $P \leq 0.05$ and were presented as a proportion with 95% CI.

**Results:** A total of 691 WLHIV were enrolled. The median age was 42 years (IQR 37-48) and 72% of participants had secondary education or above. Forty-six percent of participants were married, 63% had a regular source of income, and 47% had a partner known to be living with HIV. Only 25% of participants were previously screened for cervical cancer. Among those not previously screened (n=518), most (95%) accepted Xpert HPV. Prevalence of HR-HPV was 35% (232/656); 10 % HR-HPV-16, 8% HR-HPV-18, and/ or 45 and 82% for the other 11 HR-HPVs not individually genotyped by Xpert HPV. The median time to return Xpert HPV results was 60 minutes (IQR 60-80). All the results were available in the same HIV clinic visit. Overall, 96% of WLHIV with positive Xpert HPV results subsequently accepted and received VIA/VILLI assessment; of those, 26% had results predicting cervical abnormalities.
In this study among Kenyan WLHIV, integrating Xpert HPV into HIV care was feasible with high uptake and prevalence of HR-HPV. WLHIV with HR-HPV almost universally completed referrals for VIA/VILLI which frequently detected cervical abnormalities. Xpert HPV could potentially enhance cervical cancer screening programs for WLHIV in high-burden settings.

**Conclusion:** Integrating Xpert HPV into HIV care was feasible with high uptake and prevalence of HR-HPV. WLHIV with HR-HPV almost universally completed referrals for VIA/VILLI which frequently detected cervical abnormalities. Xpert HPV could potentially enhance cervical cancer screening programs for WLHIV in high-burden settings.

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# Human Papillomavirus Type Distribution Among Women Living With HIV in Uganda

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**Background**: Persistent human papillomavirus (HPV) infection can cause abnormal cervical cytology and invasive cervical cancer. The causal role of different HPV types in cervical cancer is established, but the distribution of HPV oncogenes among women living with HIV (WLHIV) in Uganda is largely unknown. This study aimed to determine the prevalence, type distribution, and associated factors of HPV infection among WLHIV at Kiboga Hospital, a rural hospital in central Uganda. Findings from this study may help inform and prioritize interventions for the prevention and treatment of cervical cancer for WLHIV in Uganda.

**Methods**: A retrospective review from July 2021 - July 2022 of abstracted demographic and clinical data; including age and ART history was conducted at Kiboga hospital among WLHIV who tested for HPV using real-time Polymerase Chain Reaction assay which identifies HPV 16, 18/45, and reports other types (31, 33, 35, 39, 51, 52, 56, 58, 59, 66 and 68) as pooled high-risk types. HPV infections were also grouped into single, double, and multiple subtypes. A Chi-square test and Logistic regression were conducted to determine factors associated with HPV infection. For all statistical analyses, p-values were two-sided and $p < 0.05$ was considered statistically significant.

**Results**: Among the 532 WLHIV tested for HPV, the median age was 35 (interquartile range: 29-41) years, and 273/532 (51.3%) had been on ART for 5.0 – 9.9 years. The prevalence of HPV was 39.7%

(211/532) (95% confidence interval (CI): 35.6 – 43.9%), HPV and majority aged 25 – 29 years (figure 1). The prevalence of pooled, 16 and 18/45 HPV subtypes were 32.1% (171/532, CI: 28.3 – 36.2), 8.6% (CI: 6.5 – 11.3) and 7.5% (CI: 5.5 – 10.1) respectively. Thirty-seven (18%) had a single subtype, 36 (17%) had 2 subtypes, and 5 (2%) had >2 subtypes. Duration on ART of 5.0 – 9.9 years (odds ratio (OR) 0.13, 95% CI: 0.03 – 0.64) compared with ART duration of less than 5 years, and age above 50 years (OR 0.18, 95% CI: 0.03 – 0.99) compared with those aged 25 -29 years, were associated with lower odds of HPV infection.

**Conclusion**: The prevalence of HPV was high, particularly among WLHIV aged 25 to 29 years. The most common types were pooled HPV other than HPV 16 and HPV 18/45. Duration on ART and age above 50 years was protective against HPV. However, given that pooled HPV contributed the highest infection, expanding the specificity in the sub-type tested would be beneficial among WLHIV in Uganda.

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# Addressing the Triple Threat: A Peer-Centered Case Management Approach Supporting Pregnant and Breastfeeding Adolescent Girls and Young Women in Kenya

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**Background:** In Kenya, the triple threat refers to the risk of HIV acquisition, pregnancy, and experiencing gender-based violence (GBV), particularly among adolescent girls and young women (AGYW). AGYW face a host of social determinants that affect their autonomy and agency in behaviors and decision-making that affect their health, well-being, economic and academic futures, and that of their children. With support from ELMA Philanthropies, the Elizabeth Glaser Pediatric AIDS Foundation designed a multifaceted peer-centered case management approach aimed at addressing gaps in responding to risks and vulnerabilities concerning the triple threat for pregnant and breastfeeding (PBF) AGYW in Homa Bay County, Kenya, called G-POWER.

**Methods:** The Girls—Protected, Optimistic, Wise, Enlightened, Responsible, and Resilient (G-POWER) project is implemented in 36 facilities in Homa Bay County and led by 40 capacitated AGYW peer mentors. A standardized pregnancy risk assessment is done for all AGYW (10-24 years) presenting to the facility at the outpatient department (OPD) to identify suspected, at-risk, and confirmed pregnant AGYW and enroll them in G-POWER or link them to prevention services. Parallel provision of screening, testing, linkage, and navigation for GBV, pregnancy, and HIV is conducted by peer mentors for all AGYW presenting to the facility. Once identified, PBF AGYW are enrolled in G-Power regardless of HIV status and complete an individualized case contact form with a peer mentor that informs their individualized care plan with messaging, mentorship, and social needs throughout their pregnancy, delivery, post-partum, and early motherhood period. PBF AGYW, both living with and without HIV, receive tailored prevention, adherence, antenatal care (ANC), post-natal care (PNC), nutrition, GBV, and early childhood development information, support, and services, including regular HIV re-testing.

**Results:** From January-September 2022, 19,916 AGYW were screened for pregnancy at the OPD. Of those, 39% (n=7,753) of AGYW were suspected to be pregnant, with 7,338 (95%) being referred for confirmatory testing. Among those tested, 37% (n=2,721) were confirmed to be pregnant, and 98% were linked to ANC and prevention of mother-to-child transmission services. HIV testing was the highest at the first ANC visit at 90% (4,028/4,460). Re-testing based on eligibility across the pregnancy cascade ranged between 50% (1,812/3,655) during labor/delivery to 73% (702/957) at 18 months post-delivery. HIV positivity was the highest at first ANC visit consistently across months with an aggregate positivity of 1.2%. 100% (48/48) of the pregnant AGYW were linked to ART. Over this period, 28,799 AGYW were screened for GBV with 3,793 cases (13%) identified and referred to support. Across the nine months, 8,316 PBF AGYW were provided with family planning methods at OPD and in the PNC clinics.

**Conclusions:** Paralleled, intentional screening and testing of HIV, GBV, and pregnancy provide an avenue of intervention, early detection, and

linkage to needed care for AGYW. The first ANC visit is a critical point for HIV testing and subsequent linkage to ART. HIV testing stockouts contributed to lower-than-preferred HIV testing across the pregnancy, delivery, and post-partum cascade. Tailored and continuous prevention messages from AGYW peer mentors support low seroconversion through the pregnancy and breastfeeding period.

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## Perception and Emotional Experiences of Infant Feeding Among Women Living With HIV in Nordic Countries

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**Background**: The success of antiretroviral therapy (ART) has to a great extent normalized pregnancy and childbirth for women with HIV (WWH). One exception is recommendations related to infant feeding, especially in high-income settings where breastfeeding is not recommended for WWH. Knowledge of the social and emotional consequences associated with the recommendation to avoid breastfeeding for WWH in high-income settings and how cultural beliefs influence the experience of infant feeding among WWH is lacking.

**Aim**: Using data from the Becoming and Being a mother living with HIV (2BMOM) study, a multi-center, longitudinal, mixed methods study among pregnant WWH in the Nordic countries Denmark, Finland, and Sweden, this study aims to describe differences in attitudes and concerns surrounding breastfeeding in immigrant WWH and WWH of Nordic origin, to explore experiences related to infant feeding, and to merge these findings with the intent to obtain a more comprehensive understanding of perceptions and emotions related to infant feeding among WWH.

**Methods**: Pregnant WWH in the Nordic countries Denmark, Finland, and Sweden were recruited in 2019-2020. Quantitative data on attitudes surrounding infant feeding was assessed using the Positive Attitudes Concerning Infant Feeding (PACIFY) questionnaire completed in the third trimester (T1), 3 and 6 months postpartum (T2 and T3, respectively). Women who completed the survey were also invited to participate in semi-structured interviews at T1 and T3. Findings from the quantitative survey data and qualitative interview data were brought together through merging to assess for concordance, complementarity, expansion, or discordance between the datasets and to draw meta-inferences.

**Results**: In total, 44 WWH completed the survey, of which 31 also participated in the qualitative interviews. The merged analyses identified three overarching domains representing commonalities across the quantitative and qualitative data: Emotional impact, Justifying not breastfeeding, and Strategies used. Not being able to breastfeed came with an emotional burden. Cultural expectations influenced the women's experience and the strategies used when having to justify their infant feeding choice in different ways.

**Conclusions**: The merged findings from this mixed methods study among WWH in a high-income setting highlight the ongoing struggles that WWH face regarding infant feeding practices, both concerning the emotional burden and the need to justify their infant feeding choice. Not breastfeeding was a complex, multi-layered process that was significantly influenced by social and cultural expectations. Healthcare providers must consider the ways culture and stigma intersect with infant feeding practices and experiences when supporting WWH.

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## Multiple Pregnancies Among Adolescents Living With HIV in South Africa

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**Background**: Adolescent pregnancy (10- 19 years) in the presence of HIV is an issue of growing attention to explore the wellbeing of the adolescent mothers and their children. Although there is a good literature on sexual and reproductive health interventions aimed at pregnancy prevention, there is no data looking at repeat pregnancies in adolescents. This is an important issue to track to understand and guide interventions and support.

**Method**: A South African study on adolescent pregnancy (n=1017) was used to compare experiences of 287 adolescent mothers living with HIV to 730 HIV-negative adolescent mothers. The prevalence of double adolescent pregnancy was measured and the associated maternal mental health (depressive, anxiety, suicidality symptomology), childcare burden and wellbeing were explored using descriptive statistics including $\chi 2$ tests and t-tests.

**Results**: The majority of mothers had a single child (92.7% (943/1017) – yet 7.3% (74/1017) had ≥2 children. Of these 4.8% (49/1017) were double-adolescent mothers, having given birth to two children at or under age 19 years and 2.5% (25/1017) had their second child when they had aged into adulthood (i.e. above 19 years). Mothers with ≥2 children were more than twice as likely to be living with HIV (54.1%vs.26.7%, p<.001). Of note, only very small percentages of mothers had planned to get pregnant with their first (n = 35, 3.9%) or second (n = 1, 1.4%) child. Maternal mental health scores were found to be worse among the group with ≥2 children, alongside higher parental stress, and lower social support (p=.002-.038). Among those who had experienced double adolescent pregnancy, adolescents living with HIV were more likely to report symptoms of suicidality compared to adolescents not living with HIV (p=0.04). For the vast majority, childcare was the responsibility of the mother, often with little support, and rarely involving the father (83.5% (n = 867) of first children, followed by maternal grandmothers (8.2%, n = 83), family outside of the father/mother's partner (5.2%, n = 53), the mother's partner who was not the father (.5%, n = 5) and the child's father (n = 4, .4%)

**Conclusion**: We found that mothers living with HIV were more than twice as likely to have a double adolescent pregnancy. Furthermore, descriptive analysis showed that more multiparous mothers had poorer well-being than primipara mothers. Mental health burden was high and childcare responsibility was rarely shared with the father. Delaying second pregnancy until the adult years has potential benefits. Overall, the findings highlight the need to improve social, psychological, and family planning support in adolescent and young mothers living with and without HIV.

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# Effect of COVID-19 Control Measures on Pmtct Services Uptake in Central Uganda, 2022

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**Background**: Coronavirus disease 2019 (COVID-19) control measures presented impediments for prevention of mother-to-child transmission of HIV (PMTCT) program in Uganda. Nationwide control measures implemented from April to June 2020 included total lockdown, public transport ban and travel permits for pregnant women to access clinics. Program adaptations instituted for continuity of PMTCT services included community drug delivery and home-based testing for HIV-exposed infants (HEI). We examined the effect of COVID-19 control measures and program adaptations on PMTCT service uptake in central Uganda.

**Methods**: We conducted a retrospective study on women and HEI receiving PMTCT services in eight districts in central Uganda. We abstracted data from medical records at 96 public clinics for six months pre-lockdown (October 2019–March 2020); three months of lockdown (April– June 2020); and six months post-lockdown (July–December 2020). We measured monthly anti-retroviral therapy (ART) refill attendances, health facility deliveries, and timely testing of HEIs for HIV (within two months of birth). We conducted segmented ordinary least squares regression of interrupted time series with Newey-West standard errors to accommodate for serial autocorrelation to assess the extent of interruption in service uptake.

**Results**: At the start of pre-lockdown (October 2019), there were 448 deliveries, 2,676 ART refills and 556 timely HIV tests for HEI. The was an increasing pre-lockdown trend for ART refills while a declining trend for deliveries and HEI tests. At the start of lockdown (April 2020), there was decline for all indicators although only significant for deliveries, -60 (95%CI: -102, -18). Lockdown monthly trends were positive with 68 more HEI tested (95%CI:42, 93) and 51 more deliveries (95%CI: 9, 94). ART refill averages were not different across months. At start of post-lockdown (July 2020), there was significant decline for HEI testing, -28(95%CI: -48, -8) and non-significant changes for delivery and ART refills. Post-lockdown monthly trend was negative for HEI testing with 70 fewer HEI tested (95%CI: -79, -62). Monthly averages were not different across months for deliveries and ART refills.

**Conclusion**: COVID-19 control measures differentially affected PMTCT services uptake. Program adaptations supported the positive trend in HEI testing and deliveries but no significant effect on ART refills. Post-lockdown withdrawal of these adaptations reversed the trend in HEI testing. Maintaining these adaptations will help restore the positive trend in timely HIV testing for HEI.

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# A Digital Intervention Customized to Support and Assist Women Living with HIV

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**Background**: Oftentimes women living with HIV face many daily challenges to obtain a state of optimal health and well-being. While antiretroviral medications allowed for over 98% viral suppression among those Rhode Islanders enrolled in the Ryan White program, we have found that women are particularly vulnerable to a plethora of comorbidities, stressors, stigma, discrimination, and social determinants that influence health outcomes.

Globally, it is well noted that women living with HIV experience gender-specific challenges to optimize their health and to prevent the risk of mother-to-child HIV transmission.

We observed (via programmatic assessments) women not virally suppressed had data pertaining to trauma, domestic violence, under or uninsured, inequitable access to health services.

To meet some of the complex needs of this population, the Executive Office of Health and Human Services (EOHHS) HIV Provision of Care & Special Populations Unit in collaboration with the 360MedLink team, developed a digital platform, TAVIE RED, to support, inform and connect with clients. The intervention entails customized modules adapted to address the specific needs of women living with HIV including prevention, contraception, pregnancy as well as menopause. The intervention was independently evaluated by HRSA and NASTAD.

**Material and Methods:** For this evaluation we analyzed data of 233 patients who have been using the platform for more than two years (2018-2020).
We performed sub analysis of the women-specific data for the 33% (78/233) participants who identified their gender as female.
Participants received an android phone pre-loaded with the platform (mobile application). Case managers received access to the professional platform on their work device (tablet or desktop). Participants completed a baseline survey and follow-up at 12 weeks in-paper and digitally through the application. Other longitudinal assessments and measures were collected electronically in-app.

**Results:** After more than two years, a majority of (77%) users are still engaged with the platform and benefiting from it. The study data for the 233 participants analyzed revealed:
• Over 5% increase (92% vs 87%) in viral suppression in this population along two years.
• 67% completed self-assessments through the platform and track measures including psychological assessments, symptoms, as well as CD4 count and Viral Load.

Significant observations among the intervention women population is the high incidence of mental health problems (43.8%) and the correlation with unemployment (88.5%), unstable housing(23.1%) and domestic violence(10.3%). These factors added to the trauma impact on clinical outcomes and engagement with care.

Participants overall rating were 3.97/5.0 (79.4%), 84% would recommend to people in their situation, 77% reported the platform was useful to learn ways to better manage their condition, 76% agreed that the app made it easier for them to take their medication and 61% agreed on usefulness making and keeping appointments.

**Conclusion:** Rhode Island- EOHHS and TAVIERX Clinikli.ai by 360MedLink Inc. have proven that this patient-centered, digital platform, can deliver tailored interventions and improved outcomes for people living with HIV, with adaptive capacity to address women-specific needs to achieve health equity and access social determinants of health.

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## Utilizing Electronic Health Record Best Practice Alert to Promote PrEP Awareness Among U.S. Cisgender Women Who Attend OB/GYN Clinics: What Have We Learned?

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**Background:** Pre-exposure prophylaxis (PrEP) awareness and uptake are low among cisgender women, despite indications. Therefore, we created an electronic medical record (EMR) Best Practice Alert (BPA) to promote provider-initiated HIV prevention counseling, including PrEP, with women.

**Methods:** EMR changes were implemented as part of a quality improvement project in OB/GYN clinics in Baltimore, Maryland, U.S. EMR BPAs were created to (1) encourage nurses and providers to add HIV risk-related ICD-10 codes to the problem list, which contains a summary of the patient's medical conditions for use by all providers; (2) offer comprehensive and easily accessible order sets that facilitate initiation of PrEP; (3) offer templates for note documentation and serve as an educational tool to ensure adequate HIV prevention counseling (Figure 1). The BPA would launch for pregnant patients with a positive HIV risk screen and non-pregnant patients if they tested positive for a sexually transmitted infection (STI). Six months prior to EMR changes were served as the baseline for comparison.

**Results:** After EMR changes, PrEP was discussed with 20.2 % of patients (52/257) in total, which was significantly increased from the baseline (vs. 0.9% [1/116], p<0.001). Although providers took no action or overrode BPAs more often for non-pregnant than pregnant patients (61.6% vs. 33.2%, p<0.001), PrEP discussion occurred more frequently among non-pregnant patients than pregnant patients (18.7% [41/145] vs. 5.5% [11/112], p<0.001). Most prenatal care providers overrode the BPA because they believed a PrEP discussion was unnecessary for pregnant women with a remote history of STI, whereas providers for non-pregnant patients reported not having enough time to discuss it with patients.

**Conclusion:** Our project finds that BPAs effectively promote PrEP discussion; however, additional interventions are needed to enhance this effect. Further education about the new CDC recommendations to inform all sexually active adolescents and adults about PrEP and the safety of PrEP, including during pregnancy, is warranted.

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## Review of the National AIDS and Sexually Transmitted Infections Case-Based Surveillance System for Viral Suppression among HIV Positive Women of Reproductive Age, Western Kenya, 2021

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**Background**: Globally, the 2020 UN targets of 90:90:90 projected that 90% of patients started on Antiretroviral therapy achieve HIV viral suppression (<400 copies/ml) monitored routinely using Viral load test. We evaluated the Case-based

surveillance system(CBS) for the viral suppression among HIV positive women of reproductive age (15–49years old) on ART since Kenya is among priority countries for validation of elimination of Mother-to-Child Transmission of HIV & Syphilis.

**Methods**: We retrospectively reviewed records from the CBS system in three HIV high burden sub-national levels as at April 2021. Revised CDC guidelines were used to evaluate the following system attributes; Representativeness, simplicity, completeness and timeliness. Descriptive, bivariate and multivariate analysis of age, drug regimen and regimen line were conducted with odds ratios being determined for association with viral suppression.

**Results**: The CBS system is real time obtaining data from Electronic Medical Record systems used in 41% of the facilities (1493/3650) with completeness, reporting rate and timeliness at 87.6% and 84% respectively. We reviewed 119,109 records: mean age was 35 years (SD ± 7.9) with viral suppression rate of 95.5%. Age group 15–24 years had the lowest viral suppression rate at 90.7%. Women on TDF/3TC/DTG (TLD) and AZT/3TC/DTG had highest and lowest viral suppression rates of 98.4% and 66.8% respectively. Suppression on 1st line was 95.8% while 2nd line was 88.6%. The odds of Viral suppression were 6 times higher among women on TLD compared to other ART regimens (aOR: 6.17, 95% CI: 5.77–6.60). Other independent variables included those above 25 years of age and being on 1st line regimen with (aOR: 1.95, 95% CI: 1.82-2.11) and (aOR: 1.17, 95% CI: 1.08-1.28) respectively.

**Conclusions**: Representativeness, simplicity, completeness and timeliness were good. Viral suppression surpassed 2020 UN targets though lower for those aged 15–24 years and those on 2nd line. We recommend TLD optimization amongst adolescents and young women.

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# HIV Prevalence and Associated Factors Among a Clinical Cohort of Transgender Women in Canada: Bridging Gaps in Knowledge for Priority Populations

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**Background**: Data on HIV prevalence among transgender (trans) people are not routinely collected nor reported in national estimates, including in Canada. This lack of data may contribute to gender-based inequities in the HIV response. Trans women, in particular, experience a disproportionate prevalence of HIV globally, influenced by stigma and discrimination, and are considered a priority population for HIV prevention and care. Thus, our study sought to examine the HIV prevalence and associated factors among trans women engaged in clinical care in the two largest Canadian cities. An overarching goal of this study was to inform the development of targeted interventions to reduce HIV inequities among trans women.

**Methods**: Retrospective data were collected from clinic charts of trans women aged 16+ across six family medicine and/or HIV clinics in Montreal and Toronto, Canada from 2018-2019. The prevalence of HIV was reported overall and then compared across sociodemographic, and clinical subgroups followed by univariate and multivariable logistic regression.

**Results**: Among 1059 patients, 7.5% were living with HIV, 54.4% were HIV negative, and 38.1% were missing HIV status data. Multivariable logistic regression analyses showed higher odds of being 50+ vs. <30 (aOR: 2.52, 95% CI: 1.10, 5.81), Black race vs. white (aOR: 4.35, 95% CI: 1.41, 13.43),

landed immigrant/permanent resident status vs. Canadian citizen (aOR: 5.76, 95% CI: 1.54, 21.42), receiving social assistance vs. not (aOR: 4.63, 95% CI: 1.43, 14.93), ever recreational drug use vs. never (aOR: 3.95, 95% 1.19, 13.06), and a history of hepatitis B vs. no history) (aOR: 4.44, 95% CI: 1.12, 16.75), among trans women living with HIV.

**Conclusions**: The prevalence of HIV in this cohort of trans women in clinical care was lower than expected based on global estimates while also high at 7.5%. That over one-third of patients did not have a documented HIV status suggests major gaps in HIV testing. These findings also highlight socioeconomic (e.g., low income), psychosocial (e.g., precarious immigration status), and medical (e.g., co-morbid health conditions) challenges among trans women that may be associated with HIV diagnosis and/or suggest impacts on trans women's lives post HIV-diagnosis. These findings can be used to inform the development of HIV prevention and support programs that facilitate engagement and care of trans women experiencing intersecting challenges.

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# Dual Pandemics: Understanding Cisgender Black Women's and Latinas' Perceptions of Vulnerabilities to HIV During the COVID-19 Pandemic

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**Background**: Before the COVID-19 pandemic, the HIV epidemic in the United States (U.S.) significantly impacted cisgender women, particularly and disproportionately those who identified as Black. U.S. Black women received new HIV diagnoses 14 times more than their white counterparts and four times that of Latinas. The social and structural vulnerabilities that elevated Black women and Latina's exposure to COVID-19 also may have created or perpetuated vulnerabilities to HIV. This study explores how women perceived their risk for HIV and whether the pandemic impacted their perceived risk.

**Methods:** We conducted interviews as a part of a randomized controlled trial in Duval County, FL. Eligible participants included those ages 18-45 and self-identified as women. In addition, we invited those identifying as Black, Latina, or multi-racial to complete a 1-hour interview via Zoom between July 2021 - July 2022. Participants (n=25) answered questions about HIV risk in their communities, how the COVID-19 pandemic may have impacted their community's HIV risk, and whether their risk of HIV shifted due to the pandemic. Data were analyzed thematically.

**Results:** Participants perceived that the pandemic caused changes in access to healthcare, people's sexual behaviors, and their trust in health information. Overall, participants perceived that the pandemic did not impact their risk for HIV, which they already perceived as low. However, many participants reported that HIV risk in their communities had likely increased due to the pandemic. Reasons for increased HIV risk included COVID restrictions resulting in less access to healthcare and community programs, such as mobile HIV testing units and condom distribution, and that apathy around COVID caused some people to be more careless about managing their health. Those who thought HIV exposure likely decreased due to the pandemic believed that people in their communities followed shutdown ordinances and remained at home; however, some speculated that HIV rates were likely to rebound as people pushed a "return to normal." Additionally, a few participants expressed skepticism about health information and technologies, such as infection rates in communities of color and the COVID-19 vaccine, which a participant believed was being pushed on people. People's perceptions of individual HIV risk remained low throughout the pandemic; however, they perceived shifts in their community's risk while also questioning the reliability of available and emerging health information and technologies.

**Conclusion:** Participants accurately described the HIV prevention landscape during the COVID-19 pandemic – priorities and HIV-related services diminished as clinical care and public health services ramped up to address the burgeoning impacts of COVID-19. Although health systems were exceptionally strained during the COVID-19 response, participants perceived the ongoing need for HIV-related information and services in their communities. Additionally, mistrust of public

health information during the pandemic may pose challenges as public health systems return attention to HIV prevention services. In the future, public health systems must consider mechanisms to ensure that communities maintain access to necessary and reliable HIV prevention information and services during public health crises, as structural vulnerabilities in one domain likely contribute to vulnerability in another.

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# Prevalence, Incidence, and Recurrence of Sexually Transmitted Infections in HIV-Negative Adult Women in a Rural South African Setting

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**Background**: Curable sexually transmitted infections (STIs) including chlamydia, gonorrhoeae, and trichomoniasis are of major public health concern. South Africa remains the epicenter of the HIV epidemic, and STIs play an important role in HIV transmission, especially in women who tend to be more asymptomatic and inadequately treated for STIs. While STI incidence rates in South Africa are high, longitudinal data on incidence and recurrence is very limited, particularly in rural settings. In this study, we determined incidence rates of curable STIs in HIV-negative women in a rural South African population.

**Methods**: We collected prospective data on participants in Limpopo province, South Africa, enrolled in a randomized, controlled trial to evaluate safety and efficacy of a dapivirine-containing vaginal ring for HIV prevention, which concluded in October 2015. Participants were female, aged 18-45, sexually active, on birth control, not pregnant, and HIV negative. At each study visit, participants were provided risk reduction counseling on HIV, STIs and contraceptive adherence. 12-weekly laboratory STI testing was performed during 104 weeks of follow up. STI treatment was provided sydromically or after a laboratory-confirmed STI. Incidence was calculated as the number of STIs detected after a previous negative test divided by the total person-years at risk (PYAR) and reported as the number of events/100 PYAR. Time-to-event analysis of possible risk factors for STI acquisition was performed by Cox proportional hazard models.

**Results**: In total, 119 women were included in the study, with a median age of 23 years (IQR 22-28). Of enrolled participants, 95 (79.8%) completed the full 104 weeks of follow-up. Prevalence of one or more STIs at baseline was 35.3%. Over 182 PYAR, a total of 149 incident STIs were diagnosed in 75 women (65.2%) with incidence rates of 45.6 events/PYAR for chlamydia, 27.4 events/100 PYAR for gonorrhea and 8.2 events/100 PYAR for trichomoniasis. 44 women developed ≥2 incident STIs. Sensitivity and specificity of vaginal discharge for laboratory-confirmed STI was 23.6% and 87.7% respectively. Risk factors for incident STI included being in a relationship for ≤3 years (aHR: 1.86. 95% CI: 1.04-2.65) and having an STI at baseline (aHR: 1.66 95% CI:1.17-2.96). Six women (5.0%) experienced HIV seroconversion during follow-up and all six had at least one STI while four had an incident STI at time of HIV diagnosis.

**Conclusions**: We demonstrate high STI incidence and recurrence rates in HIV negative women in rural South Africa despite intensive counseling on STIs and risk behavior. Sensitivity of vaginal discharge for laboratory-confirmed STIs was very poor, underscoring the deficiency of syndromic management, which remains the standard of treatment and care for STIs in South Africa and many other settings. Taken together, these results illustrate the severity and complexity of the STI epidemic in rural South African populations and highlights an urgent need for improved clinical and public health interventions, including the need for linkage between prevention, testing and treatment strategies for HIV and STIs.

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# Promoting Disclosure for Retention and Viral Suppression among Pregnant and Lactating Women Living with HIV at AIDS Information Centre, Kampala Branch, Uganda

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**Background**: Pregnant and lactating women living with HIV are encouraged to disclose their HIV status to their partners in order to facilitate linkage to HIV testing and prevention services as well as ART. Disclosure also promotes good adherence, retention in care and suppressed viral load of the positive mothers and plays a role in preventing HIV transmission to the negative partner.
Between October 2020 and September 2021 at AIC Kampala branch, poor retention, high non-suppression rates (4.6%) due to high numbers of missed appointments and lost to follow up was a challenge identified amongst the pregnant and lactating mothers (PLM) therefore increasing the numbers of high-risk HIV exposed infants. The predominant reason for these was non-disclosure to their sexual partners.
In response, a 1-year Quality Improvement (QI) project was implemented to address non-disclosure amongst the PLM so as to reduce poor retention and non-suppression.

**Materials and Methods:** Using a baseline value of 14% PLM who had disclosed their HIV status to their partners in October 2021, an improvement plan was drawn outlining changes to be implemented to improve numbers of PLM with complete disclosure including: adherence counselling for all PLM with missed appointments, intensive adherence counselling for the non-suppressed PLM, positive living health education for PLM attending family support group meetings, conducting home visits for the lost mothers and strengthening index partner testing (APN) for PLM. 108 (40 pregnant, 68 lactating) mothers who had not disclosed to their partners were followed up from October 2021 to September 2022. The QI project was evaluated at the end of 1 year period.

**Results**: At the end of the implementing period, 94 (87%) mothers had disclosed their HIV status to their partners. Of these 30(31%) were through the adherence counselling sessions, 29(30%) through index partner testing, 30(31%) through the family support group meetings and 5(5%) through the home visits of the mothers lost to follow up. 14(13%) mothers are still in the processes of disclosure.

Retention amongst the lactating and pregnant mothers improved to 95% from 38% and non-suppression reduced to 0% during the implementing period. There were no HIV positive babies documented.
Newly identified HIV positive PLM found it more difficult to disclose their HIV status than PLM on ART more than 6 months.
3 male sexual partners who tested HIV positive were linked to ART services and 2 HIV negative males to HIV prevention services (PrEP).

**Conclusion**: Targeted interactions for disclosure among PLM women support better outcomes in HIV care cascade for both the women and their sexual partners.

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# Women Living With HIV in the UK Rely on Self-Education, Self-Advocacy and Peer Support to Make Fully Informed Decisions Regarding Their Infant Feeding Choices.

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**Background**: Between 800 and 1,000 pregnancies occur in women living with HIV in the UK each year. Women with HIV face complex decisions regarding infant feeding, especially within

communities where breastfeeding is the norm. UK HIV and infant feeding guidelines advise exclusive formula feeding to avoid all risk of HIV transmission. However, they state that women who wish to breastfeed should be supported to do so (for up to six months) if they are virologically suppressed on antiretroviral therapy (ART), have regular clinical monitoring and are informed of the low risk of transmission, even in the context of suppressive ART. The guidelines also recommend that peer support is offered to all pregnant women with HIV.
Using qualitative methods, we explore how uneven levels of information and support offered in clinical encounters create significant disparities in new parents' abilities to make informed decisions regarding infant feeding.

**Methods**: Remote, semi-structured interviews, (online or via telephone) with individuals with HIV who were either pregnant or had given birth within 12 months (conducted between April 2021 – January 2022). Interview data were analysed thematically using NVivo 12.

**Results**: Of 36 cisgender women participants, eight were pregnant; 28 were postpartum. The majority of postpartum participants formula feed; six had breastfed. Many participants were aware of the latest UK HIV and infant feeding pregnancy guidelines but the source of their knowledge had sometimes not been a healthcare professional (HCP) but through a combination of: personal engagement and knowledge exchange through professional work, HIV peer support or advocacy groups and/or researching online resources for clinical evidence. Importantly, a few women with less access to wider resources, did not recall receiving full information about the UK guidelines from their clinicians.

Even among those who were aware of the latest guidelines, only half reported feeling consistently supported by their multidisciplinary team (MDT) in their infant feeding discussions and decisions. Some women recalled having to 'educate' HCPs about HIV and infant feeding; occasionally women received contradictory advice from different members of the MDT. When faced with these circumstances, women with experience of self-advocacy, peer support and sourcing external resources were better able to manage their clinical interactions and make informed decisions about infant feeding. However, women who were less empowered in these ways relied almost entirely on their clinical teams for advice and support, and our data suggests that some women did not experience informed and shared decision-making.

**Conclusion**: Women living with HIV in the UK who wish to breastfeed receive inconsistent support from their MDTs. Many report having to become an "expert patient", actively seeking information and external sources of support, in order to advocate for themselves. This amplifies pre-existing health inequities, as those with more resources and self-efficacy are able to advocate for themselves more effectively. To deliver equitable care, we recommend: (1) proactive HCP-led conversations on infant feeding with all pregnant parents living with HIV; (2) robust peer support referral pathways; (3) improved awareness and training for HIV MDTs on national HIV and infant feeding guidelines.

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# Reproductive Coercion and HIV Testing Among Black Women with Histories of Forced Sex Accessing Services at STD Clinics in Baltimore, MD, USA

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**Background**: Black women are disproportionately affected by the intersecting epidemics of gender-based violence and HIV. Reproductive coercion (e.g., birth control interference and forced pregnancy) is an understudied type of gender-based violence and encompasses behaviors that interfere with a woman's reproductive outcomes. These efforts to maintain power imbalances can negatively impact women's sexual and reproductive health outcomes including HIV preventive care (e.g., HIV testing). Black women, who comprise 60% of incident HIV diagnoses among women, are more likely to receive a late-stage AIDS diagnosis than their White counterparts. Given that "diagnose" is a key pillar

of the US Ending the HIV Epidemic Initiative to reduce incident HIV diagnoses by 2030, identifying interventions to improve HIV testing efforts in this key population is of critical importance. To inform the development of those interventions, we examined the role of reproductive coercion on HIV testing among Black women with histories of forced sex.

**Materials and Methods**: Secondary analyses of cross-sectional data collected from Black women aged ≥18 years with histories of forced sex (n=98) accessing services at STD clinics in Baltimore, MD were conducted. Lifetime and 12-month prevalence of reproductive coercion victimization and perpetration were computed. Binomial logistic regression models were used to examine the association between reproductive coercion victimization and reproductive coercion perpetration and past 12-month HIV testing. Age, sexual orientation, current employment status, current relationship status, lifetime pregnancy history, and other types of violence (e.g., psychological, physical, and respondent perpetrated physical) were included as covariates.

**Results**: Lifetime and 12-month reproductive coercion victimization prevalence were 27.2% and 12.1% respectively. Lifetime and past 12-month prevalence of reproductive coercion perpetration were 19.5% and 11.4% respectively. Approximately 10% of women reported experiencing both lifetime reproductive coercion victimization and perpetration. The prevalence of past 12-month HIV testing was 50%. No statistically significant associations were identified; however noteworthy directions of associations were observed. Accounting for potential confounders, Black women with lifetime and past 12-month reproductive coercion victimization had a lower odds of being tested for HIV in the past 12-months (AOR 0.92; 95% CI: 0.46, 1.79, p=0.79 and AOR 0.78, 95% CI: 0.35, 1.65, p=0.51 respectively). Conversely, women with lifetime and past-12-month reproductive coercion perpetration, had a higher odds of being tested for HIV in the past 12-months (AOR 1.40; 95% CI: 0.71, 2.85, p=0.34 and AOR 1.08, 95% CI: 0.46, 2.60, p=0.86 respectively).

**Conclusions**: Our findings were unexpected in that we did not observe significant associations between reproductive coercion victimization or reproductive coercion perpetration and past 12-month HIV testing. It is plausible that our sample sizes were too small to detect any statistically significant associations. Therefore, additional qualitative research is needed to further contextualize these findings.

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# Prevalence, Knowledge and Awareness of Genital Chlamydia among Sexually Active Women Living With HIV in Western Kenya.

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**Introduction:** Chlamydia trachomatis is a bacterium that's sexually transmitted. It affects sexual and reproductive health among women and men. Chlamydia can also be perinatally transmitted from mother to child resulting in poor pregnancy outcomes, including congenital deformities. Women infected with Chlamydia are five times more likely to become infected with Human Papilloma Virus (HPV), among other STIs. If untreated, the infection can cause infertility, ectopic pregnancy and Pelvic Inflammatory Diseases. Syndromic approach in developing countries has resulted to under-reporting. The study investigated the prevalence and predisposing factors associated with Chlamydia infection among sexually active women.

**Materials and Methods:** The study was cross-sectional, conducted among women living with HIV, and aged 18 to 49 seeking HIV care and treatment at Comprehensive Care Clinics (CCC) at Kisumu County Referral Hospital, Western Kenya. Three hundred eighty-five (385) women were eligible and completed the electronic questionnaire after consenting. We collected socio-demographic and clinical data, and either the health providers or the women self-collected vaginal swab samples. Using a rapid point-of-care (POC) diagnostic test kit, we tested the samples for Chlamydia trachomatis. Women who tested positive were treated with a single dose of azithromycin.

**Results:** Twenty-nine (29; 7.5%) participants tested Chlamydia-positive and were treated; of whom (96.6%) had multiple partners, 13.8% had a history

of gonorrhea, 72.4% had upper tract infections (UTI), and 24.1% syphilis. Chlamydia positivity was highest (48.3%) among inconsistent condom users and lowest (10.3%) among users. Women in polygamous relationships and low education had higher prevalence (7.3%). The age group 18-25 years had the highest positive cases (79%; 5.7%). Factors associated with Chlamydia were: multiple sexual partners, adjusted odds ratio (aOR) 15.7 (95% CI: 2.1, 120); being infected with other STIs, aOR 4.0 (95% CI: 1.3, 12.5); and having UTI aOR 4.3, (95% CI: 1.8, 10.7). Nearly all participants (92%) had never heard of Chlamydia, had no explicit knowledge of the symptoms or effects of Chlamydia infection. Self-collection of vaginal swabs was highly acceptable (99.7%).

**Conclusions and Recommendations:** Chlamydia trachomatis infections are prevalent among women with multiple sexual partners, who are co-infected with other STIs, and/or inconsistently use condoms. Most women had poor knowledge of symptoms and Chlamydia-associated risk factors; therefore, awareness may ease the STI burden. Using Chlamydia POC diagnostic tests, provision of same-day results and treatment is feasible.

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# Supporting Informed Decision-Making on Infant Feeding and HIV: Listening to Women

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**Background**: Breast/chestfeeding is considered the healthiest infant-feeding option for women worldwide, and is the standard of care for women living with HIV in resource-limited settings. A paucity of data on breastfeeding and HIV in high-resource settings means that most guidelines in these settings take a risk-averse approach, recommending exclusive formula-feeding for women and birthing parents living with HIV. Elimination of HIV transmission risk often overrides all other concerns in these settings, overlooking other important factors (e.g., health and wellbeing benefits of breastfeeding; family and cultural expectations; and lack of financial resources to formula feed). This limits healthcare providers' (HCPs) ability to support informed infant-feeding decision-making in this population. In both the US and the UK, women and birthing parents living with HIV are disproportionately from racialized communities and/or face poverty; infant-feeding experiences are therefore embedded in the intersecting forces of structural racism, gender bias, and economic injustice.

**Materials/Methods**: Two groups are responding to the demonstrable need for greater person-centered research, policy, and education on infant feeding for women and birthing parents living with HIV.

1. Nourish-UK (NUK) is a UK-based qualitative study exploring how women and birthing parents living with HIV decide how to feed their newborn babies. In 2021-2022, the team (comprising HCPs, social scientists, and women living with HIV) interviewed 36 cisgender women living with HIV and two male partners.
2. The Well Project (TWP) is a US-based non-profit organization that leverages web-based technology to improve health outcomes and quality of life for women living with and vulnerable to HIV. TWP conducted a 2021 survey on breastfeeding experiences among women living with HIV (n=33).

**Results**: TWP and NUK both document similar experiences among women living with HIV in two high-income regions. (Both studies were planned to be gender inclusive, but only heard back from participants who self-identified as cisgender women.) Greater access to information and support from providers were key needs expressed by women in both studies.

In TWP's survey, respondents frequently reported challenges when expressing interest in or intentions to breastfeed. These included HCPs who were not well informed about the minimal risk of HIV transmission through human milk when on suppressive antiretroviral therapy (43%); lack of information for parents about the risk of HIV transmission through human milk (43%); lack of support (32%); and fear of criminalization (32%).

NUK participants reported inconsistent access to infant-feeding information from their multidisciplinary teams; information was sometimes incomplete or inaccurate. Data suggested that HCPs' apparent limited awareness

of national guidelines and data were a barrier to open conversations about infant-feeding options. Half of all respondents described not feeling supported in shared decision-making.

**Conclusion**: When HCPs are aware of transmission rates and describe infant-feeding choices in a fully informed way, women feel more confident about their decisions, regardless of whether they choose to breastfeed or formula feed. Efforts in this arena are strengthened when providers are responsive to infant-feeding inquiries from parents living with HIV, recognize their autonomy, and trust that they will use available information to make informed decisions.

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## Sex Modifies the Risk of HIV-associated Obstructive Lung Disease in Ugandans

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**Background**: Obstructive lung disease (OLD) is a common comorbidity among people with HIV (PWH). Women with HIV are at increased risk for many aging-related comorbidities, including cardiovascular disease, as compared to men with HIV. However, few studies have evaluated whether women with HIV are also at increased risk for OLD.

**Methods**: The Inflammation, Aging, Microbes, and Obstructive Lung Disease Study is a prospective longitudinal cohort study of lung function in adults initially presenting with pneumonia, including tuberculosis (TB), in Kampala, Uganda. Both HIV-positive and HIV-negative non-pregnant adults are eligible. In this analysis, spirometry was obtained at set intervals after completion of pneumonia therapy and with participants in stable health. The associations between sex and lung function were evaluated using multivariable linear and logistic regressions adjusting for age, BMI, smoking status, HIV status, and biomass fuel exposure. These models were then stratified by HIV status to examine whether these associations differed among men and women with and without HIV.

**Results**: Among 348 participants, 135 (39%) were HIV positive and 147 (42%) were women. Sixteen (11%) women and 23 men (11%) had OLD. The HIV-sex interaction was significant for obstructive lung disease (p=0.04). In the adjusted stratified analysis, women with HIV had 3.44 (95% CI 1.11, 12.0; p=0.04) increased odds of having OLD compared to men with HIV. Women without HIV did not have increased odds of having OLD compared to men without HIV.

**Conclusions**: HIV appears to increase the risk of OLD to a greater degree in women than in men in an urban Ugandan setting. The mechanistic explanation for this interaction by sex remains unclear but warrants further study.

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## Adapting and Operationalizing the Women-Centered HIV Care Model for Trans Women Living with HIV

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**Background**: The Women-Centered HIV Care Model (WCHC) Model was developed in 2019 in response to the complex individual and societal factors that undermine women living with and affected by HIV in healthcare settings. In the years since, there have been questions about the model's capacity to serve transgender (trans) women, who experience disproportionately high rates of HIV compared to cisgender (cis) adults.

Additionally, cisnormativity, income barriers, racism, as well as stigma and discrimination against substance use and sex work may adversely impact trans women's access and uptake of HIV care. The insights of trans women and other gender-diverse individuals (e.g., those who identify as transfeminine nonbinary) are critical to ensure the model addresses their unique needs and experiences, as well as to optimize their HIV prevention and care.

**Methods**: Seventeen semi-structured interviews with trans women were completed August-November 2022. Given the importance of prevention within the HIV care cascade, we included trans women who do not currently have HIV, and do not know or did not wish to disclose their HIV status, as well as those living with HIV. Participants were recruited through purposive sampling with the intent of recruiting a sample diverse in gender identity, socioeconomic status, race, and sexuality to elicit perspectives marginalized in research. Interviews were recorded, transcribed verbatim, and analyzed using Braun and Clarke's six-phase thematic analysis.

**Results**: Preliminary results indicate that respondents were largely satisfied with the WCHC Model and felt the sections comprehensively addressed their healthcare needs, directly and indirectly related to HIV. However, they raised several unique considerations for the implementation of the model for trans women, from which three overarching themes emerged. First, they identified a lack of knowledge among healthcare providers about trans women's unique needs and how they align and differ from cis women's needs with respect to each section of the model. For instance, they recognized that while all women are disproportionately affected by violence—and consequently, require trauma-informed care—healthcare providers must understand how anti-trans stigma intersects with gender-based violence to meet trans women's needs in this regard. Secondly, they affirmed that women's health and trans women's health are not discrete binary categories, advancing a more dynamic conception of womanhood that encompasses gender diversity. Lastly, participants shed light on navigating tensions between the community and the individual, highlighting that trans women are not a monolith and emphasizing the importance of person-centered care within community-specific healthcare models.

**Conclusions**: Participants' feedback on the WCHC model provides key perspectives on the tension between women's needs and trans women's needs, which are typically treated as separate in healthcare spaces. Their insights advance more dynamic conceptions of womanhood, community, and self which underpin affirming and inclusive healthcare implementation. This requires providers to understand the contexts that shape communities' experiences while addressing the unique needs and priorities of the individuals within them. This perspective emphasizes the importance of ongoing community involvement in healthcare and has critical implications for the implementation of the WCHC Model for other groups who are disproportionately affected by HIV (e.g., Indigenous women).

## 40

Abstract 40 was withdrawn.

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# Using a Trauma-Informed Practice Approach in HIV Care Demonstrates the Critical Role of Agency and Respect in Positive HIV Care Continuum Outcomes

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**Background**: Evidence suggests that most women living with HIV have experienced trauma and/or violence. Therefore, interest in 'trauma-informed' practice, which encompasses a holistic understanding of a person's life experiences and how these experiences affect engagement in health care services, is growing. extensive work has applied these principles in other fields, including mental health and addictions (e.g., US Substance Abuse and Mental Health Services Administration (SAMHSA)), limited evidence exists

to guide such approaches in HIV practice. We examined the association between 19 explanatory variables measuring characteristics of women's main HIV care experience with provider/clinics, drawing on the SAHMSA's trauma-informed practice framework, and multiple outcomes related to HIV treatment/ care continuum access.

**Materials and Methods**: Data were drawn from a longitudinal community-based open cohort with women living with HIV in Metro Vancouver (SHAWNA). The 19 variables were conceptually grouped under five categories: low-barrier accessibility, safety and respect, strength-based collaboration and empowerment, peer support and gender/family-specific services. Data from 2014-2019 (4.5 years) were analyzed using bivariate and multivariable logistic regression with generalized estimating equations to investigate the associations between the 19 explanatory variables and multiple outcomes including: being on antiretroviral therapy, optimal (>95%) HIV medication use, taking all medication in the last two weeks and HIV medication self-efficacy. Adjusted odds ratios (AOR) and 95% confidence intervals are reported.

**Results**: Among 313 women (with a main HIV provider/clinic, the median age was 45 years (interquartile range:38-52), and 9.0% (n=28) self-identified as gender minority (including trans and non-binary). Overall, 55.6% (n=174) of women were Indigenous, 34.8% (n=109) were white and 9.6% (n=30) were other racialized women of colour. Among 306 women who were on ART, 72.6% had optimal (>=95%) ART use in the last month, 65.4% of women took all HIV medication in the last two weeks, and 91.2% reported being extremely/very sure they could take all their HIV medication as directed (HIV medication self-efficacy) at baseline. In multivariable logistic regression, reporting "I feel like an active participant in my own HIV treatment/care" was associated with higher odds of being on ART (AOR:2.48[1.19-5.16]), HIV medication self-efficacy (AOR:2.50[1.41-4.82]) and reduced odds of missing HIV medication in the last two weeks (AOR:0.58[0.36-0.92]). Reporting "I feel comfortable getting my pap and discussing sexual health" was significantly associated with optimal (>95%) ART use (AOR:1.40[1.03-1.90]), and reporting "I feel comfortable discussing my pregnancy and reproductive needs" was significantly associated with HIV medication self-efficacy (AOR:1.51[1.08-2.10]). Reporting "I am able to get an appointment when I need it" (AOR:0.62[0.43-0.90]) and "I am not concerned about others knowing my HIV status in the waiting room" (AOR:0.69[0.50-0.95]) were significantly associated with reduced odds of missing HIV medication in the last two weeks.

**Conclusions**: Our study provides evidence that incorporating key characteristics of trauma-informed practice within women's HIV care, particularly principles of safety and respect (e.g., feeling safe discussing sexual and/or reproductive health, confidentiality) and strength-based collaboration and empowerment (e.g., agency in scheduling, actively participating on one's own care) can support better access along the HIV care continuum among women and improved health outcomes overall.

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# Infantilization, Rejection and Low Self-Esteem: The Three Major Contributors to HIV Exposure Among Women With Disabilities – Findings From Focused Group Discussions Conducted by AIDS Information Centre Among Persons With Disabilities in Kampala City.

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**Background:** Persons with disability (PWDs) have equal rights to sexual and reproductive choices. However society has disregarded their sexuality and reproductive concerns, aspirations and human rights. PWDs are infantilized and held to be asexual (or in some cases, hypersexual), incapable of reproduction and are unfit sexual/marriage partners or parents. In Kampala City, the sexual and reproductive health and rights (SRHR) of PWDs continue to be contested, and there are particular concerns in relation to women with disabilities (WWDs). For women, disability often means exclusion from a life of femininity, partnership, active sexuality and denial of opportunities for motherhood. However, WWDs are still sexual

beings, with sexual feelings but are often compounded by disability-based discrimination. Unfortunately, too many existing programs do not take into account the unique dangers and challenges faced by WWDs in regards to sex, relationships and intimacy. Without specific attention, interventions and solutions, these women have been left behind and at risk.

**Material and methods:** With support from PEPFAR, AIC reached out to PWDs to improve their quality of life in line with HIV programming in April 2022. The intervention involved working with caretakers, peers and city authorities to offer HIV testing services, condom education and distribution, Integrated HIV/SRHR/GBV education, dialogue meetings among others. To identify and address barriers faced by PWDs, Focused group discussions and in-depth interviews were held in three divisions of Makindye, Rubaga and Central divisions, Kampala city

**Results:** Out of 240 PWDs involved in this assessment ,156(65%) were female. 23(15%) disclosed that they were females working in the sex industry, however, they were sometimes not paid or were underpaid after offering their services due to Infantilization and rejection. 5(3%) disclosed that they themselves pay men to have sex as men isolate them due to their physical appearance and internalized stigma .Of the 23 females working in the sex industry, only 3 were using condoms and non-had an idea about Pre Exposure Prophylaxis (PrEP) or the use of self-testing kits (HIVST). Of the 28 exposed WWDs tested for HIV , 4(14%) were positive, started on treatment and the 24 negative clients were started on PrEP. 18 females were provided with HIVST kits to test their partners.

**Conclusions:** As the global community aspires to leave no one behind, WWDs need to be treated equally, sensitized about their own bodies, relationships and SRHR. Development agencies, power holders and SRHR service providers ought to build programs that are gender responsive and protect the rights of PWDs with WWDs given special attention. This will require commitment, sustained focus, and action.

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# Factors Associated With Uptake of HIV Testing for Women in Sexual Health and Genitourinary (GUM) Clinics in Wales. A Cross Sectional Survey

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Women are often left behind when it comes to accessing HIV services which are essential for achieving the first 90% stipulated by the UNAIDS, of diagnosing people living with HIV. Due to structural barriers of HIV women are left undiagnosed as these societal drivers inhibit them from accessing essential HIV services. The research seeks to identify the determinants which have inhibited women from taking up HIV testing in sexual health clinics (SHCs) and genitourinary clinics (GUM).

Sexual Wales Surveillance (SWS) dataset was used to collect HIV testing data from 2015-2021. Univariate and multivariate logistic analysis was carried out to identify associations among the variables. The Mantel Haenszel test was used to get stratified odds ratios. Furthermore, the Welsh Index of Multiple Deprivation (WIMD) data was merged with the SWS dataset to identify deprivation across areas in Wales. Stata v.16.1 was used to carry out statistical analysis. Survey weights were applied as health boards were separated into clusters.

The prevalence of HIV testing in sexual health and GUM clinics in Wales for women in 2021 was 36.1% whilst men had a prevalence of 63.9% in the same year (n=9,858). Men attending sexual health and GUM clinics in Wales from 2015 to 2021 were aOR 2.99 (95% CI:2.96-3.02; p<0.001;). Moreover, women from Cwm Taf Morgannwg had an odds ratio of aoR 0.71(95% CI=0.70-0.74; p<0.001). Women testing from Aneurin Bevan Health board had an odds ratio of aoR 0.50(95% CI=0.49-0.51;p <0.001) whilst women from Swansea Bay health board had an odds risk aoR 0.83 (95% CI= 0.81-0.86;p<0.001).Women testing for HIV in the most deprived quintiles in Wales, that is 1 and 2 had an

odds risk of aoR 0.87 (95% CI=0.86-0.89;p<0.001) and aoR 0.88(95% CI=0.86-0.90;p<0.001). Moreover, women who tested for HIV in in the deprivation quintiles 3 and 4 had an odds risk of aoR 0.97(95% CI=0.95-0.99; p<0.001) and aoR 0.97 (95% CI=0.13-0.17; p<0.001).

There was strong evidence to show that gender was associated with HIV testing as men were 3 times more likely to test for HIV as compared to their female counterparts attending sexual health and GUM clinics in Wales. From the seven health boards in Wales there was good evidence to show that women from Aneurin Bevan, Cwm Taf Morgannwg health board and Swansea Bay were less likely to receive testing for HIV as compared to women from other health boards. Moreover, in terms of deprivation women there was strong evidence to show that women from the most deprived areas in Wales were less likely to test for HIV at sexual health and GUM clinics.

The decline in prevalence of HIV testing by women at SHCs and GUM clinics shows the need for targeted HIV testing and community-based HIV testing for women in Wales. Targeted testing and awareness campaigns might need to be rolled out in the health boards of Aneurin Bevan, Cwm Taf and Swansea Bay. Testing programs might need to be rolled out in the most deprived areas in Wales as they are still lacking behind when it comes to HIV testing.

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# Factors Associated With Positivity of Cervical Cancer Screening Results Among Women Living With HIV at a Low Level Health Facility Setting: A Case Study of AIDS Information Centre, Kampala Uganda

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**Background:** Globally, Uganda ranks seventh among countries with the highest incidence of cervical cancer with an estimated incidence rate of 56.2 per 100000 people in 2020. It is the leading cause of cancer morbidity and mortality in women with an estimated 6959 new cases and 4607 deaths in 2020. Women living with HIV are six times at a higher risk of developing cervical cancer as compared to women without HIV. Cervical cancer is preventable and curable when detected early and managed effectively. Therefore, Uganda is scaling up the implementation of evidence based interventions for eliminating cervical cancer as a public health problem. This study aimed at identifying the influencing factors for positivity of cervical cancer screening to guide the targeted screening strategies for women living with HIV.

**Materials and Methods:** We conducted a secondary data analysis of women living with HIV screened for cervical cancer at AIDS Information Centre Kampala between July 2020 – September 2022. Patient data was extracted from the electronic medical records. Visual inspection under acetic acid and HPV testing were the methods used to screen for cervical cancer at the Outpatient clinic. Demographic information, ART duration, Adherence, work in the sex industry and Viral load results were reviewed. We analyzed the data using a logistic multivariate regression to estimate the odds ratio and p-value of a positive cervical cancer screening result.

**Results:** Data of 495 women screened for cervical cancer, Mean age was 34.8 years with a standard deviation(st) of 8. 23% had CD4 less than 200, 3.8% (n=17) tested positive for cervical cancer screening test. 97.4%(n=382) had a suppressed VL test. 3% were women working in sex industry. 98% had good adherence. Adherence and work in the sex industry had OR = 1 while viral load result was 2.05 (0.355; p<0.05). The OR of a positive screen result was 0.73 (0.009; p<0.05) for a unit increase in duration on ART The OR of a positive screen result was 0.99 (0.053; p<0.05) for a unit increase in CD4

**Conclusions:** This study showed that women with shorter duration on ART and CD4 count had higher odds of positivity when screened for cervical cancer. Therefore, targeted routine cervical cancer screening should prioritize women with a short duration on ART such as newly initiated on ART, those who have interrupted ART and those with low CD4 for early diagnosis and management of pre-cancerous cervical lesions.

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# Relationship Between Food Insecurity, HIV and Adverse Birth Outcomes in Botswana

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**Background**: Pregnant women living with HIV (WLWHIV) have lower gestational weight gain (GWG) and higher risk of adverse birth outcomes. We explored whether increased food insecurity could help explain worse birth outcomes and lower GWG among WLWHIV.

**Methods**: We enrolled pregnant women between 20-28 weeks gestation at 2 sites in Botswana. Participants completed the Household Food Insecurity Access Scale (HFIAS) at enrollment, and height and weight were measured at each visit. 'Any' food insecurity was defined using answers on the HFIAS scale of "rarely", "sometimes", or "often" and 'frequent' if answers were "sometimes" or "often". GWG was the average kg/wk difference between 20 (+/-2) and 34 (+/-2) weeks. Any adverse birth outcome included preterm delivery (<37weeks), SGA (<10%tile), stillbirth, or neonatal death. Any severe adverse birth outcome included very preterm delivery (<32weeks), very SGA (<3rd %tile), stillbirth or neonatal death. We used log binomial regression to assess associations between food insecurity and adverse birth outcomes overall and stratified by HIV status.

**Results**: From July 2017-March 2021, 300 women enrolled, 12 miscarried, and 2 were LTFU. This analysis includes 286 women, 223 WLWHIV and 63 without HIV. Thirty-four percent reported 'any' and 21% reported 'frequent' food insecurity. Average GWG was lower (0.29kg/wk vs. 0.44kg/wk) and adverse birth outcomes (37% vs. 29%), severe adverse birth outcomes (18% vs. 3%) and preterm delivery (17% vs. 15%) were higher among WLWHIV. Food insecurity was less common among WLWHIV (32%) than women without HIV (42%). Median weekly GWG did not differ by food insecurity status overall (yes: 0.34kg/wk vs. no: 0.32kg/wk) or among WLWHIV (yes: 0.29kg.wk vs. no: 0.29kg/wk). Food insecurity was not associated with adverse birth outcomes overall, but there was increased risk of any adverse birth outcome and preterm delivery among WLWHIV who had any food insecurity, with significant interaction between food insecurity and HIV status (Table).

**Conclusion**: Food insecurity was common among all women, and associated with worse birth outcomes in WLHIV. However, food insecurity but did not explain the disparity in GWG or birth outcomes by maternal HIV status.

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# Penetrative Inclusion of TG Women in HIV Prevention Interventions

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**Background**: Studies conducted on HIV Prevention show that Trans-women sex workers bear the greatest brunt of HIV and other sexually transmitted infections (STIs); 49 times more at risk of HIV infections compared to the general population; 19.1% and 21.6% living with HIV worldwide and US respectively (CDC 2020).
They however remain under-served and grapple with access to and utilization of HIV/STI prevention services due to trans-phobia, low-socio-economic status, self-enacted stigma and discrimination from health-workers, straight-patients plus other key population groups: making them invisible/ inferior to the public; struggling with health neglect and poverty/unemployment (Ssekamatte et al, BMC infectious diseases 2020).
AIDS information center-Uganda therefore came up with HIV prevention interventions to include TG-sex workers due to their high risk in HIV infection to ensure bold embrace of the services and contribute to 95:95:95 targets.

**Materials and Methods:** Efforts to locate TGs were integrated in 2021 outreach activities reaching all key and priority populations but unfortunately

yielded one trans-gender. Due to the silently increasing numbers of this extremely high HIV risk group, we resorted to a more rapid strategy in 2022 in order to have more TGs receiving HIV prevention services. We used snow-ball strategy whereby connections were made through a sex-worker in contact with a TG-peer belonging to several shelters. One-on-one discussions were also held for collecting in-depth information about PrEP eligibility, their age and general survival mechanisms using guiding questions. The data collected was qualitatively and descriptively analysed.

**Results**: TGs responded positively as majority because majority had hope that our interventions would eventually break the long-standing barriers to being heard and included in different national/international health programmes.
There was a 98% increase in TG numbers between 2021-September 2022; 59 TGs had been reached: 27 (46%) transgender women all initiated on PrEP after screening, 54 (20 trans-women) had STIs and had been longing for access to these free services. From descriptive analysis, most TG women were aged 23 years; the mean age and range were 22 and 10 years respectively (oldest to youngest at 28and 18 respectively).
Qualitative analysis from in-depth discussions showed that 95% of TG women lacked survival skills thus resorting to sex work and use of intoxications as a common factor contributing to risky behaviors. 89% had mental health issues due to stigma and discrimination; a lack of freedom of expression and they all wished for permanent hormonal transformation into women.

**Conclusions**: These findings suggest the need for the different stakeholders to break these barriers through training healthcare providers on trans-friendly services, sensitization of the community about transgender persons and increased funding of SRH programs. This creates an enabling environment that enhances access to and utilization of HIV/STI prevention/care services for trans-women sex workers.
It is also evident from the analysis that majority of the TG women are in their early youth and therefore need education/ mental and socio-economic support from all stake holders to abate and avoid any mental breakdown related to stigma and discrimination from the society and their respective families.

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# Perceived Barriers to Pregnant and Breastfeeding Women's Use of Available HIV Combination Prevention Options: Zimbabwe Pregnant and Breastfeeding Women Perspectives

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**Background:** Globally, more than half of all people living with HIV are cisgender women. In Sub-Saharan Africa, women are particularly vulnerable, more so, during pregnancy and breastfeeding, when they are up to four times more likely to acquire HIV. HIV acquired during pregnancy or breastfeeding is associated with an increased risk of HIV transmission to the infant. This vulnerability is heightened by socio-economic determinants such as poverty, poor standards of living, compromised quality of life, as well as limited access to public health care services.

**Method:** Pangaea Zimbabwe AIDS Trust (PZAT) conducted six community consultations with Pregnant and Breastfeeding Women (PBFW) in Harare, Chitungwiza, Masvingo, Bubi, Lupane, and Mazowe. Districts and sites for the consultations were purposively selected based on PZAT's existing areas of work. Purposive sampling was used to select participants who were pregnant or breastfeeding when the consultations were conducted. A total of 121 PBFW from both urban and rural areas aged between 18 to 34 years participated in the community consultations. Participants were queried specifically about perceived barriers to the use of available HIV combination prevention options with a special focus on oral PrEP and HIV prevention products in the pipeline (Dapivirine Ring and Long-Acting Injectable Cabotegravir).

**Results:** PFBW reported a number of individual, health systems, and community-related barriers affecting their use of HIV prevention options.

Individual barriers- Behavior changes in women and male partners during the pregnancy and postpartum period resulting in diminished health-seeking behaviors and neglect of responsible healthy lifestyles, infrequent and less condom use, fear of intimate partner violence, lack of knowledge on the available HIV prevention options for PBFW. In terms of health systems – a limited capacity among personnel in health facilities to offer HIV prevention services to PBFW. Community related barriers include societal beliefs that use of HIV prevention among married PBFW highlights promiscuity and lack of partner trust. PBFW in rural areas identified unique access barriers to such as a lack of convenient transport and long distances to health facilities. PBFW in urban areas who were former HIV prevention research trial participants highlighted that lack of post-trial access to HIV prevention methods such as Dapivirine Ring was the major barrier to accessing HIV prevention as this would limit their HIV prevention options to indiscreet options only.

**Conclusion:** Policies and practices within the health care system, Personal history factors including social and cultural norms affect the uptake and use of HIV prevention methods among PBFW. The strengthening of health systems, creating an enabling policy environment, and cementing community support towards interventions aimed at improving the utilization and adoption of HIV prevention strategies among PBFW is important. These three elements are essential components that will deliver ripple effects of reduced HIV incidence, improved quality of life, and a significant reduction in mortality rates as well as AIDS-related deaths.

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# Prevalence of STIs in Symptomatic Females and Males in an Undermonitored Rural South African Setting

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**Background**: An estimated 376 million individuals are infected with one or more curable STIs. Given the linkage between STIs and HIV acquistion, it is crucial that STI studies constitute a central aspect of the fight against HIV as early diagnosis and treatment of STIs may help reduce the spread of HIV. South Africa has the highest HIV burden worldwide and also the highest rate of STIs, making it a key setting for HIV and STI epidemiological studies, more especially in rural populations, which are greatly impacted by HIV yet remain chronically understudied and underresourced. Towards addressing these issues, we investigated the prevalence of STIs in symptomatic females and males aged 12 years and above in a rural South African setting with no previous epidemiological STI data.

**Materials and methods**: Data was collected between December 2021 and September 2022 in a rural setting of Limpopo province, South Africa, from individuals pre-screened for a trial evaluating safety and efficacy of Zoliflodacin in uncomplicated gonorrhoea. Consenting individuals included in the study had more than 2 sexual partners, engaged in unprotected sex, or had STIs signs and symptoms. Pregnant or breastfeeding women were excluded. Pre-screening was performed on urine samples using a multiplex real-time PCR assay that simultaneously detects Neisseria gonorrhoeae (NG), Chlamydia trachomatis (CT), Trichomonas vaginalis (TV), Ureaplasma pervum (UP), Ureaplasma urealyticum (UU), Mycoplasma genitalium (MG) and Mycoplasma hominim (MH). Prevalence was calculated for all 7 detectable STIs as frequency of positives of pre-screened individuals.

**Results**: A total of 399 participants were included, with 262 females (66%) with median age 32 years [13-65] and 137 males (34%) with median age 36 years [19-73]. Prevalence of at least one STI was higher in females (21.2%) compared to males (10.8%), with UP being the most detected in both genders (26%), followed by MH (25%), UU (21%), CT (12%), NG and TV (5%), and MG (4.3%). When compared between gender per STI, prevalence was higher in females compared to males in all cases.

**Conclusions**: Our study provides timely and relevant STI epidemiological data for a rural, under-monitored South African population lacking epidemiological STI data. Prevalence of tested STIs was higher in females compared to males. Furthermore, a ~2-fold higher prevalence of at least one STIs was observed in females. Among CT, NG and TV, the curable STIs analyzed, the highest rates were observed for CT (12%) while relatively low rates were observed for NG and TV (5%). These results demonstrate that females continue

to be more infected by STIs in rural settings. Of note, HIV rates are also higher among women in South Africa. To curb the spread of STIs and HIV, sexual health education, awareness and other public health measures should be increased in female populations in rural areas where education, resources, disease surveillance, gender equity and female empowerment are limited. Limitations of our study include non-random sampling based on symptoms and sexual behaviour and HIV testing not performed to correlate STI and HIV risk.

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## Safety and Effectiveness of Dolutegravir During Pregnancy

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**Background:** Dolutegravir (DTG) is a preferred antiretroviral (ARV) drug for pregnant people during conception and all trimesters of pregnancy. This analysis assessed outcomes from women with HIV on DTG based regimens during pregnancy, using data from participating clinical sites in the United States.

**Methods**: Data were collected through retrospective abstraction of medical records. Descriptive analyses with frequency tabulation of pregnancy and neonatal outcomes are reported. Periconception is defined as last menstrual period to 6 weeks of estimated gestational age (EGA), later 1st trimester exposure as between 6 and 14 weeks of EGA, and 2nd/3rd trimester as ≥14 weeks of EGA.

**Results:** The analysis included 484 DTG exposed pregnancies with 195 periconception exposures, 87 exposed later during the 1st trimester, and 202 during the 2nd /3rd trimesters. Of the 484 pregnancies, 449 (93%) resulted in live births including twin births, 8 (1.7%) stillbirths, 7 (1.4%) induced abortions and 19 (3.9%) spontaneous abortions; 1 had missing pregnancy outcome. Overall birth defect prevalence was 5.0%; 95% CI 3.0-7.1 (23 defects /458 live born infants). The defect prevalence was 4.5% (8/178) for periconception exposures, 6.2% (5/81) for later 1st trimester exposures, and 5.0% (10/199) for 2nd/3rd trimester exposures. No neural tube defects were reported. Among the 421 singleton live births without birth defects, 70 (16.6%) were preterm (<37 weeks of gestation), 62 (14.7%) had low birth weight (LBW <2500 grams), 2 (0.5%) had very LBW (<1500 grams), and 2 (0.5%) had extremely LBW (<1000 grams). Maternal viral load (VL) at delivery was available for 327 (67.6%) pregnancies. Of these, VL was <50 copies/mL for 270 (82.6%), 50 to <200 copies/mL for 7% and ≥200 copies/mL for 10.4% of women. Six out of 458 live born infants had documented HIV infection, , all but one had exposure to DTG starting in the 2nd or 3rd trimester.

**Conclusions:** This analysis demonstrates that DTG continues to be safe and effective for use during pregnancy. While a vast majority of women achieved viral suppression by delivery while on DTG, close monitoring of adherence and VL is needed to further reduce perinatal transmission.

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## Development of an Integrated Trauma-Informed Care and PrEP Training for the Department of Health in Duval County, Florida

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**Background:** Although 13% of the United States (U.S.) female population is Black, in the setting of intersecting social and structural determinants, 60% of new HIV diagnoses in U.S. women are in Black women. The South is the epicenter of the U.S. HIV epidemic, including in women, and Black

Southern women are over-represented. Furthermore, Black women in the Southern US infrequently know about, or utilize, PrEP. Women affected by HIV disproportionately experience trauma, and many of the structural determinants of HIV acquisition, including structural racism and sexual and reproductive injustices, are themselves are forms of trauma. Clinic-wide, trauma-informed care training may address some of the clinic-level barriers to PrEP utilization in women.

**Methods:** After conducting literature and internet searches in 2022 for trauma-informed care and PrEP trainings, we convened a group with expertise in these areas to develop a training directly linking trauma-informed practice to PrEP services. Training development was informed by literature on sexual and reproductive care experiences of Black, Indigenous and people of color; sexual and reproductive justice; and trauma informed practice predominantly focused on care of people with substance use or experiencing intimate partner violence. Training goals included (1) understanding trauma at the interpersonal, community, and structural levels, with a focus on healthcare-related trauma; (2) linking these traumas to barriers to PrEP services; (3) building skills to use trauma-informed care approaches in sexual and reproductive health visits; (4) developing strategies for clinics to integrate trauma-informed practices into PrEP service delivery.

**Results:** We developed and convened a 3-hour training for Duval County department of health clinicians and staff in August 2022 (N=66 participants). Training facilitators included a health services researcher focused on sexual and reproductive health experiences of Black women in the US South; a physician with expertise in PrEP service delivery and trauma-informed practice in the reproductive health setting; and a consultant with expertise in training state HIV prevention programs and local health departments on PrEP delivery. The training included brief didactics on definitions of trauma; participant reflections on negative experiences in healthcare; group discussion about how social and structural determinants contribute to HIV in Duval County; ways that those determinants may present in clinics; identification of community and clinic strengths to support trauma-informed practices; skills-building exercises to use trauma-informed care approaches; and ways to use trauma-informed practices in PrEP delivery with focus both on care of patients, and self-care of providers and staff.

**Conclusion:** Integrated training on PrEP and trauma-informed practice is feasible in U.S. county public health departments. This training was developed to improve women's experiences of all aspects of the clinical encounter and enhance trust in care, motivate return for care, and in turn increase the likelihood of receiving appropriate PrEP-related services. Centering patients in their care experience could help to address persistent inequities in PrEP use among cisgender women. A research study to evaluate this training, both with respect to PrEP utilization and patient experiences of PrEP delivery, and sexual health services more generally, is underway.

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Abstract 51 was withdrawn.

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# Save Little and Eat Little: Acceptability and Feasibility of a Savings Intervention to Reduce HIV Risk in Kenyan Female Sex Workers

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**Background**: Financial insecurity undermines female sex workers' (FSWs) ability to practice safe sex. We conducted a qualitative formative study to explore the saving and loaning culture of FSW, and whether an intervention known as Jitegemee (rely on yourself) that promotes saving part of earnings from sex work, would be acceptable and feasible. Results from this formative phase will inform the design of an intervention to examine if FWS are able to save from their earnings and if financial security attained through the savings would translate into adoption of safer sexual behaviors during sex work.

**Materials and Methods**: We enrolled in focus group discussions (FGDs) women who self-identified as sex workers, residents of Siaya or

Kisumu county in western Kenya, age ≥18 years, and gave written informed consent. Participants were recruited by their peers and interviewed on earnings, savings, loans and how economic instability affects their risk for HIV. The interviews were transcribed and analyzed thematically using Dedoose software.

**Results**: Between April-May 2022, we conducted 24 FGDs with 221 FSWs from 5 typologies to ensure results are generalizable to other FSWs in Kenya: entertainment joint-based, street-based, home-based, beach-based, and brothel-based. Average age was 30.6 years (range 18-58), 80.1% were unmarried, 84.6% were heads of households, and 48.4% had some primary and 43% some secondary education. The intervention was highly acceptable as most participants reported that without personal savings to fall back on when client flow is low, they engage in riskier sex (condomless or anal sex or sex with partner of unknown HIV status). FWS spend most of what they earn or save through table banking on rent, food and school fees and clothes for children, with a substantial amount going to fancy clothing and beauty products to be more competitive; home-based FSW also furnish their houses expensively to attract clients. Most FSW take loans from multiple table-banking groups and when unable to pay back, increase number of clients, accept condomless or anal sex that pays more, work longer hours, or offer sexual favors to loan administrators to cancel or extend repayment period of loans. Some FSWs engage in other income-generating activities to raise additional funds while others steal from their clients to repay the loans or to boost income. Participants found saving as financial security to reduce unsafe sex a new but fascinating concept which they would be willing to participate in if they are trained on how to balance what they get from sex work between personal/family needs and saving. They felt Jitegemee intervention would allow them to rest when sick, tired or on menses; say no to unsafe sex; or avoid abusive clients and still be able to meet their immediate financial needs.

**Conclusions**: While Jitegemee intervention is highly acceptable, feasible and sustainable, the design should include targeted financial literacy to equip FSWs with knowledge and skills on how to balance earning, spending, saving, and taking and repaying loans without increasing their HIV risk.

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# A Qualitative Study of Clinic-Level Barriers to Implementing LAI ART Across Six U.S. Cities: Creating Structures and Procedures to Facilitate Gender-Equitable Scale-up

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**Background**: Long-acting injectable antiretroviral therapy (LAI ART) has the potential to improve treatment adherence and outcomes for people with HIV; however as with oral ART, there may be gendered inequities in medication access and adherence. The successful implementation of LAI ART will depend on clinics' existing structures, resources, capacity and practices, as well as specific attention to the needs of female patients, whose ART adherence and viral suppression lag behind men living with HIV in the US. Research is needed to understand these factors and how to ensure equitable access for all patients.

**Methods**: From September 2021 to March 2022 we conducted 38 in-depth interviews with medical and social service providers who offered HIV treatment and services at hospital-based and private clinics in Atlanta, GA, Birmingham, AL, Brooklyn, NY, Jackson, MS, Miami, FL, and Pittsburgh, PA. Interviews were recorded, transcribed, and analyzed using thematic content analysis to explore approaches to LAI ART implementation in these settings.

**Results**: Nearly half of providers (n=17) were in clinics where LAI ART was fully available at the time of their interview; six were in clinics with small-scale pilot studies of LAI ART; and 15 were in clinics where LAI ART was not yet available. Providers described multiple experienced and anticipated challenges to scale-up in their clinics, and expressed how these impacted who among

their patients would be able to readily access LAI ART. The first was that obtaining LAI ART (and the oral lead-in) required extensive time and documentation ("Just getting the [oral lead-in] is taking more than a month."). Many providers also noted reimbursement inconsistencies across payers ("The only successes we've had are patients with private insurance or Medicare."). Second, LAI ART delivery required additional space, cold-chain supply, and staffing for both administration of LAI ART and patient monitoring – resources that are already limited ("This is an operational and staffing hurdle for clinics, especially those that are resource constrained."). Finally, providers described a need for multidisciplinary expertise and clear leadership regarding new protocols and clinical workflows ("We need to build the system that makes this delivery a success rather than just setting it up to fail."). These challenges were particularly salient for patients with intersecting and gender-based needs (e.g., pregnant people with HIV, people use who use substances) and who faced additional barriers to clinic attendance (e.g., women with childcare and/or caregiving responsibilities).

**Conclusions**: Clinical structures, resources, capacity, and practices may limit successful LAI ART implementation and scale-up, particularly for marginalized populations such as women living with HIV. Standardized procedures, guidelines, and financial and training supports are needed to facilitate widespread, national access to LAI ART. This is particularly necessary to ensure an equitable and gender-equitable scale-up so that LAI ART reaches those who can most benefit.

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# Barriers to Health Care Conversations About Menopause Experienced by Aging Women With HIV

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**Background:** Aging women with HIV (WWH) encounter unique challenges related to menopause potentially associated with their HIV status. This study aims to explore barriers to conversations with providers about menopause, as these barriers have not been well-described.

**Methods:** This cross-sectional, anonymous survey was administered to adult, English speaking, cis-gender WWH who receive care at the Vanderbilt Comprehensive Care Clinic (VCCC) in Nashville, TN. This community-informed, electronic survey consisted of multiple choice and Likert-scale questions addressing broad topics in reproductive health. Women ≥45 years of age who did not identify as pre-menopausal were included in this analysis of self-reported menopause symptoms and barriers to care. Chi-square and Kruskal-wallis tests compared categorical and continuous, respectively, demographic and clinical features of women by menopause status. Univariate logistic regression assessed variables associated with ever discussing menopause symptoms with HIV or primary care provider.

**Results:** Of the 46 WWH ≥45 years of age included, 13 (30%) identified as currently experiencing menopause, 19 (41%) were post-menopause, and 13 (28%) were unsure or did not report their menopause status. The median age was higher for women post-menopause compared to those in menopause or unsure/unknown (63 years vs. 57 and 59 years, respectively, p=0.005). Overall, 67% of all women identified as Black race, 26% white, and 6% were other ethnicities/race; the median duration of HIV infection was 23 years. In total, 96% of all women were on antiretroviral therapy (ART). There was no difference in race, years living with HIV, nor ART use by menopause state (p>0.05 for all). Women experiencing menopause reported a higher median number of menopause symptoms than women post-menopause or of unsure/unknown menopause status (5 unique symptoms vs. 2 and 3 symptoms, respectively, p=0.046). The most commonly reported menopause symptoms were hot flashes (72% of all women), night sweats (52%), and mood changes (41%). While 52% of all women reported their menopause symptoms were "moderate" to "very" disruptive, only 17 of all 46 women (37%) reported ever talking with their primary care or HIV provider about their symptoms. Discussion with their provider was associated with experiencing a higher number of symptoms (odds ratio per 1 symptom increase = 1.54 [95%CI 1.16-2.05]) but not with reported level of severity/disruption (all p>0.05). Of WWH who spoke to their provider about

menopause symptoms, 76% reported feeling more informed and greater satisfaction after the discussion. Of those who did not report having a discussion, the most frequently reported reasons for lack of discussion were: their menopause symptoms were "mild" (10/29 women), their provider never inquired (5/29 women), and they perceived their symptoms to be "normal" (4/29). Of all included in the analysis, 26% of WWH reported interest in learning more about menopause.

**Conclusions:** Despite rating their menopause symptoms as very or moderately disruptive, aging WWH frequently reported not discussing menopause symptoms with a provider. Providers caring for WWH must consider menopause in care conversations with patients.

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# Contraceptive Use and Reproductive Empowerment in Women with HIV

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**Background**: Rates of long-acting reversible contraception (LARC), including intrauterine devices and hormonal implants, usage among women with HIV (WWH) remain lower than in the general population. Recent research has demonstrated similar attitudes about LARCs among women with and without HIV, and our understanding of the disparate use of LARCs is currently incomplete. Our study aims to better characterize factors associated with LARC use among WWH.

**Methods**: We administered an anonymous, community-informed, voluntary survey to cisgender, English-speaking WWH (≥18 years of age) who receive care at the Vanderbilt Comprehensive Care Clinic (VCCC). The survey consisted of multiple choice and Likert-scale questions addressing topics in reproductive health, including methods of family planning. Participants reported past and current use of contraception, as well as whether they had spoken with their provider about contraception. Women were asked to rate their level of agreement with the following: "I feel informed about my reproductive health" and "I feel empowered to make choices about my reproductive health options." Chi-square and Wilcoxon tests compared categorical and continuous demographic and clinical characteristics, respectively, of women by age (<45 years and ≥45 years) and by ever/never use of a LARC for contraception.

**Results**: Of the 82 WWH who participated, 25 (31%) were <45 years of age and 57 (69%) were ≥45 years of age. In total 61% of all women identified as Black, 30% white, and 9% other race/ethnicities or more than one race. Nearly all participants (96%) were on antiretrovirals. There were 5 women who were pregnant and the median number of total pregnancies was 3 (interquartile range: 2-4). Compared to women <45 years, older women were more likely to report prior hysterectomy (30 vs. 8%, p=0.03) and prior tubal ligation (51 vs. 29%, p=0.07). Women reported a median of two unique family planning methods used during their lifetime. Oral contraceptive pills were the most common birth control method used ever by all women (50/82 women, 62%). Compared to younger women, those ≥45 years were less likely to report any use of IUDs (9 vs. 24%, p=0.06) or hormonal implants (2 vs. 12%, p=0.05). Compared to women who never used LARCs (n=68), the 14 women who reported any use of LARCs were slightly younger (median age 43 vs. 53 years) and more likely to recall talking with their provider about contraception (85 vs. 42%). Of those who responded (n=79), 86% of LARC users and 82% of non-users agreed or strongly agreed with the statement of being informed about their reproductive health, and 100% of LARC users and 84% of non-users agreed or strongly agreed with the statement of being empowered about their reproductive health.

**Conclusions**: While the majority of WWH in our study had used some method of contraception ever, only 17% had ever used a LARC. Those with LARC use were younger and more likely to have had discussions about contraception with their providers. Most women felt informed and empowered about their reproductive health, with highest rates among LARC users.

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# "If I Become a Single Again, Yes": Qualitative Analysis About Black Women's Decision Making About PrEP Use

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**Background**: Black cisgender women in the Southern US experience significant racial and regional HIV disparities. Pre-exposure prophylaxis (PrEP) is a proven, evidence-based HIV prevention strategy that is a viable solution to help lower HIV incidence among Black women vulnerable to HIV. PrEP, unlike other prevention strategies, empowers and gives Black women autonomy over their sexual health decision-making. However, among the 227,010 women who were estimated to benefit from PrEP in 2021, only 5.1% used PrEP. Of this 5.1%, less than 2% represented Black women. With the long-term goal of improving uptake, the present study qualitatively explored the conditions and context of Black women's decision making about using PrEP.

**Materials and Methods:** Data for the current qualitative analysis originated from a larger cross-sectional, web study that used sequential mixed methods to better understand factors associated with potential plans to use PrEP in the next 3 months among Black women from three metropolitan cities in Texas. From February 2020 to March 2022, semi-structured Zoom interviews were conducted with 12 adult, cisgender Black women who had at least one clinical indication for PrEP. Women were chosen through purposive sampling from the larger study. The interview explored whether participants started PrEP, and the circumstances and motivating factors (i.e., decision-making) for whether they did or did not start. Descriptive statistics were used to characterize the sample; directed content analysis was used to analyze the transcripts.

**Results**: Participant's mean age was 32 years. Many were in a relationship (n=9), engaged in 1 HIV risk behavior in the past 6 months (e.g., condomless sex) (n=10), and were PrEP aware (n=7). Although most participants quantitatively reported they planned to start PrEP in the next 3 months (n=10), many self-reported not starting PrEP at the time of the interview (n=10). Findings indicated the presence of four main themes, each containing multiple sub-themes: 1) reasons for not starting PrEP, 2) conditions and circumstances for considering to use PrEP, 3) primary concerns about using PrEP, and 4) reasons for delaying uptake of PrEP. Within reasons for not starting PrEP included subthemes of being in a monogamous, trusting or committed relationship; regular HIV/STI testing with sexual partner; and being unaware of how to obtain PrEP. Conditions and circumstances for considering to use PrEP included subthemes of infidelity; change in relationship status; new intimate or sexual partner; knowing women who use PrEP. Primary concerns about using PrEP included subthemes of side-effects; concerns about costs; PrEP modality offered. Two participants reported being in the process of obtaining PrEP from their provider but were apprehensive. Three sub-themes emerged as reasons for their delayed PrEP uptake: side effects; potential inability to stay PrEP adherent; and not knowing anyone currently using PrEP.

**Conclusion**: Our findings indicate Black women are not getting crucial information about PrEP. Moreover, more emphasis is needed on the importance of the specific conditions and circumstances Black women would consider PrEP use, and its relation to PrEP decision making. Efforts that address these factors may help bolster approaches for PrEP scale-up among Black women.

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# Pregnancy Outcomes in Mothers With Preexistent HIV Drug Resistance Mutations: Monocenter Cohort Results in the High Income Low Epidemic Setting

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**Background**: Presence of HIV resistance mutations often requires the use of complex antiretroviral regimens to achieve an undetectable viremia. This goal is even more important during pregnancy to prevent vertical transmission. We evaluated the outcomes of the pregnancies in mothers with HIV harboring resistance mutations treated in our center.

**Methods**: Retrospective descriptive analysis.

**Results**: All pregnancies in women living with HIV between January 2008 and October 2022 beyond the first trimester under follow up in our tertiary hospital were evaluated. A total of 128 pregnancies occurred in 71 women. Twelve women (17 %) with 15 pregnancies (12 %) harbored a virus with at least one mutation relevant for the treatment regimen. Median age at delivery was 32 years. In four cases the HIV infection was diagnosed after conception. Most prevalent mutations were in the reverse transcriptase gene (NRTI-related in 10, NNRTI-related in 9 pregnancies). A major mutation in the protease gene was detected in 3 pregnancies and a mutation in integrase gene in 1 pregnancy. In eight pregnancies one-class resistance was detected (4 NRTI and 4 NNRTI, resp.), in 6 pregnancies two antiretroviral classes were compromised to some degree (4 NRTI/NNRTI, 1 NRTI/PI, 1 NNRTI/ PI ). In one pregnancy, three-class resistance was present (NRTI/PI/INSTI). Eleven women were treated at conception, five initiated antiretroviral treatment later in the pregnancy. In two patients the regimen was changed during pregnancy due to persistent detectable viremia. At delivery, most women were treated with 2 NRTI and a boosted PI (12/15), one woman was treated with a combination of boosted PI, INSTI and CCR5 inhibitor due to lack of other options. In 14 of 15 pregnancies plasma HIV RNA was <50 c/mL in the last 4 weeks before delivery. One treatment naïve woman did never achieve undetectable viremia (HIV RNA short before delivery 160 c/mL), in another therapy naïve woman switch from a PI- to INSTI regimen led to the HIV RNA <50 c/mL at delivery. In three pregnancies in treatment experienced women viremia >50 c/mL was detected at some point during pregnancy (not exceeding 200 c/mL). Nine babies were delivered vaginally, two primary cesarean sections (CS) were due to previous CS and in two pregnancies a secondary CS was needed due to fetal distress. Only two primary CS were performed to prevent vertical virus transmission. Three of 15 babies were pre-term (all born in the 36th week of gestation), in 3 babies birth weight was <2500 gr (one born pre-term). All babies received 4 weeks of postexposure prophylaxis, most of them AZT monotherapy (5/15) or AZT with nevirapine (5/15). All babies received exclusive formula feeding and remained uninfected.

**Conclusion**: In our setting, HIV resistance is common in pregnant women, confirming the importance of resistance testing in this population. Despite the presence of resistance undetectable viremia was mostly achieved and no vertical transmission was observed. Patient-centered multidisciplinary approach should be used for an optimal patient management as appropriate choice of antiretroviral combination for mother and the postexposure prophylaxis for the baby is crucial.

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# Patterns in Maternal Antiretroviral Therapy in Women Living With HIV in St Petersburg, Russian Federation

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**Background**: Guidelines on use of antiretroviral therapy (ART) in pregnant women living with HIV have evolved considerably over the last two decades. We aimed to describe recent patterns of maternal ART use in a high-prevalence Russian setting.

**Methods**: Clinical data on births in women living with HIV receiving care at St Petersburg Centre for the Prevention and Control of AIDS and Infectious Diseases were extracted as part of the European Pregnancy and Paediatric Infections Cohort Collaboration. Analyses included all women who gave birth in 2019.

**Results**: Of 313 women, 292 (93.3%) received ART during pregnancy. Over half (165/292; 56.5%) of treated women had conceived on ART

(representing 67.3% [165/245] of women with pre-conception diagnosis), with variation in regimen: ART was protease inhibitor (PI)-based in 122/165 (73.9%), non-nucleoside reverse transcriptase inhibitor-based in 37/165 (22.4%), and integrase strand transfer inhibitor-based in 6/165 (3.6%), and the most frequently used third agents were lopinavir/ritonavir (LPV/r) (80/165; 48.5%), atazanavir (ATV)/(ritonavir) (34/165; 20.6%), and efavirenz (EFV) (22/165; 13.3%). Of women who conceived on ART, 30/165 (18.2%) had a regimen augmentation or change during pregnancy: 25 had one modification (four had ritonavir added to ATV-based ART; six had the backbone switched [five zidovudine (ZDV)/lamivudine (3TC) to tenofovir disoproxil fumarate (TDF)/3TC]; 14 had the third agent switched [11 from EFV to PI]; and one had a whole-regimen change from dolutegravir-based ART), and five had more than one modification, of whom all had a raltegravir (RAL)-based final regimen. Among the 127/292 (43.5%) who initiated ART in pregnancy, median gestational age at ART start was 14 completed weeks (interquartile range: 12-20). LPV/r was the most common third agent initiated (118/127; 92.9%), combined most often with ZDV/3TC (77/118; 65.3%) or TDF/3TC (35/118; 29.7%). Of women starting ART, 35/127 (27.6%) had a later augmentation or change during pregnancy: 29 had one modification (six had RAL added [one with concurrent change in backbone]; 16 had the backbone switched [13 from ZDV/3TC to TDF/3TC]; six had the third agent switched [four from LPV/r to another PI]; and one had a whole-regimen change), and six had more than one modification, five of whom delivered on RAL-containing ART. Overall, 91.1% (285/313) received intrapartum ZDV, including 13 of the 21 women who had no ART during pregnancy.

**Conclusions**: Maternal ART coverage was high, though conception on ART was lower than observed in other European settings and regimen modification was frequent. LPV/r dominance and EFV avoidance reflect national policy but contrast with practices elsewhere. Understanding maternal ART patterns will contribute to efforts to optimize care for women living with HIV in the region.

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# Improving Access to Papanicolaou Testing for People With HIV Through Nursing Scope Optimization: A Proof of Concept Pilot Study

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**Background**: Women with HIV have a high prevalence of human papillomavirus (HPV) and an increased risk of cervical cancer when compared to HIV-negative peers. However, cervical cancer screening remains low among women with HIV in Canada. Pap testing in primary care settings, including women's health clinics, is the dominant screening modality for cervical cancer. Unfortunately, women with HIV in Canada report multiple barriers accessing primary care. Approaches to care that improve access to routine screening through pap testing for women with HIV are needed. One such opportunity lies in expanding the role of each team member within HIV clinics This study sought to examine the feasibility and acceptability of a nurse-led model of cervical cancer screening within HIV clinics.

**Methods**: Recognizing that pap testing is within the scope of practice for Registered Nurses (RNs) and Registered Practical Nurses (RPNs) in Ontario, Canada, we developed a pilot study involving HIV clinic RN and RPN staff. We recruited HIV nurses from four geographically diverse HIV care programs in Ontario. Nurses were then trained to educate patients about HPV, cervical cancer risk, and perform pap testing through outsourced, comprehensive experiential training. Additional in person training was delivered by the study team. Nurses were then provided training with a local OBGYN, who offered ongoing referral support. Participating clinics were then asked to screen all patients with a cervix to invite them to participate. Patients were eligible if they met provincial requirements for pap testing (1+ years since last pap).

**Results**: Nine nurses completed the training. The training was deemed informative by the

participants and addressed a knowledge gap. As a result of staffing changes, only three study clinics completed the pilot. Fifteen patients completed the study; 13 (87%) either did not know the date of their last pap or reported it being at least three years prior. Four (27%) participants had atypical cells on their pap results, which required either repeat pap testing or referral to gynecology. Nurses and patients reported satisfaction with the nurse-led model. Nurses reported increased job satisfaction and felt they were providing better care by offering this screening opportunity within the HIV care setting. All clinics now offer nurse provided pap testing to patients on an ongoing basis.

**Conclusions and Clinical Significance:** Scope of practice are the activities a profession's practitioners are educated on and authorized to perform. Optimizing the scope of each professions practice is a unique way to improve healthcare delivery for all people. Findings suggest that the nurse-led model appears to be a feasible means of addressing the low rates of pap testing among women with HIV in Canada. This pilot study yielded significant abnormalities in pap results, suggesting that the nurse-led model may be effective at engaging otherwise hard-to-reach patients. Incidental findings also suggest that expanding the scope of HIV clinic nurses is valuable for job satisfaction. It appears that a nurse-led education and cervical screening program in HIV clinics in Ontario is not only feasible but highly valuable for patients and nursing staff.

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# Clinic-based HIV Identification and Prevention in Cisgender Women Using Electronic Resources (CHIPPER): A Study Protocol

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**Background**: The United States (U.S.) government's initiative to End the HIV Epidemic aims to significantly reduce the number of new HIV infections, focusing on areas of high HIV prevalence, such as Baltimore, Maryland. Despite national efforts to reduce HIV incidence, U.S. cisgender women comprise approximately one out of five new HIV diagnoses, with 86% attributing it to heterosexual contact. HIV pre-exposure prophylaxis (PrEP) is one effective prevention strategy to help end the HIV epidemic. However, PrEP uptake among cisgender women is low, with only 10% of women who would benefit from PrEP being prescribed it.

**Methods**: We developed a hybrid type II effectiveness-implementation trial to increase PrEP uptake in seven gynecology clinics (two Federally Qualified Health Centers, three community-based, and two academic) in Baltimore, MD. A total of 43 GYN providers will be recruited, educated in motivational interviewing, and randomized into one of three arms (1:1:1). Patients of participating providers who are 15 - 65 years old and scheduled for an annual exam, STI testing, or contraception visit will receive a sexual health questionnaire before their appointment through the electronic medical record's patient portal. The questionnaire will be scored in three tiers to assess HIV risk. Patients who score low risk will be offered an HIV test only, while those who score medium or high risk will be included in the trial. Patients of providers in Arm 1 will receive standard of care, whereas those in Arms 2 and 3 will receive interventions, including a 2.5-minute PrEP educational animation and a personalized HIV risk message. Only providers randomized to Arm 3 will receive an EMR alert to discuss PrEP and the option to view their patient's sexual health questionnaire responses. The primary clinical outcome is PrEP uptake, with differences analyzed using generalized linear mixed-effect models with logistic regression across arms. Results will be adjusted for demographics and stratified by patients' and providers' race/ethnicity. The implementation strategy for PrEP education and counseling will be evaluated, quantitatively and qualitatively, using the reach, effectiveness, adoption, implementation, and maintenance (RE-AIM) framework. Secondary outcomes include HIV test completion and costs associated with the interventions.

**Results**: We hypothesize that by gathering information on sensitive sexual behaviors electronically, communicating HIV risk in an understandable and relatable format to patients and GYN providers, and automating parts of

clinical care, PrEP and HIV testing uptake will increase.

**Conclusion**: Our novel multimodal, multilevel implementation science protocol seeks to assess the feasibility, acceptability, and efficacy of an electronic medical record intervention to increase HIV prevention strategies, including PrEP and HIV testing among cisgender women presenting for gynecology care.

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# Achieving Health Equity for Black Women with HIV through a Theoretically Driven Community-Based Intervention

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**Background**: Black women are disproportionately impacted by HIV around the globe, and are disparately affected by hypertension and other metabolic conditions. Black women with HIV (BWH) have also been shown to lack support compared with other women with HIV. As BWH age, these considerations will only grow in importance for their morbidity and mortality outcomes. Prime Time Sister Circles (PTSC) is a multifaceted theoretically driven community-based intervention of the Black Women's Health Alliance (BWHA) and the Gaston & Porter Health Improvement Center (GPHIC). PTSC is designed to combat hypertension and improve self-efficacy for Black women aged 40-75. In a pilot program, we adapt this intervention for BWH of all ages, reporting here on preliminary qualitative outcomes.

**Methods**: Within the context of bundling evidence-informed interventions for BWH through the HRSA-funded Black Women First (BWF) initiative, the Sisterhood for Health Equity (SHE) Program of the Philadelphia Department of Public Health (PDPH) collaborated with the Philadelphia BWHA and the GPHIC to adapt PTSC as an intervention for BWH. All women enrolled in the SHE Program received Trauma-Informed Care and Red Carpet Care, the other bundled interventions, with a small number among them opting also to participate in PTSC. In a 12-week, 2 hours/week series, enrolled women met virtually with a series moderator and content experts to review and discuss a carefully curated curriculum. All PTSC content was developed to be culturally appropriate and relevant. A descriptive analysis is presented of PTSC participants before and after the intervention.

**Results**: In a first PTSC cohort of 13 Black women in 2021, 6 (46%) completed the series. For a second cohort of 12 in 2022, the completion rate was 67% (n=8). Ages ranged from 24-72 for participants born in the US, Africa and the Caribbean facing multiple and complex barriers to full engagement in the HIV Care Continuum. The most common reason for attrition for the first cohort was lack of proficiency with the technology needed for virtual participation. This was addressed for the second cohort with extended training, trouble-shooting throughout the 12 weeks of the 2022 cohort, and the development of a Technology Manual available to participants. The second barrier to participation was life circumstances such as family and employment obligations. We addressed this by increasing flexibility, including scheduling extra make-up sessions for women who missed previous sessions. Outcomes included improved nutrition and exercise, weight loss, improved peer support and better engagement in the HIV Care Continuum.

**Conclusion**: BWH have historically lacked programming addressing their unique needs, and the HRSA-funded BWF initiative, seeks to develop bundled interventions responsive to their lives and needs. The PTSC intervention for a small number of women also receiving Red Carpet Care and Trauma-Informed Care, is shown here to improve habits with the potential to improve metabolic outcomes, improve engagement in the HIV Care Continuum, and result in better support for participants. This intervention represents a successful collaboration between the GPHIC, the local arm of the BWHA, a national organization, and an HIV program, with potential implications for scaling up.

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# Elderly Women Living with HIV: Condesa Iztapalapa Specialized Clinic, Mexico City

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**Background**: Currently women living with HIV (WLHIV) are getting older, because antiretroviral therapy has improved life expectancy. The objective of this study is to describe the cohort of elderly women living with HIV (EWLWH) that have received healthcare at Condesa Iztapalapa Specialized Clinic.
Material and Methods: Cross-sectional, descriptive study with elderly women living with HIV (EWLWH) from April 2020 to September 2022. Patients of Condesa Iztapalapa Specialized Clinic, Mexico City Public Health Services.

**Results**: 101 elderly women living with HIV (EWLWH) aged >50 years. Age at HIV diagnosis 46.8 years (SD 9.4), years living with HIV 8 years (SD 6.9). Current age 55 years (SD 5.9). Education level: Illiteracy 8.9%(9), elementary school 42.5%(43), middle school 31.6%(32), high school or more 16.8%(17). Occupation: Unpaid employment 53.5%(54), employment 44.5%(45), homelessness 2%(2). Civil status common-law union 36.6%(37), single 63.4%(64). Menopause yes 76.2%(77) age at menopause 48 years old (SD 4.7).Source of infection: Unknown 29.7%(30), partner 68.3% (69), sexual violence 1%(1), blood transfusion 1%(1). Reason for taking HIV test: Immunosuppression symptoms 44.6%(45), partner diagnosis 44.6%(45), during pregnancy 2%(2), screening 6.9%(7), blood donation 1%(1), screening at child's HIV diagnosis 1%(1). Prior hospitalizations: Yes 34.7%(35), no 65.3%(66). Viral load <40c/ml 83.1%(84), 41-200 c/ml 8.9%(9), >201 c/ml 7.9%(8). CD4 at HIV diagnosis 166 cel (SD 259.2), CD4 currently 377(SD 286.4). Current ART: Integrase inhibitors 53.4%(54), NNTRI 26.7%(27), Protease inhibitors 16.8%(17), heavily treated experience 3%(3). History of virologic failure(VF): Yes 32.7%(33), no 67.3%(68). Number of VF: No 67.3%(68), 1-2 18.8%(19), 3 or more VF 13.8%. Genotype 11.8%(12) with mutations 7.9%(8). Comorbidities: Yes 83.1%(84),one comorbidity 29.7%(25), two or more comorbidities 70.2%(59). No comorbidities 16.8%(17). Comorbidities: Obesity 55.4%(56), depression or other mental health disorders 33.6%(34), dyslipidemia 23.7%(24), diabetes mellitus 22.7%(23), hypertension 18.8%(19).

**Conclusions**: EWLWH frequently have more than two comorbidities, the most common was obesity but it is important to point out mental health disorders, 33.6% of women experienced it. Only 16.8% don't have any other comorbidities. Better strategies must be implemented to increase detection of mental health issues in EWLWH and obesity prevention.

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# A Multi-Site Qualitative Study of Provider Perspectives on Ideal Candidates for LAI ART: Working to Ensure Equity in Access and Uptake Among Women

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**Introduction**: Clinics have begun scaling-up long-acting injectable (LAI) antiretroviral therapy (ART), but existing inequities in treatment access may further limit LAI ART uptake among minoritized and marginalized individuals. This includes uptake among women with HIV who have lower rates of adherence and viral suppression than men, and who also face unique challenges to access and long-term use. HIV providers play key roles in supporting and determining patients' LAI ART access, as they both prescribe treatment and help patients choose between oral and LAI ART. We therefore examined how providers determine which patients are candidates for LAI ART, with a focus on their female patients, and how this may influence to whom LAI ART is offered.

**Methods**: We interviewed 38 HIV providers at academic medical centers and private clinics at varying phases of LAI ART implementation across six U.S. cities (Atlanta, GA, Miami, FL, Pittsburgh, PA, Brooklyn, NY, Jackson, MS, and Birmingham, AL). We explored their perspectives on patients' LAI ART candidacy, their opinions on the eligibility criteria for LAI ART as set forth by the U.S. Food and Drug Administration (FDA), and how they apply those criteria. We employed thematic content analysis to identify key findings.

**Results**: Providers identified three key considerations regarding who should be offered LAI ART: 1) Eligibility concerns: providers shared how patients with detectable viral loads could benefit the most from LAI ART, but are not eligible per FDA label approval: "I'm not sure the label is serving those most in need". Providers noted the risks of drug resistance due to missed injections, and a lack of data on treatment naive patients, but wanted to be able to prescribe LAI ART regardless of viral suppression. Providers also thought that patients with good oral ART adherence might not want LAI ART due to the increased clinic visits it required: "Why should I come every month if I now see my doctor every six months?"; 2) Individual patient assessment: Providers wanted to maintain autonomy and preferred to assess patients individually based on clinic attendance and co-occurring health issues versus the FDA label approval: "It's not one size fits all."; and 3) Sex/Gender differences: Providers described female patients as more reliable: "Women are going to show up and get it done." However, providers were concerned about offering LAI ART to women of reproductive age since pregnant people were not included in LAI ART clinical trials.

**Conclusions**: Providers used multiple approaches and diverse considerations to evaluate patients' LAI ART candidacy, which may perpetuate inequities in access at the population level. This is particularly true for women who face unique barriers to medication access and adherence. This suggests a need for standardized guidance on equitably offering LAI ART to eligible patients. Qualitative data on provider perspectives can help identify clinic-level barriers to LAI ART implementation and scale-up that might not be captured by other methods, and can provide insight into the gender-specific barriers to equitable access.

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# Preferences of Pregnant and Postpartum Women for Differentiated HIV Services in Kenya

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**Background**: Differentiated service delivery (DSD) has been implemented by many HIV care programs globally. However, DSD models for pregnant and postpartum women living with HIV (PPHIV) are lacking. In western Kenya, public maternal-child health (MCH) clinics currently provide undifferentiated HIV services that include monthly clinic visits, seeing a clinician and mentor mother (MM) at each visit, and a cost of 50-100 Kenya Shillings (KSh) per visit. We conducted a discrete choice experiment among PPHIV to quantify their preferences for DSD.

**Material and Methods:** We surveyed PPHIV who were either retained in care or lost to follow-up (LTFU, >30 days since missed appointment) from 4 public health facilities in western Kenya and asked them to choose between pairs of hypothetical clinics that differed across 5 attributes: pregnancy visit frequency (monthly vs. every 2 months), postpartum visit frequency (monthly vs. only on routine infant immunization dates), seeing a clinician (each visit vs. as needed), seeing a MM (each visit vs. as needed), and cost per visit (0, 50, or 100 KSh). We used Hierarchical Bayes modeling to evaluate the relative effects (i.e., part-worth utilities or β) of these attributes on clinic preference, heterogeneity, and willingness to pay (WTP).

**Results**: Among 150 PPHIV (median age 32 years, 41% pregnant/59% postpartum, 15% LTFU), strongest preferences were for pregnancy visits every 2 months (β=20; 95% CI 12-28), postpartum visits with infant immunizations (β=53; 95% CI 41-64), and 0 KSh cost (β=47; 95% CI 36-58), with WTP

of 41 KSh (95% CI 7-76) and 83 KSh (95% CI 53-113) for less frequent pregnancy and postpartum visits, respectively. Seeing a clinician at each visit (β=13, 95% CI 7-20) and MM as needed (β=10; 95% CI 6-15) were preferred over their alternatives but less so relative to other attributes. Women had similar relative preferences when stratified by facility, retention status, and pregnancy status. Those earning <1000 KSh/month were more sensitive to visit cost than higher earners. At the same cost per visit, predicted market choice for a DSD model that included less frequent pregnant/postpartum visits, and seeing a clinician each visit and MM as needed was 69%, compared to 31% for the current standard of care.

**Conclusions**: Most PPHIV would prefer a DSD model that includes less frequent clinic visits, seeing a clinician at each visit, and no per-visit cost. These findings suggest a potential strategy to adapt the DSD model to better meet the needs of PPHIV in Kenya.

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## The HIV Infection Risk of Adolescents and Young People Who Are Partners of Persons Living With HIV in South-East Nigeria: A PrEP Uptake Study

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**Background:** Despite the fact that adolescents and young people living with HIV account for only 6% of all HIV patients in Nigeria, annual new infections in this age group can reach 20%.
Sexually active adolescents and young people, are particularly vulnerable to HIV infection, amplified by economic, sociocultural, and regulatory bias. As an effective prevention intervention for reducing HIV infection, daily oral preexposure prophylaxis PREP is prioritized for this population. This study examines the gender and age group variations in PREP uptake among adolescent (10 – 19 years) and young people (20 – 29 years) who are sexual partners of HIV positive persons in South-East Nigeria.

**Method:** Between January and May 2022, a retrospective review of all elicited sexual partners of newly identified and virally unsuppressed HIV positive clients between the ages of 10 and 29 years from 12 comprehensive HIV treatment facilities in Enugu SE Nigeria was conducted. Statistical Analysis was used to explore the HIV positivity rate and PrEP uptake among adolescent and young people age bands of elicited sexual partners. Chi-square test and odd ratio were used to examine the relation between gender and PrEP uptake.

**Results:** Between January and May 2022, 1496 (963 females, 533 males) were elicited as sexual partners of persons living with HIV; 96% (n=1436, 917 females, 519 males) were offered HIV testing with a positivity rate of 2.1% (females 2.4%). Out of the 1406 who were eligible for PrEP, 38% (n= 545, 45% female, 28% male) indicated willingness to take PrEP and uptake of 18% (n= 97, 15% female, 27% male). Uptake of PrEP for male adolescents was 13% (n=1) and 28% (n=37) for male young persons. For females, uptake was 15% for both adolescents (n=7) and young persons (n=52). Males were less likely to accept and uptake PrEP (p = 0.361; OR: 0.878, 95% confidence interval 0.575 – 1.341)

**Conclusion:** Many adolescents and young people are sexually active and at high risk of HIV infection. These groups are systematically excluded from HIV prevention activities like PrEP. More research is required to identify the barriers and enablers of PrEP use in adolescents and young people.

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## Behaviors and Sexual Patterns Leading to HIV Risk Among Young Transgender Women in Coastal Kenya; A Qualitative Study

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**Introduction:** Transgender women have 49 times the risk of HIV infections compared to the general population. Sex work is more prevalent among transgender women due to social and economic marginalization. Transgender people face social and legal exclusion and have high risks of gender-based violence in addition, stigma and Trans phobia also create barriers to access to HIV testing and treatment. This reveals an overwhelming need to bridge the gap of unmet needs for effective HIV prevention strategies. Contextual differences arising from trans phobia-related stigma can limit opportunities and access to resources in a number of critical life domains e.g. employment and health care. This leaves transgender women vulnerable and with limited life choices, therefore, resulting in sex work as a means of survival thus heightening their risks for HIV. In order to understand the specific needs of transgender women, there is a need to understand their behaviors and lifestyle. The behavior and lifestyle of transgender women render them prone to HIV acquisition. This is promoted by the personal and community constraints that have rendered them even more vulnerable. Towards affirmation of their gender, transgender women prefer receptive anal sex, most of which if done for commercial purposes will be done among multiple partners, without condom or lubrication. Dependence on sex work promotes drug and substance abuse besides predisposing them to violence, all these behavioral factors lead to increased HIV susceptibility among transgender women.

**Methods**:
The study enrolled 200 transgender women aged between 18-24 years. An interviewer-administered questionnaire was used to capture the sociodemographic, behavioral, and sexual characteristics of young transgender women.

**Results**: There are five main behavioral characteristics and sexual tendencies that render young transgender women vulnerable and at risk of HIV; preference of physical hotspot as a recreational site, early initiation into sex work, engaging in sex under the influence of drugs, multiple partners, and condomless and/or non-lubricant anal sex.

**Conclusion**: Generally, the behaviors and sexual characteristics of young transgender women not only render them vulnerable but also promote other factors that may predispose them to HIV and other STIs. Programs aimed at key populations should focus more on behavioral patterns and motivational skills aimed at reforming the attitudes and knowledge on HIV and other STIs. The behaviors and sexual tendencies of transgender women expose them to vulnerabilities therefore heightening the HIV prevalence. More studies have suggested activities geared towards the promotion of the use of PREP and PEP to control the contraction and spread of HIV among this population. Additionally, most recent recommendations have suggested quarterly testing for the TGSW and 6 monthly testing for TGW29, this has been embraced by the young TGW in this study,85% had done an HIV test within the last 3 months. This trend is however unique to young transgender women, the naivety and cowardly nature that comes with sexual contact may be creating fear that drives them to HIV self-awareness.