Welcome to HIV this month! In this issue, we cover the following topics:

1. **Reduce sexual transmission**
   - Re-focusing the response in Niger – a greater need for sex worker programmes?
   - Prevention services need to focus on newly-started sex workers in South India

2. **Prevent HIV among drug users**
   - Combination harm reduction more effective and cost-effective than partial approaches alone

3. **Eliminate new HIV infections among children**
   - Missed opportunities for early infant diagnosis in South Africa
   - Low mother-to-child HIV transmission using Option A in South Africa
   - Further evidence to support Option B+: good HIV-free survival among children breastfed for a year with mothers on triple ART

4. **15 million accessing treatment**
   - Can a simple risk score predict chronic kidney disease among people living with HIV?

5. **Avoid TB deaths**
   - Cryptococcal antigen screening plus home visits reduces early mortality
   - TB common at post-mortem among medical inpatients in Zambia

6. **Close the resource gap**
   - Out of pocket spending on HIV care in India makes the poor even poorer
   - How to reduce attrition among community healthcare workers essential to HIV prevention programmes among female sex-workers

7. **Eliminate stigma and discrimination**
   - The need for improved services for minors who sell sex in West Africa
• Assessing risk behaviour and uptake of HIV care using an online network among MSM in Latin America
• Potential for psychological programmes for mental disorders among people living with HIV: further studies necessary in sub-Saharan Africa
• Barriers and facilitators of safer sexual behaviour for people living with HIV on ART
• How policies can fuel stigma

8. **Strengthening HIV integration**

• High levels of unmet contraceptive needs among women living with HIV in Malawi

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Peter Godfrey-Faussett and Celeste Sandoval
UNAIDS
1. Reduce sexual transmission

Reorienting the HIV response in Niger toward sex work interventions: from better evidence to targeted and expanded practice.


Background: Niger’s low-burden, sex-work-driven HIV epidemic is situated in a context of high economic and demographic growth. Resource availability of HIV/AIDS has been decreasing recently. In 2007-2012, only 1% of HIV expenditure was for sex work interventions, but an estimated 37% of HIV incidence was directly linked to sex work in 2012. The Government of Niger requested assistance to determine an efficient allocation of its HIV resources and to strengthen HIV programming for sex workers.

Methods: Optima, an integrated epidemiologic and optimization tool, was applied using local HIV epidemic, demographic, programmatic, expenditure, and cost data. A mathematical optimization algorithm was used to determine the best resource allocation for minimizing HIV incidence and disability-adjusted life years (DALYs) over 10 years.

Results: Efficient allocation of the available HIV resources, to minimize incidence and DALYs, would increase expenditure for sex work interventions from 1% to 4%-5%, almost double expenditure for antiretroviral treatment and for the prevention of mother-to-child transmission, and reduce expenditure for HIV programs focusing on the general population. Such an investment could prevent an additional 12% of new infections despite a budget of less than half of the 2012 reference year. Most averted infections would arise from increased funding for sex work interventions.

Conclusions: This allocative efficiency analysis makes the case for increased investment in sex work interventions to minimize future HIV incidence and DALYs. Optimal HIV resource allocation combined with improved program implementation could have even greater HIV impact. Technical assistance is being provided to make the money invested in sex work programs work better and help Niger to achieve a cost-effective and sustainable HIV response.

Abstract access

Editor’s notes: Niger has a low-level HIV epidemic concentrated in key populations such as female sex workers, with prevalence levels of 17% in 2011. Only around 23% of female sex workers report using a condom at every sexual act, making them a highly vulnerable group. Additionally there are barriers to using the health centres such as service costs, and the geographic distance.

This article summarizes the HIV epidemic and response situation in Niger with a focus on female sex workers, including modelled trends using Optima. It then presents new evidence on different resource allocation scenarios and the projected impact on the HIV epidemic. Optima, a deterministic mathematical model for HIV optimization and prioritization, was applied to local epidemiologic, demographic, programmatic, expenditure, and cost data.

The optimization function uses an algorithm to find the best allocation of resources to meet the objective of either minimizing HIV incidence or disability-adjusted life years (DALYs) until 2024. Contrary to the current approach of allocating 31% of spending to the general population and less than 1% to female sex workers, the Optima function advocates increased spending on antiretroviral...
therapy from 27% to 48%. Optima supports a focussed approach to reduce HIV incidence in female sex workers including mapping populations and a “programme intelligence” approach akin to that implemented in India and Nigeria.

Changes in HIV and syphilis prevalence among female sex workers from three serial cross-sectional surveys in Karnataka state, South India.


Objectives: This paper examined trends over time in condom use, and the prevalences of HIV and syphilis, among female sex workers (FSWs) in South India.

Design: Data from three rounds of cross-sectional surveys were analysed, with HIV and high-titre syphilis prevalence as outcome variables. Multivariable analysis was applied to examine changes in prevalence over time.

Setting: Five districts in Karnataka state, India.

Participants: 7015 FSWs were interviewed over three rounds of surveys (round 1=2277; round 2=2387 and round 3=2351). Women who reported selling sex in exchange for money or gifts in the past month, and aged between 18 and 49 years, were included.

Interventions: The surveys were conducted to monitor a targeted HIV prevention programme during 2004-2012. The main interventions included peer-mediated safer sex communications, intensive management of sexually transmitted infections, and facilitation of safer sex environments. In the final round of a repeat cross-sectional survey conducted between 2004 and 2011, investigators found that nearly all female sex workers were contacted by a peer educator, had seen a condom demonstration, or had visited a programme clinic. In that time, the prevalence of HIV fell from 19.6% to 10.8% (P<0.01) and the prevalence of new syphilis infections fell from 5.9% to 2.4% (P<0.01). However, HIV

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Editor’s notes: The HIV epidemic in India has remained largely concentrated in key populations, particularly among female sex workers. One of the most high profile HIV prevention efforts in India has been the Avahan AIDS initiative, which in Karnataka State has reached over 60 000 female sex workers since 2004. The initiative involves peer-mediated safer sex communications, intensive management of sexually transmitted infections, and facilitation of safer sex environments. In the final round of a repeat cross-sectional survey conducted between 2004 and 2011, investigators found that nearly all female sex workers were contacted by a peer educator, had seen a condom demonstration, or had visited a programme clinic. In that time, the prevalence of HIV fell from 19.6% to 10.8% (P<0.01) and the prevalence of new syphilis infections fell from 5.9% to 2.4% (P<0.01). However, HIV
prevalence among new female sex workers remained high, reflecting the challenges in reaching women starting sex work before they become HIV positive. The programme is notable for its responsiveness to the HIV prevention needs of female sex workers and the current paper confirms continued increases in condom use and preventive services. However, with the changing nature of sex work, current challenges include preventive services for women soliciting sex through mobile phones, and reaching sex workers soon after they start sex work.

2. Prevent HIV among drug users

The cost-effectiveness of harm reduction.


HIV prevalence worldwide among people who inject drugs (PWID) is around 19%. Harm reduction for PWID includes needle-syringe programs (NSPs) and opioid substitution therapy (OST) but often coupled with antiretroviral therapy (ART) for people living with HIV. Numerous studies have examined the effectiveness of each harm reduction strategy. This commentary discusses the evidence of effectiveness of the packages of harm reduction services and their cost-effectiveness with respect to HIV-related outcomes as well as estimate resources required to meet global and regional coverage targets. NSPs have been shown to be safe and very effective in reducing HIV transmission in diverse settings; there are many historical and very recent examples in diverse settings where the absence of, or reduction in, NSPs have resulted in exploding HIV epidemics compared to controlled epidemics with NSP implementation. NSPs are relatively inexpensive to implement and highly cost-effective according to commonly used willingness-to-pay thresholds. There is strong evidence that substitution therapy is effective, reducing the risk of HIV acquisition by 54% on average among PWID. OST is relatively expensive to implement when only HIV outcomes are considered; other societal benefits substantially improve the cost-effectiveness ratios to be highly favourable. Many studies have shown that ART is cost-effective for keeping people alive but there is only weak supportive, but growing evidence, of the additional effectiveness and cost-effectiveness of ART as prevention among PWID. Packages of combined harm reduction approaches are highly likely to be more effective and cost-effective than partial approaches. The coverage of harm reduction programs remains extremely low across the world. The total annual costs of scaling up each of the harm reduction strategies from current coverage levels, by region, to meet WHO guideline coverage targets are high with ART greatest, followed by OST and then NSPs. But scale-up of all three approaches is essential. These interventions can be cost-effective by most thresholds in the short-term and cost-saving in the long-term.

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Editor’s notes: The spread of HIV among people who inject drugs has driven epidemics throughout regions of eastern Europe, and central and South-East Asia. In eastern Europe and central Asia, the majority of HIV infections have been attributed to injecting drug use. Some countries in the Middle East and North Africa region have also been experiencing rapidly emerging HIV epidemics among people who inject drugs. Harm reduction refers to methods of reducing health risks when eliminating them may not be possible. This paper provides a comprehensive review of evidence on the effectiveness and cost-effectiveness of different harm reduction approaches. These include needle-syringe programmes, opioid substitution therapy (OST), and antiretroviral therapy (ART), when
implemented in different settings. Importantly, alongside considering the potential benefits of each approach separately, it makes the case that combination prevention strategies are synergistic, and may achieve multiple impacts. Sadly still however, the coverage of harm reduction remains very low across the world. An estimated 90% of people who inject drugs worldwide are not accessing needle-syringe programmes, despite this being a highly effective and cost-effective programme. Along with the need for a greater investment in harm reduction, there are socio-political and legislative reasons for poor coverage of harm reduction. This cannot be improved without first addressing the stigma, discrimination and intolerance that restricts the expansion of harm reduction programmes in many settings. Addressing these barriers remains of paramount importance for facilitating effective harm reduction programmes. Encouragingly however, high OST coverage has been reported in Iran, Czech Republic and western Europe, and several countries in Asia and the Middle East have begun to scale-up their programmes. China has recently had the largest OST scale-up programme in the world. Uptake of ART by people living with HIV who inject drugs illustrates the largest disparities with what is required or deemed to be appropriate access. Only 14% of people living with HIV who inject drugs globally, have access to ART, with the largest gaps in ART provision in eastern Europe and central Asia. The further expansion of harm reduction is urgently needed, both to meet WHO targets, and to achieve the UNAIDS 90-90-90 target.

3. Eliminate new HIV infections among children

Missed opportunities for early infant HIV diagnosis: results of a national study in South Africa.


Background: Services to diagnose early infant HIV infection should be offered at the 6-week immunization visit. Despite high 6-week immunization attendance, the coverage of early infant diagnosis (EID) is low in many sub-Saharan countries. We explored reasons for such missed opportunities at 6-week immunization visits.

Methods: We used data from 2 cross-sectional surveys conducted in 2010 in South Africa. A national assessment was undertaken among randomly selected public facilities (n = 625) to ascertain procedures for EID. A subsample of these facilities (n = 565) was revisited to assess the HIV status of 4- to 8-week-old infants receiving 6-week immunization. We examined potential missed opportunities for EID. We used logistic regression to assess factors influencing maternal intention to report for EID at 6-week immunization visits.

Results: EID services were available in >95% of facilities and 72% of immunization service points (ISPs). The majority (68%) of ISPs provide EID for infants with reported or documented (on infant's Road-to-Health Chart/booklet-iRtHC) HIV exposure. Only 9% of ISPs offered provider-initiated counseling and testing for infants of undocumented/unknown HIV exposure. Interviews with self-reported HIV-positive mothers at ISPs revealed that only 55% had their HIV status documented on their iRtHC and 35% intended to request EID during 6-week immunization. Maternal nonreporting for EID was associated with fear of discrimination, poor adherence to antiretrovirals, and inadequate knowledge about mother-to-child HIV transmission.

Conclusions: Missed opportunities for EID were attributed to poor documentation of HIV status on iRtHC, inadequate maternal knowledge about mother-to-child HIV transmission, fear of discrimination, and the lack of provider-initiated counseling and testing service for undocumented, unknown, or undeclared HIV-exposed infants.
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Editor’s notes: Early infant diagnosis (EID) in HIV-exposed infants is important for a number of reasons. Most importantly, it allows early identification and antiretroviral treatment of HIV-positive infants, resulting in markedly reduced morbidity and mortality. It also allows objective assessment of the effectiveness of prevention efforts to eliminate mother-to-child transmission.

In South Africa, EID services are widely available at immunization service points in public primary healthcare facilities, with 68% offering focussed testing of HIV-exposed infants. This strategy relies on maternal reporting or documentation of maternal HIV status on the "infant’s road to health chart" (iRtHC). This study found that neither the iRtHC nor the maternal reporting were used effectively for conveying HIV exposure status of infants to health workers responsible for EID. Nearly half, 45%, of mothers self-reporting HIV-positive status, had no documentation of their positive status on the iRtHC. In addition, very few healthcare facilities offered provider-initiated counselling and testing for infants of unknown HIV exposure status.

HIV-positive mothers were less likely to disclose their HIV status at six-week immunisation visits if they had limited knowledge of risk of transmission to their child, had missed doses of maternal or infant antiretroviral therapy or reported fear of discrimination and stigma. These results suggest that improving EID requires improving identification of HIV-exposed infants at the six-week immunisation visit and improving maternal education about infant testing during antenatal care. Other strategies include reducing stigma and discrimination through community-level educational campaigns, improving privacy at immunisation facilities and improving provider-initiated counselling and testing of all infants with undocumented or unknown HIV status.

First population-level effectiveness evaluation of a national programme to prevent HIV transmission from mother to child, South Africa.


Background: There is a paucity of data on the national population-level effectiveness of preventing mother-to-child transmission (PMTCT) programmes in high-HIV-prevalence, resource-limited settings. We assessed national PMTCT impact in South Africa (SA), 2010.

Methods: A facility-based survey was conducted using a stratified multistage, cluster sampling design. A nationally representative sample of 10 178 infants aged 4-8 weeks was recruited from 565 clinics. Data collection included caregiver interviews, record reviews and infant dried blood spots to identify HIV-exposed infants (HEI) and HIV-infected infants. During analysis, self-reported antiretroviral (ARV) use was categorised: 1a: triple ARV treatment; 1b: azidothymidine >10 weeks; 2a: azidothymidine ≤10 weeks; 2b: incomplete ARV prophylaxis; 3a: no antenatal ARV and 3b: missing ARV information. Findings were adjusted for non-response, survey design and weighted for live-birth distributions.

Results: Nationally, 32% of live infants were HEI; early mother-to-child transmission (MTCT) was 3.5% (95% CI 2.9% to 4.1%). In total 29.4% HEI were born to mothers on triple ARV treatment (category 1a) 55.6% on prophylaxis (1b, 2a, 2b), 9.5% received no antenatal ARV (3a) and 5.5% had missing ARV information (3b). Controlling for other factors groups, 1b and 2a had similar MTCT to 1a (Ref; adjusted OR (AOR) for 1b, 0.98, 0.52 to 1.83; and 2a, 1.31, 0.69 to 2.48). MTCT was higher in group 2b (AOR 3.68, 1.69 to 7.97). Within group 3a, early MTCT was highest among breastfeeding mothers [11.50% (4.67% to 18.33%) for exclusive breast feeding, 11.90% (7.45% to 16.35%) for mixed breast feeding, and 3.45% (0.53% to 6.35%) for no breast feeding].
Antiretroviral therapy or >10 weeks prophylaxis negated this difference (MTCT 3.94%, 1.98% to 5.90%; 2.07%, 0.55% to 3.60% and 2.11%, 1.28% to 2.95%, respectively).

Conclusions: SA, a high-HIV-prevalence middle income country achieved <5% MTCT by 4-8 weeks postpartum. The long-term impact on PMTCT on HIV-free survival needs urgent assessment.

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Editor’s notes: WHO recommends a comprehensive approach to preventing mother-to-child HIV transmission. These include primary prevention of HIV among women of childbearing age, prevention of unintended pregnancies among women living with HIV, prevention of HIV transmission from a woman living with HIV to her infant and the provision of appropriate treatment, care and support to mothers living with HIV, their children and families. In 2010 WHO revised their ART guidelines on preventing mother-to-child HIV transmission. The guidelines distinguished two groups of women. The first group with low CD4 cell counts were eligible for ART for their own health (≤350 cells/mm³) and were started on ART, and the second group with higher CD4 cell counts (>350 cells/mm³) were not yet eligible for ART and were initiated on short-course ARV prophylaxis. South Africa’s national programme adopted WHO Option A: antepartum daily zidovudine (AZT) from 14 weeks onwards for the mother and daily nevirapine (NVP) prophylaxis for six weeks postpartum for the infant.

This study assessed the early population-level effectiveness looking at mother-to-child HIV transmission between four to eight weeks, by examining about 10 000 mother-infant pairs from the nine provinces in South Africa in 2010. The study therefore provides a countrywide estimate of the effectiveness of the South African programme for the prevention of mother-to-child HIV transmission in 2010.

The study found low levels of early mother-to-child HIV transmission, 3.5% at four to eight weeks post-partum, in this high-prevalence setting. About one third of infants were HIV exposed infants (HEI). The authors postulate that these low levels of mother-to-child HIV transmission are driven by a high proportion of women receiving ART or ARV prophylaxis, 85%, combined with the low levels of breastfeeding. Some 61% of mothers reported formula feeding.

However, in many countries in sub-Saharan Africa, breastfeeding is judged to be the most appropriate choice of infant feeding for women living with HIV, which limits the generalisability of these findings. Moreover, the authors acknowledge that the study reports on early transmission, four to eight weeks post-partum, and emphasize that more data is urgently needed on long-term effectiveness of preventing mother-to-child HIV transmission, using infant HIV-free survival by 24 months postpartum.

Interestingly the authors found a high proportion of unintended pregnancies. Some 61% of HEI were unplanned, demonstrating an important gap in WHO’s comprehensive strategy on preventing mother-to-child HIV transmission.

In January 2015, the South African Department of Health replaced Option A with Option B+. Now all pregnant and breastfeeding women living with HIV are eligible for lifelong ART irrespective of clinical or immunological stage.

Early infant feeding patterns and HIV-free survival: findings from the Kesho-Bora trial (Burkina Faso, Kenya, South Africa).

Objective: To investigate the association between feeding patterns and HIV-free survival in children born to HIV-infected mothers and to clarify whether antiretroviral (ARV) prophylaxis modifies the association.

Methods: From June 2005 to August 2008, HIV-infected pregnant women were counseled regarding infant feeding options, and randomly assigned to triple-ARV prophylaxis (triple ARV) until breastfeeding cessation (BFC) before age 6 months or antenatal zidovudine with single-dose nevirapine (short-course ARV). Eighteen-month HIV-free survival of infants HIV-negative at 2 weeks of age was assessed by feeding patterns (replacement feeding from birth, BFC < 3 months, BFC ≥ 3 months).

Results: Of the 753 infants alive and HIV-negative at 2 weeks, 28 acquired infection and 47 died by 18 months. Overall HIV-free survival at 18 months was 0.91 [95% confidence interval (CI): 0.88-0.93]. In the short-course ARV arm, HIV-free survival (0.88; CI: 0.84-0.91) did not differ by feeding patterns. In the triple ARV arm, overall HIV-free survival was 0.93 (CI: 0.90-0.95) and BFC < 3 months was associated with lower HIV-free survival than BFC ≥ 3 months (adjusted hazard ratio: 0.36; CI: 0.15-0.83) and replacement feeding (adjusted hazard ratio: 0.20; CI: 0.04-0.94). In the triple ARV arm, 4 of 9 transmissions occurred after reported BFC (and 5 of 19 in the short-course arm), indicating that some women continued breastfeeding after interruption of ARV prophylaxis.

Conclusions: In resource-constrained settings, early weaning has previously been associated with higher infant mortality. We show that, even with maternal triple-ARV prophylaxis during breastfeeding, early weaning remains associated with lower HIV-free survival, driven in particular by increased mortality.

Abstract access

Editor’s notes: Evaluating the impact of feeding patterns on infant HIV-free survival is essential for HIV prevention. This large, multi-country study was nested within the Kesha Bora randomised trial which found that triple ARV prophylaxis until cessation of breastfeeding was associated with lower rates of mother-to-child transmission than short-course ARV prophylaxis. Further analyses showed that in both arms, mortality in infants was highest when breastfeeding was stopped before three months of age. This analysis considered HIV-free survival and found that among mothers receiving triple ARV prophylaxis during breastfeeding, weaning before three months was associated with significantly lower HIV-free survival than longer breastfeeding or replacement feeding from birth. Overall, the results support the WHO 2013 ART guidelines which recommend initiation of triple ARV prophylaxis early in pregnancy, continued either through the breast feeding period (option B) or for life (option B+), and WHO recommendations for continued breastfeeding up to at least one year of age while on ART.

4. 15 million accessing treatment


Background: Chronic kidney disease (CKD) is a major health issue for HIV-positive individuals, associated with increased morbidity and mortality. Development and implementation of a risk score model for CKD would allow comparison of the risks and benefits of adding potentially nephrotoxic antiretrovirals to a treatment regimen and would identify those at greatest risk of CKD. The aims of this study were to develop a simple, externally validated, and widely applicable long-term risk score model for CKD in HIV-positive individuals that can guide decision making in clinical practice.

Methods and findings: A total of 17,954 HIV-positive individuals from the Data Collection on Adverse Events of Anti-HIV Drugs (D:A:D) study with ≥3 estimated glomerular filtration rate (eGFR) values after 1 January 2004 were included. Baseline was defined as the first eGFR >60 ml/min/1.73 m² after 1 January 2004; individuals with exposure to tenofovir, atazanavir, atazanavir/ritonavir, lopinavir/ritonavir, other boosted protease inhibitors before baseline were excluded. CKD was defined as confirmed (>3 mo apart) eGFR ≤60 ml/min/1.73 m². Poisson regression was used to develop a risk score, externally validated on two independent cohorts. In the D:A:D study, 641 individuals developed CKD during 103,185 person-years of follow-up (PYFU; incidence 6.2/1000 PYFU, 95% CI 5.7-6.7; median follow-up 6.1 y, range 0.3-9.1 y). Older age, intravenous drug use, hepatitis C coinfection, lower baseline eGFR, female gender, lower CD4 count nadir, hypertension, diabetes, and cardiovascular disease (CVD) predicted CKD. The adjusted incidence rate ratios of these nine categorical variables were scaled and summed to create the risk score. The median risk score at baseline was -2 (interquartile range -4 to 2). There was a 1:393 chance of developing CKD in the next 5 y in the low risk group (risk score <0, 33 events), rising to 1:47 and 1:6 in the medium (risk score 0-4, 103 events) and high risk groups (risk score ≥5, 505 events), respectively. Number needed to harm (NNTH) at 5 y when starting unboosted atazanavir or lopinavir/ritonavir among those with a low risk score was 1702 (95% CI 1166-3367); NNTH was 202 (95% CI 159-278) and 21 (95% CI 19-23), respectively, for those with a medium and high risk score. NNTH was 739 (95% CI 506-1462), 88 (95% CI 69-121), and 9 (95% CI 8-10) for those with a low, medium, and high risk score, respectively, starting tenofovir, atazanavir/ritonavir, or another boosted protease inhibitor. The Royal Free Hospital Clinic Cohort included 2548 individuals, of whom 94 individuals developed CKD (3.7%) during 18,376 PYFU (median follow-up 7.4 y, range 0.3-12.7 y). Of 2013 individuals included from the SMART/ESPRIT control arms, 32 individuals developed CKD (1.6%) during 8452 PYFU (median follow-up 4.1 y, range 0.6-8.1 y). External validation showed that the risk score predicted well in these cohorts. Limitations of this study included limited data on race and no information on proteinuria.

Conclusions: Both traditional and HIV-related risk factors were predictive of CKD. These factors were used to develop a risk score for CKD in HIV infection, externally validated, that has direct clinical relevance for patients and clinicians to weigh the benefits of certain antiretrovirals against the risk of CKD and to identify those at greatest risk of CKD.

Abstract Full-text [free] access

Editor’s notes: The nephrotoxicity of antiretroviral drugs, particularly tenofovir, is of concern, particularly where there is limited access to laboratory monitoring of kidney function. The development of kidney impairment among people with HIV is associated with poor outcomes, and in low resource settings where dialysis is not available this can be catastrophic.

This study, like previous work, attempts to address this problem by developing a risk score for the development of chronic kidney disease (CKD). The strength of this study is the availability of data for over 17,000 men and women living with HIV enrolled in cohort studies for many years, and in over 40 countries globally. The resulting risk score uses nine simple clinical variables which predict CKD both
overall, and after starting potentially nephrotoxic antiretrovirals. A short risk score, not including cardiovascular risk factors, which may be more suitable for low resource settings, shows almost as good a prediction of CKD.

So will this risk score become widely used in clinical decision making? For high income countries this tool may be useful to identify people where strategies to prevent cardiovascular and renal disease are best focussed. It may also be useful to identify people at high risk of developing CKD for whom use of tenofovir may be unacceptable, especially when monitoring of kidney function is limited. However, few of the enrolled people were from low and middle income countries, and there was limited information on the race of participants. Therefore, the risk score may need to be validated in low resource settings before it can be widely used. Whether the use of the tool would help to improve clinical outcomes where kidney function is frequently monitored is unclear.

Meanwhile, a new drug formulation, tenofovir alafenamide (TAF), is currently in clinical trials. This appears to be associated with less renal toxicity, and to be safe and well tolerated among adults with decreased kidney function. If future trial results support this evidence, and tenofovir alafenamide becomes widely available, concern about drug nephrotoxicity may become a less pressing clinical issue.

5. Avoid TB deaths

Cryptococcal meningitis screening and community-based early adherence support in people with advanced HIV infection starting antiretroviral therapy in Tanzania and Zambia: an open-label, randomised controlled trial.


Background: Mortality in people in Africa with HIV infection starting antiretroviral therapy (ART) is high, particularly in those with advanced disease. We assessed the effect of a short period of community support to supplement clinic-based services combined with serum cryptococcal antigen screening.

Methods: We did an open-label, randomised controlled trial in six urban clinics in Dar es Salaam, Tanzania, and Lusaka, Zambia. From February, 2012, we enrolled eligible individuals with HIV infection (age ≥18 years, CD4 count of <200 cells per uL, ART naïve) and randomly assigned them to either the standard clinic-based care supplemented with community support or standard clinic-based care alone, stratified by country and clinic, in permuted block sizes of ten. Clinic plus community support consisted of screening for serum cryptococcal antigen combined with antifungal therapy for patients testing antigen positive, weekly home visits for the first 4 weeks on ART by lay workers to provide support, and in Tanzania alone, re-screening for tuberculosis at 6-8 weeks after ART initiation. The primary endpoint was all-cause mortality at 12 months, analysed by intention to treat. This trial is registered with the International Standard Randomised Controlled Trial Number registry, number ISCRN 20410413.

Findings: Between Feb 9, 2012, and Sept 30, 2013, 1001 patients were randomly assigned to clinic plus community support and 998 to standard care. 89 (9%) of 1001 participants in the clinic plus community support group did not receive their assigned intervention, and 11 (1%) of 998 participants in the standard care group received a home visit or a cryptococcal antigen screen rather than only
standard care. At 12 months, 25 (2%) of 1001 participants in the clinic plus community support group and 24 (2%) of 998 participants in the standard care group had been lost to follow-up, and were censored at their last visit for the primary analysis. At 12 months, 134 (13%) of 1001 participants in the clinic plus community support group had died compared with 180 (18%) of 998 in the standard care group. Mortality was 28% (95% CI 10-43) lower in the clinic plus community support group than in standard care group (p=0.004).

Interpretation: Screening and pre-emptive treatment for cryptococcal infection combined with a short initial period of adherence support after initiation of ART could substantially reduce mortality in HIV programmes in Africa.

Abstract access

Editor’s notes: Despite the huge success of antiretroviral programme roll-out, early mortality among people initiating antiretroviral therapy (ART) in low- and middle-income countries remains high, and reducing early mortality is a priority. The risk of early mortality is highest among people with low CD4 counts. Although there has been an increase over calendar time in the median CD4 count at ART start, many people still start ART with low CD4 counts, and continue to be at high risk of death.

Cryptococcal disease is consistently identified at autopsy among HIV-positive people, although less commonly than tuberculosis and other lung infections. Cryptococcal disease is typically seen among individuals with very low CD4 counts, and has high case-fatality, for reasons including late presentation and suboptimal treatment and care. Among people with low CD4 counts, cryptococcal antigen can be detected in blood several weeks before cryptococcal disease becomes symptomatic. In 2011, the World Health Organization (WHO) issued rapid advice concerning prevention and treatment of cryptococcal meningitis in resource-constrained settings. This included a conditional recommendation (based on low-quality evidence) to screen individuals with CD4 counts below 100 cells per µl for cryptococcal antigen, followed by treatment either for cryptococcal meningitis, or with fluconazole for asymptomatic cryptococcal antigenaemia, as appropriate.

This trial is the first to provide evidence that this strategy can save lives. This was a pragmatic, individually randomised trial enrolling HIV-positive, ART-naïve people initially with CD4 counts below 100 cells per µl. Because of slow enrolment, inclusion criteria were later expanded to include people with CD4 counts below 200 cells per µl. The programme had two components. The first involved screening for cryptococcal antigen with a point-of-care test using a finger prick blood sample, followed by management in line with WHO guidelines. The second was adherence support, with trained lay workers visiting participants at or near their homes weekly for the first four weeks. The lay workers delivered ART, provided adherence support and monitored for adverse events.

The reduction of mortality from 18% to 13% in the intervention arm is clearly important, but also intriguing in terms of identifying the “active ingredient”. This may be difficult in a pragmatic trial of a programme with more than one component. For example, there was no cryptococcal antigen testing in control arm participants. Thus we cannot assess precisely the reduction in mortality attributable to this component of the programme. The authors estimate that cryptococcal antigen screening and treatment contributed about half of the observed effect. This component is also interesting because in practice, implementation of the cryptococcal antigen “screen and treat” pathway in the trial was not exactly as per WHO guidelines. WHO guidelines recommend lumbar puncture for people who screen positive for cryptococcal antigen and have symptoms suggesting meningitis. However, in this trial 76% of people testing cryptococcal antigen positive refused lumbar puncture, similar to experience elsewhere. Despite the programme, 32% of people in the intervention arm who were cryptococcal antigen positive died. This suggests that the fluconazole that most people received may have been
inadequate, and that alternatives to lumbar puncture are necessary to identify people at highest risk who would benefit from full treatment for cryptococcal meningitis with amphotericin B. Quantifying the cryptococcal antigen titre in blood might serve this purpose, and needs further investigation.

In a previous trial in Uganda, home-based ART care (monthly delivery of ART by lay workers) was as effective as clinic-based care, in terms of virologic failure. However, other programmes similarly aiming to provide support for individuals starting ART have been less successful. For example a recently-presented trial of health “navigators” who used mobile phones and text messages to help people living with HIV link to ART and, where relevant, TB treatment, did not reduce mortality at nine months. Supporting adherence and retention is clearly critical to the long-term success of ART programmes. The challenge is defining how to do this most effectively and sustainably.

As part of this trial, in both arms ART was intended to be started within four to seven days of the first visit where possible, substantially faster than was previously routine. All participants were asked to provide sputum for testing for tuberculosis with Xpert MTB/RIF, regardless of reported symptoms. Some 16% of participants were already on tuberculosis treatment at enrolment. A further 11% were newly-diagnosed with tuberculosis at enrolment, roughly half based on sputum smear or clinical features and half based on the Xpert MTB/RIF result. This emphasises the importance of routine investigation for tuberculosis among people presenting to start ART. In the United Republic of Tanzania, people not on tuberculosis treatment were rescreened with Xpert MTB/RIF six weeks after enrolment. A further 5% were found to have tuberculosis, highlighting the inadequate sensitivity of Xpert MTB/RIF on sputum in this group of people.

Overall this trial provides encouragement that early on-ART mortality among people with low CD4 counts can be reduced. This is achieved with targeted treatment of cryptococcal disease and home-based early adherence support, in the context of universal screening for tuberculosis and rapid ART initiation. Ongoing studies are investigating whether empirical treatment for tuberculosis will reduce early mortality among similar patient populations. These results together will help define the optimum package of care to minimise mortality among individuals presenting with low CD4 cell counts. At the same time, HIV testing needs to be promoted so that people living with HIV can start ART before reaching the stage of advanced disease where mortality is such a risk.

Burden of tuberculosis at post mortem in inpatients at a tertiary referral centre in sub-Saharan Africa: a prospective descriptive autopsy study.


Background: Patients with subclinical tuberculosis, smear-negative tuberculosis, extrapulmonary tuberculosis, multidrug-resistant tuberculosis, and asymptomatic tuberculosis are difficult to diagnose and may be missed at all points of health care. We did an autopsy study to ascertain the burden of tuberculosis at post mortem in medical inpatients at a tertiary care hospital in Lusaka, Zambia.

Methods: Between April 5, 2012, and May 22, 2013, we did whole-body autopsies on inpatients aged at least 16 years who died in the adult inpatient wards at University Teaching Hospital, Lusaka, Zambia. We did gross pathological and histopathological analysis and processed lung tissues from patients with tuberculosis through the GeneXpert MTB/RIF assay to identify patients with multidrug-resistant tuberculosis. The primary outcome measure was specific disease or diseases stratified by HIV status. Secondary outcomes were missed tuberculosis, multidrug-resistant tuberculosis, and
comorbidities with tuberculosis. Data were analysed using Pearson chi², the Mann-Whitney U test, and binary logistic regression.

Findings: The median age of the 125 included patients was 35 years (IQR 29-43), 80 (64%) were men, and 101 (81%) were HIV positive. 78 (62%) patients had tuberculosis, of whom 66 (85%) were infected with HIV. 35 (45%) of these 78 patients had extrapulmonary tuberculosis. The risk of extrapulmonary tuberculosis was higher among HIV-infected patients than among uninfected patients (adjusted odds ratio 5.14, 95% CI 1.04-24.5; p=0.045). 20 (26%) of 78 patients with tuberculosis were not diagnosed during their life and 13 (17%) had undiagnosed multidrug-resistant tuberculosis. Common comorbidities with tuberculosis were pyogenic pneumonia in 26 patients (33%) and anaemia in 15 (19%).

Interpretation: Increased clinical awareness and more proactive screening for tuberculosis and multidrug-resistant tuberculosis in inpatient settings are needed. Further autopsy studies are needed to ascertain the generalisability of the findings.

Abstract access

Editor’s notes: This paper adds to the growing body of literature documenting a very high burden of tuberculosis (TB) in young adults, the majority of whom are HIV-positive, dying in hospitals in sub-Saharan Africa. Accurate knowledge of causes of death among people living with HIV is critical to developing strategies to reduce mortality. Although autopsies are the gold standard for identifying specific causes of death, autopsy data are sparse. In this study the authors undertook whole-body autopsies in medical inpatient deaths to describe the burden of TB. The GeneXpert MTB/RIF assay was used to assess the prevalence of multidrug-resistant tuberculosis.

The study achieved only 9% coverage of all deaths during the study period, similar to most other studies attempting full autopsy, which has poor acceptability to families. Among 125 included inpatients, the median time from admission to death was seven days. The majority of included people were HIV-positive, all diagnosed before death. The authors report a substantial burden of TB at autopsy, of which 26% (20/78) was only diagnosed after death and 17% (13/78) had undiagnosed multidrug-resistant (MDR) TB. None of the people with MDR-TB was on appropriate treatment. Bacterial pneumonia, found in over one-third of autopsies, was the next most common autopsy finding after TB.

The high burden of undiagnosed TB and MDR-TB at autopsy reported in this study highlights the need for routine screening for TB and MDR-TB among inpatients in TB endemic settings, and for measures to prevent in-hospital TB transmission. Rapid point-of-care diagnostics are necessary to enable early initiation of appropriate treatment. The study also highlights the key role of autopsy in identifying TB at death. This is consistently underestimated by physicians. Less invasive autopsy techniques based on multiple tissue biopsies are more acceptable to families and could have an important role in surveillance for TB as a cause of death.

6. Close the resource gap

Consumption patterns and levels among households with HIV positive members and economic impoverishment due to medical spending in Pune city, India.

HIV infection poses a serious threat to the economy of a household. Out of pocket (OOP) health spending can be prohibitive and can drag households below poverty level. Based on the data collected from a cross-sectional survey of 401 households with HIV+ members in Pune city, India, this paper examines the consumption levels and patterns among households, and comments on the economic impoverishment resulting from OOP medical spending. Analysis reveals that households with HIV positive members spend a major portion of their monthly consumption expenditure on food items. Medical expenditure constitutes a large portion of their total consumption spending. Expenditure on children's education constitutes a minor proportion of total monthly spending. A high proportion of medical expenditure has a bearing on the economic condition of households with HIV positive members. Poverty increases by 20% among the studied HIV households when OOP health spending is adjusted. It increases 18% among male-headed households and 26% among female-headed households. The results reiterate the need of greater support from the government in terms of accessibility and affordability of health care to save households with HIV positive members from economic catastrophe.

Abstract access

Editor's notes: This paper describes expenditure patterns for households with one or more people living with HIV. The authors find that medical expenditure within a household with a member living with HIV is relatively high, some 9.6% of total expenditure. Overall, households were economically vulnerable, with health-associated spending often pushing people below the poverty line. This type of research is especially timely in the context of increasing interest in reducing out of pocket expenditure. Further research around the poverty effects of illness is critical to inform policies as universal access to health care becomes a greater international priority.

Peer outreach work as economic activity: implications for HIV prevention interventions among female sex workers.


Female sex workers (FSWs) who work as peer outreach workers in HIV prevention programs are drawn from poor socio-economic groups and consider outreach work, among other things, as an economic activity. Yet, while successful HIV prevention outcomes by such programs are attributed in part to the work of peers who have dense relations with FSW communities, there is scant discussion of the economic implications for FSWs of their work as peers. Using observational data obtained from an HIV prevention intervention for FSWs in south India, we examined the economic benefits and costs to peers of doing outreach work and their implications for sex workers' economic security. We found that peers considered their payment incommensurate with their workload, experienced long delays receiving compensation, and at times had to advance money from their pockets to do their assigned peer outreach work. For the intervention these conditions resulted in peer attrition and difficulties in recruitment of new peer workers. We discuss the implications of these findings for uptake of services, and the possibility of reaching desired HIV outcomes. Inadequate and irregular compensation to peers and inadequate budgetary outlays to perform their community-based outreach work could weaken peers' relationships with FSW community members, undermine the effectiveness of peer-mediated HIV prevention programs and invalidate arguments for the use of peers.

Abstract   Full-text [free] access
Editor’s notes: Many HIV prevention programmes among female sex worker populations recruit female sex workers to act as community health workers. Community health workers act as a bridge between health services and the community, tailoring activities to the local context and encouraging community ownership of programmes. Evidence suggests that female sex workers acting as community health workers can be critical to maximising benefit from HIV prevention programmes. They also provide a network for social and legal advocacy among female sex workers. Yet despite their importance to programmes, attrition among community health workers is often high and little research has been done to investigate why this might be. This paper gathers data from India and finds that an HIV prevention programme paid community health workers much less than they could have earned through sex-work, while the large workload meant they spent far more time on outreach activities than they were paid for. This encouraged attrition of the community health worker workforce, which could have substantially reduced the impact of the HIV prevention programme. The authors suggest that the importance of community health workers to programmes should be reflected by providing sufficient payment for outreach work. Although this study was carried out among a female sex worker population, these findings are relevant anywhere community health workers are used to deliver programmes elsewhere. Furthermore, other research has suggested that an important motivation for community health workers to take on work is to reduce their economic vulnerability. If programmes pay community health workers too little, or unreliably, they can actually increase the economic vulnerability of the very people they are seeking to protect.

7. Eliminate stigma and discrimination

Structural determinants of health among women who started selling sex as minors in Burkina Faso.


Objectives: To explore the prevalence of and factors associated with initiation of selling sex as a minor.

Design: Data were drawn from cross-sectional studies of adult female sex workers (FSW) recruited through respondent-driven sampling in Ouagadougou and Bobo-Dioulasso, Burkina Faso.

Methods: FSW completed a questionnaire that included a retrospective question regarding the age at which they started selling sex. Separate multivariate logistic regression analyses were conducted for each city to examine associations with initiation of selling sex as a minor (<18 year old), controlling for current age.

Results: Of study participants, 27.8% (194/698) reported selling sex as a minor, ranging from 24.4% (85/349) in Bobo-Dioulasso to 31.2% (85/349) in Ouagadougou. In Ouagadougou, early initiates were more than twice as likely to report someone ever forced them to have sex [age-adjusted odds ratio (aaOR): 2.54, 95% confidence interval (CI): 1.53 to 4.23]. In Bobo-Dioulasso, those who started as minors were more likely to report someone ever tortured them (aaOR: 2.29, 95% CI: 1.28 to 4.10). In both cities, early initiates were more likely to not use a condom with a client if offered more money (Ouagadougou aaOR: 2.34, 95% CI: 1.23 to 4.47; Bobo-Dioulasso aaOR: 2.37, 95% CI: 1.29 to 4.36). In Ouagadougou, women who had started selling sex at a young age were half as likely to have been tested for HIV more than once ever (aaOR: 0.50, 95% CI: 0.26 to 0.94). In Bobo-Dioulasso, early initiates were less likely to attend HIV-related talks or meetings (aaOR: 0.56, 95% CI: 0.33 to 0.97).
Conclusions: A substantial proportion of FSW in Burkina Faso started selling sex as minors. The findings show that there are heightened vulnerabilities associated with selling sex below age 18 years, including physical and sexual violence, client-related barriers to condom use, and lower access to HIV-related services.

Abstract access

Editor’s notes: Young girls in sub-Saharan Africa are at increased risk of acquiring HIV compared with their male peers. Studies have identified both individual-level and structural-level risks for HIV infection among young girls, including inconsistent condom use and violence. Female sex workers who start selling sex as minors are particularly vulnerable to these risks. In west and central Africa, HIV infection is concentrated among key populations, such as female sex workers, with pooled HIV prevalence estimated to be 34.9%. Despite this, there have been relatively few studies of girls who sell sex in sub-Saharan Africa compared to multiple studies that have been conducted in Asia and the Americas. This is one of the first studies comparing early and later initiation of selling sex in west Africa. This study, using data from cross-sectional studies, investigated the structural determinants of health associated with the start of selling sex as a minor among female sex workers in Burkina Faso. The investigators found that almost a third of female sex workers had started selling sex as minors, and early initiation of selling sex was associated with a range of behavioural factors. In addition these women were more likely to experience social and structural vulnerabilities including limited access to health services, and violence. The study highlights the need to provide HIV services for minors who sell sex in sub-Saharan Africa, and to prevent sexual exploitation of children.

Engagement in HIV care and sexual transmission risk behavior among men who have sex with men using online social/sexual networking in Latin America.


HIV/AIDS in Latin America is concentrated among men who have sex with men (MSM). However, accurate estimates of engagement in HIV care in this population can be difficult to ascertain because many do not self-identify as MSM. Given evidence of decreased HIV transmissibility in the context of antiretroviral therapy (ART) adherence, identifying individuals not in care who are engaging in HIV transmission risk behavior is crucial for secondary prevention. Primary aims of this study were to examine engagement in care from testing to ART adherence among MSM using online social/sexual networking across Latin America, and whether individuals not in care at each step reported greater sexual transmission risk behavior than those in care. In the overall sample (n = 28 779), approximately 75% reported ever being tested for HIV, and 9% reported having received an HIV diagnosis. Among known HIV-infected individuals, 20% reported not being in care, 30% reported not taking ART, and 55% reported less than 100% ART adherence. Over one-third of HIV-infected individuals reported sexual HIV transmission risk behavior, defined as unprotected anal intercourse (UAI) with a male partner of different/unknown HIV serostatus in the past three months. HIV-infected individuals not engaged in care more often reported UAI compared to those in care (OR = 1.29; 95% CI = 1.01-1.66). Although not statistically significant, HIV-infected individuals not on ART more often reported UAI compared to those on ART (OR = 1.18; 95% CI = 0.94-1.47). Individuals who reported less than 100% ART adherence more often reported UAI compared to individuals with 100% adherence (OR = 1.55; 95% CI = 1.26-1.90). Findings demonstrate that a substantial portion of HIV-infected MSM in Latin America who are likely not virologically suppressed from lack of ART use or adherence report sexual HIV transmission risk.
Tailoring secondary HIV prevention for MSM in Latin America who are not in HIV care or adherent to ART may be warranted.

Abstract access

**Editor’s notes:** The prevalence of HIV among gay men and other men who have sex with men in Latin America and the Caribbean is among the highest in the world. Stigma and discrimination towards gay men and other men who have sex with men in these settings mean that many do not reveal their sexual preference, do not acknowledge their HIV risk, and do not access HIV diagnosis, care and treatment. This paper describes a large cross-sectional study of almost 30 000 gay men and other men who have sex with men from 17 countries in Latin America, recruited via a social/sexual networking website that they had recently used. The study highlights the substantial difficulty in fully engaging gay men and other men who have sex with men living with HIV, into treatment and care services in this region. This in turn contributes to high HIV prevalence and incidence, through unsafe sexual behaviour and unsuppressed viral load in gay men and other men who have sex with men living with HIV. The authors note that the highest proportion of participants receiving HIV care lived in Brazil, where national efforts have been made to reduce homophobia and to include gay men and other men who have sex with men in HIV prevention initiatives. Similar efforts are required in other Latin American countries if their high levels of HIV transmission in these communities, are to be reduced. This includes innovative methods such as using social networking sites as a platform for delivering programmes.

Psychological interventions for common mental disorders for people living with HIV in low- and middle-income countries: systematic review.


Objective: To assess the effectiveness of structured psychological interventions against common mental disorders (CMD) in people living with HIV infection (PLWH), in low- and middle-income countries (LMIC).

Methods: Systematic review of psychological interventions for CMD from LMIC for PLWH, with two-stage screening carried out independently by 2 authors.

Results: Of 190 studies, 5 met inclusion criteria. These were randomised-controlled trials based on the principles of cognitive behaviour therapy (CBT) and were effective in reducing CMD symptoms in PLWH. Follow-up of study participants ranged from 6 weeks to 12 months with multiple tools utilised to measure the primary outcome. Four studies showed a high risk of bias, while 1 study from Iran met low risk of bias in all 6 domains of the Cochrane risk of bias tool and all 22 items of the CONSORT instrument.

Conclusion: There is a need for more robust and adequately powered studies to further explore CBT-based interventions in PLWH. Future studies should report on components of the psychological interventions, fidelity measurement and training, including supervision of delivering agents, particularly where lay health workers are the delivering agent.

Abstract Full-text [free] access

**Editor’s notes:** Common mental disorders (CMD) including depression and anxiety, are highly prevalent among people living with HIV and contribute to poor HIV outcomes, including treatment
failure. However, the lack of mental health professionals in many low- and middle-income countries means that lay health workers can play an important role in treating CMD. This has been well-documented from non-HIV settings, but not among people living with HIV. This systematic review found that few studies have rigorously evaluated the effectiveness of psychological programmes for CMD among people living with HIV (and only one from sub-Saharan Africa), but all of these reported benefits in the activity arm compared to the control arm. This suggests that further, large, well-designed trials are necessary to evaluate such activities especially in countries most severely affected by HIV in southern and eastern Africa. Key points raised by this review include the need for locally validated tools to assess mental health outcomes in future trials. The importance of formative work to develop and finalise the programme for the trial setting, including local stakeholders, systems for assessing the fidelity of the activity, and a referral or supervision plan, is ever more emphasized.

Intimacy versus isolation: a qualitative study of sexual practices among sexually active HIV-infected patients in HIV care in Brazil, Thailand, and Zambia.


The success of global treatment as prevention (TasP) efforts for individuals living with HIV/AIDS (PLWHA) is dependent on successful implementation, and therefore the appropriate contribution of social and behavioral science to these efforts. Understanding the psychosocial context of condomless sex among PLWHA could shed light on effective points of intervention. HPTN 063 was an observational mixed-methods study of sexually active, in-care PLWHA in Thailand, Zambia, and Brazil as a foundation for integrating secondary HIV prevention into HIV treatment. From 2010-2012, 80 qualitative interviews were conducted with PLWHA receiving HIV care and reported recent sexual risk. Thirty men who have sex with women (MSW) and 30 women who have sex with men (WSM) participated in equal numbers across the sites. Thailand and Brazil also enrolled 20 biologically-born men who have sex with men (MSM). Part of the interview focused on the impact of HIV on sexual practices and relationships. Interviews were recorded, transcribed, translated into English and examined using qualitative descriptive analysis. The mean age was 25 (SD = 3.2). There were numerous similarities in experiences and attitudes between MSM, MSW and WSM across the three settings. Participants had a high degree of HIV transmission risk awareness and practiced some protective sexual behaviors such as reduced sexual activity, increased use of condoms, and external ejaculation. Themes related to risk behavior can be categorized according to struggles for intimacy and fears of isolation, including: fear of infecting a sex partner, guilt about sex, sexual communication difficulty, HIV-stigma, and worry about sexual partnerships. Emphasizing sexual health, intimacy and protective practices as components of nonjudgmental sex-positive secondary HIV prevention interventions is recommended. For in-care PLWHA, this approach has the potential to support TasP. The overlap of themes across groups and countries indicates that similar intervention content may be effective for a range of settings.

Abstract Full-text [free] access

Editor’s notes: Antiretroviral therapy has transformed the lives of many people living with HIV, holding the promise of sustaining health well into older age. Yet, as the authors of this paper remind us, HIV remains a stigmatised condition. Because of the fear and prejudice which continue to surround HIV, living with the infection while on antiretroviral therapy remains challenging not least
because of its impact on intimate relationships. Using qualitative data from three very different cultural settings, the authors illustrate the continuing impact of HIV infection on the lives of people taking antiretroviral therapy. Many people in the study were keen to reduce the risk of infecting others through risky sexual behaviour. As a consequence, some struggled to establish and sustain intimate relationships trapped in feelings of shame about their infection and guilt about sexual enjoyment. The findings in this paper are not new. But what is interesting is how similar the experience of women and men living with HIV was across the different settings. As the health of more and more people living with HIV is sustained through antiretroviral therapy, there is a continuing and urgent need for programmes that address the fears and concerns that they may have about sexual behaviour.

Assessment of policy and access to HIV prevention, care, and treatment services for men who have sex with men and for sex workers in Burkina Faso and Togo.


Background: In Burkina Faso and Togo, key populations of men who have sex with men (MSM) and sex workers (SW) have a disproportionately higher HIV prevalence. This study analyzed the 2 countries' policies impacting MSM and SW; to what extent the policies and programs have been implemented; and the role of the enabling environment, country leadership, and donor support.

Methods: The Health Policy Project's Policy Assessment and Advocacy Decision Model methodology was used to analyze policy and program documents related to key populations, conduct key informant interviews, and hold stakeholder meetings to validate the findings.

Results: Several policy barriers restrict MSM/SW from accessing services. **Laws criminalizing MSM/SW, particularly anti-solicitation laws, result in harassment and arrests of even nonsoliciting MSM/SW.** Policy gaps exist, including few MSM/SW-supportive policies and HIV prevention measures, e.g., lubricant not included in the essential medicines list. The needs of key populations are generally not met due to policy gaps around MSM/SW participation in decision-making and funding allocation for MSM/SW-specific programming. Misaligned policies, e.g., contradictory informed consent laws and protocols, and uneven policy implementation, such as stockouts of sexually transmitted infection kits, HIV testing materials, and antiretrovirals, undermine evidence-based policies. **Even in the presence of a supportive donor and political community, public stigma and discrimination (S&D) create a hostile enabling environment.**

Conclusions: Policies are needed to address S&D, particularly health care provider and law enforcement training, and to authorize, fund, guide, and monitor services for key populations. MSM/SW participation and development of operational guidelines can improve policy implementation and service uptake.

Abstract access

*Editor’s notes:* This paper summarizes an interesting policy analysis of approaches to the provision of HIV services for gay men and other men who have sex with men and sex workers in Togo and Burkina Faso. Both countries are experiencing similar HIV epidemics, categorised as ‘mixed’ with high HIV prevalence among key populations nested within a generalised HIV epidemic. The policy analyses focus on assessing the ‘enabling’ environment defined as policies and programmes for gay men and other men who have sex with men and sex workers that support or hinder HIV prevention and treatment programming. The analysis clearly illustrates the importance of an enabling
environment to facilitate use of programmes as well as shaping attitudes towards gay men and other men who have sex with men and sex workers. Findings illustrate similar policy environments across both countries. While there are no specific laws preventing gay men and other men who have sex with men and sex workers using services, laws that criminalise sex between men or the exchange of sex result in people being harassed. Or laws are wrongly applied by police and discourage people from using services for fear of harassment and negative attitudes of health workers. Community-based organisations led by gay men and other men who have sex with men are not allowed to participate in developing national HIV strategies, which results in programmes not being tailored to specific population needs. The study clearly illustrates the gap between policy and practice. Even when a policy exists supporting a focussed activity for gay men and other men who have sex with men or sex workers, this is not implemented because of lack of appropriate implementation mechanisms. The paper provides important insights into what are the priorities for advocacy and policy development for gay men and other men who have sex with men and sex workers and calls for more research to illuminate the full range of barriers to services. Any advocacy efforts need to be accompanied by education campaigns to reduce stigma and discrimination against gay men and other men who have sex with men and sex workers.

8. Strengthening HIV integration

Pregnancy prevention and condom use practices among HIV-infected women on antiretroviral therapy seeking family planning in Lilongwe, Malawi.


Background: Programs for integration of family planning into HIV care must recognize current practices and desires among clients to appropriately target and tailor interventions. We sought to evaluate fertility intentions, unintended pregnancy, contraceptive and condom use among a cohort of HIV-infected women seeking family planning services within an antiretroviral therapy (ART) clinic.

Methods: 200 women completed an interviewer-administered questionnaire during enrollment into a prospective contraceptive study at the Lighthouse Clinic, an HIV/ART clinic in Lilongwe, Malawi, between August and December 2010.

Results: Most women (95%) did not desire future pregnancy. Prior reported unintended pregnancy rates were high (69% unplanned and 61% unhappy with timing of last pregnancy). Condom use was inconsistent, even among couples with discordant HIV status, with lack of use often attributed to partner’s refusal. Higher education, older age, lower parity and having an HIV negative partner were factors associated with consistent condom usage.

Discussion: High rates of unintended pregnancy among these women underscore the need for integrating family planning, sexually transmitted infection (STI) prevention, and HIV services. Contraceptive access and use, including condoms, must be improved with specific efforts to enlist partner support. Messages regarding the importance of condom usage in conjunction with more effective modern contraceptive methods for both infection and pregnancy prevention must continue to be reinforced over the course of ongoing ART treatment.

Abstract Full-text [free] access
Editor’s notes: This paper highlights the high rate of unmet contraceptive need in sub-Saharan Africa. Almost all of the women living with HIV included in this study in Malawi reported that they did not desire future fertility. Most stated that their partners also did not desire more children. Despite this, levels of consistent condom use were low. To ensure appropriate delivery of HIV and family planning services, it is important to understand the specific needs of women living with HIV. The study has a number of limitations, such as subjective retrospective reporting by the participants. However, the high rate of unintended pregnancies highlights the continued need to integrate family planning into HIV care. Despite the biases associated with self-reported condom use, the inconsistent condom use reported by women in this study emphasises the need for additional efforts to increase access to and uptake of effective contraceptive services to couples living with HIV, in addition to other HIV prevention and treatment services.