AIDSFree Prevention Update

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This is the September 2016 edition of the AIDSFree Prevention Update, an initiative of the Strengthening High Impact Interventions for an AIDS-free Generation (AIDSFree) Project. The AIDSFree Prevention Update is your monthly snapshot of current peer-reviewed literature and state-of-the-art program resources, tools, and curricula on HIV prevention.

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This study investigated the risk of HIV transmission among serodiscordant heterosexual and homosexual couples who have condomless sex when the HIV-positive individual has an HIV-1 RNA viral load below 200 copies/mL and is taking antiretroviral therapy (ART). Participants comprised 1,166 serodiscordant couples from 75 clinical sites in 14 European countries (May 2010–September 2014). At enrollment, HIV-positive partners (heterosexual women, heterosexual men, and men who have sex with men, or MSM) reported taking ART for a median of 7.5 years with >90 percent adherence among all groups. During the study, MSM reported 22,000 incidents of condomless sex, and heterosexual couples reported 36,000. Throughout the course of the study, 10 MSM and 1 heterosexual HIV-negative partner acquired HIV; of these, 8 reported recent unprotected sex with a different partner. There were no linked transmissions between partners. However, further calculations indicate that cumulative risk over years exists for serodiscordant couples, especially those who participate in receptive anal sex. The authors concluded that there remains a 20 percent risk of HIV transmission among serodiscordant couples over a 10-year period at the highest estimate. Phase 2 of this research will seek more precise risk estimates among serodiscordant MSM couples on ART.

Resourcing Resilience: Social Protection for HIV Prevention Amongst Children and Adolescents in Eastern and Southern Africa

This review examined programmatic evidence on social protection for HIV prevention; challenges to implementing social protection programs; and gaps in research on adolescents in southern and eastern Africa. Sources comprised 25 expert interviews and 22 peer-reviewed publications on 20 social protection programs. Findings from the articles were grouped into types of social protection interventions:

- **Social cash transfers**: Only one study implementing a social cash transfer program found reduced HIV transmission rates; 10 additional studies found reduced sexual risk-taking behaviors.

- **Care-based social protection provisions**: Social protection interventions to strengthen families/caregivers and provide peer support to adolescents can potentially influence HIV risk factors due to their flexibility in responding to changing adolescent needs and their ability to act as a sustainable intervention while adolescents also receive other forms of social protection, such as cash transfers.

- **Capability social protection provisions**: These programs address structural disparities by increasing adolescents' skills and knowledge. Evidence from combined skills training and cash transfer programs indicated reductions in HIV risk behaviors.
No one form of social protection program is more effective than another for HIV prevention, the authors said. Combinations of prevention programs may be effective for different populations and situations. Programs should be flexible to respond to the changing HIV prevention needs of adolescents as they move toward adulthood.

View Abstract

All Women, All Rights, Sex Workers Included: U.S. Foreign Assistance and the Sexual and Reproductive Health and Rights of Female Sex Workers

Center for Health and Gender Equity (CHANGE), 2016.

The authors reviewed published and grey literature and interviewed a range of informants to identify best practices for addressing the sexual and reproductive health and rights of female sex workers (FSWs) and explore how U.S. foreign assistance can better respond through policies and programs. Main findings included:

- FSWs experience HIV at higher rates relative to other populations. The global HIV response has largely excluded FSW advocacy organizations that can lead responses to HIV among FSWs. Foreign assistance funds for key populations are insufficient, and policies that require organizations to oppose sex work reduce the impacts of FSW programs.
- HIV prevention strategies for FSWs include HIV testing and counseling, male/female condoms, and screening/treatment of sexually transmitted infections. Pre- and post-exposure prophylaxis (PrEP and PEP) and other biomedical female-controlled interventions require further research.
- Insufficient access to family planning, antenatal and perinatal care, and safe abortion services increases FSWs' vulnerability.
- Addressing gender-based violence among FSWs can result in reduced HIV transmission.
- Several promising approaches present challenges in this group. For example, Test and Start is challenging due to gaps in the care cascade; and PrEP presents human rights risks, since police may view PrEP use as evidence of criminalized sex work.
- Implementation science is critical to understanding how to introduce and retain FSWs within the care cascade.

View Full Report (PDF, 7 MB)
Using Implementation Science to Reduce Mother-to-Child HIV Transmission

National Institutes of Health (NIH) and U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) led by the Fogarty Center for Global Health Studies, (July/August 2016), 15(4).

This summary provided an overview of a 16-article supplement on the implementation science for prevention of mother-to-child transmission (PMTCT) in Africa, published in the Journal of Acquired Immune Deficiency Syndromes. Supplement contributors are PMTCT Implementation Science Alliance members, supported by the NIH and PEPFAR. Researchers studied PMTCT implementation challenges at system, facility, patient-provider, and individual levels. Highlights included:

- Community-based care for pregnant women increased uptake of HIV testing and treatment, and reduced infant infections.
- Providing home-based prenatal services in Kenya doubled male partner HIV testing.
- “Feeding buddies,” who support and educate HIV-positive breastfeeding women, reduced feelings of stigmatization, and improved retention among new mothers in South Africa.
- Administering pre-exposure prophylaxis during pregnancy prevented 3 percent of HIV infections, but increased incidence of pre-term birth by 7 percent.
- To reach infants with early diagnostic services that provide instant results, a sturdy, battery-operated, portable testing machine is currently being studied in Zambia.
- Cash transfers for attending antenatal care improved attendance but did not improve adherence in Democratic Republic of Congo.
- In Nigeria, pregnant women reported increased satisfaction with specialized PMTCT services that had been task shifted to trained midwives.
- Future research should focus on linking HIV-positive infants to treatment and identifying effective treatment adherence and retention strategies for children.

Assessing Progress, Impact, and Next Steps in Rolling Out Voluntary Medical Male Circumcision for HIV Prevention in 14 Priority Countries in Eastern and Southern Africa Through 2014


This study examined the scale-up of voluntary medical male circumcision (VMMC) in 14 priority countries in eastern and southern Africa through 2014. Among men aged 15–49, the countries achieved 43 percent of the VMMCs required to reach the goal of 80 percent coverage. A total of 3.24 million VMCCs were conducted in 2014—up from 21,000 in 2008—for a total of 9.1 million men circumcised by 2014. Uganda, South Africa, and Tanzania performed the largest number of VMMCs cumulatively; there was still significant progress to be made in Lesotho, Malawi, Namibia, Rwanda, and Zimbabwe. Models indicate that VMMC in the 14 countries will avert a total of 240,000 new HIV infections: 32 percent among men aged 15–19; and 26 percent among men aged 20–24. Though boys aged 10–14 were not initially
targeted, findings indicated that VMMC uptake was high in this age group, accounting for 20 percent of new HIV infections prevented. VMMC uptake was only 4 percent among men aged 35 and older. A median cost of USD$4,400 per HIV infection prevented was found, although costs vary across countries ($1,300–22,000). Attaining 80 percent VMMC reach by 2025 will require programs to target infants and adolescents as well.

Effectiveness and Safety of Oral HIV Preexposure Prophylaxis for All Populations

Fonner, V.A., Dalglish, S.L., Kennedy, C.E., et al. AIDS (2016), 30:1973–1983, doi: 10.1097/QAD.0000000000001145. This systematic review and meta-analysis examined pre-exposure prophylaxis (PrEP) in the form of tenofovir disoproxil fumarate (TDF) for high-risk populations, and its impact on HIV transmission, adverse effects, resistance, and impacts on sexual behavior and reproductive health. Eighteen studies with a total of 19,491 participants, including 11,901 who took PrEP, were included. Participants included injection drug users, men who have sex with men, serodiscordant couples, transgender women, and heterosexual men and women. The studies indicated a 51 percent reduction in HIV transmission with PrEP when compared to placebo groups. In studies with optimal adherence, HIV risk decreased by 70 percent, and effectiveness was the same across participant groups. Adverse effects were minimal, though some studies identified mildly diminished renal and liver function and decreased bone mineral density. The risk of TDF resistance among study subjects was low. Women experienced higher pregnancy rates when taking PrEP and an oral combined hormonal contraceptive in comparison to a single hormonal method (i.e., injectable or implant). There were no changes, or slight increases, in condom use across studies. Most studies reported the same number of sexual partners, or fewer; one study found an increase in sexual partners. Overall findings indicated that with good adherence, PrEP is highly effective across population groups, types of sexual activity, and dosages. Further research is needed to determine effective methods to deliver PrEP services.

Retention of Mothers and Infants in the Prevention of Mother-to-Child Transmission of HIV Programme is Associated with Individual and Facility-Level Factors in Rwanda

Woelk, G.B., Ndatimana, D., Behan, S., et al. Journal of the International AIDS Society (2016), 19(Suppl 4): 20837, doi: 10.7448/IAS.19.5.20837. This retrospective study examined gaps in retention of mother/infant pairs in the prevention of mother-to-child transmission (PMTCT) cascade, and related patient-level influences at each stage in the cascade. The investigators retrospectively reviewed registers and patient charts for 457 mothers and 462 infant pairs at 5 clinics providing Option B+ services in Rwanda between April 2010 and February 2012. Postpartum retention was measured at 6 weeks and 3, 6, 9, and 12 months. Fifty-eight percent of mothers and 81 percent of infants were retained 12 months postpartum. The majority of mothers who fell out of the cascade did so within the first 30 days postpartum, when 33 percent of mothers were lost to follow-up. A remaining 10 percent were lost between 30 days and 12 months postpartum. Married mothers and those on HIV treatment for their own health (versus those on treatment for infant prophylaxis) were less likely to fall out of the care cascade. The authors recommended testing
interventions targeting single women, such as through peer support groups, income-generating opportunities, use of community health workers, and mobile health technology (such as texting for appointment reminders), to determine if they improve retention in care for those most likely to fall out of the PMTCT cascade.

View Full Study

"How Can I Tell?" Consequences of HIV Status Disclosure Among Couples in Eastern African Communities in the Context of an Ongoing HIV "Test-and-Treat" Trial


This qualitative study examined disclosure experiences among couples in Kenya and Uganda. Through semi-structured interviews with 50 HIV providers, 32 community leaders, and 112 residents (HIV-positive and -negative) in 8 communities, the authors examined experiences with disclosure to close partners; customs, opinions, and actions related to HIV testing; and practices for accessing HIV care. Barriers to disclosure varied by gender. HIV-positive women feared their partner leaving them or behaving violently, whereas HIV-positive men feared marital conflicts over infidelity. To maintain secrecy, partners reported accessing HIV services at remote facilities, hiding medication, and falling out of care, resulting in loss to follow-up and poor adherence to medication. Positive disclosure experiences led respondents to improve their care-seeking behaviors, encourage others to test, begin treatment, and use protection with serodiscordant partners. Negative experiences included partner desertion, blocking access to care, and physical violence. Couples testing at health facilities facilitated positive disclosure experiences, as facility staff were able to offer assistance with disclosure and helped minimize partners placing blame when both tested positive. The authors recommended exploring such approaches as addressing male and female partners' concerns, supporting providers to offer disclosure services, exploring alternative testing locations to increase male uptake, and developing community disclosure support services.

View Full Study

Choice in HIV Testing: The Acceptability and Anticipated Use of a Self-Administered At-Home Oral HIV Test Among South Africans


Increasing HIV testing rates is essential to the scale-up of combination prevention packages, including treatment as prevention and pre-exposure prophylaxis. Alternative HIV testing models may increase uptake among populations who are hesitant to access clinic-based testing. This qualitative study explored perceptions of home-based HIV self-testing through 20 semi-structured interviews with primary health care patients in South Africa in 2010. Nine interviewees viewed home testing favorably; eight viewed it unfavorably; and three had no preference. Despite mixed opinions, the majority of participants (n=16) thought that uptake of self-testing in South Africa would be common; and 14 said that they...
would use a home test. Positive perceptions of home testing included privacy, time savings, increased potential for repeat self-testing, and convenience. Half of participants mentioned negative consequences such as emotional trauma, including self-inflicted harm when positive results occur. Individuals who had previously been tested, were in a committed relationship, and considered themselves unlikely to be HIV-positive were more likely to view home testing positively. Men were also more open to self-administered testing than women were. Couples home testing was more likely within a committed relationship, rather than in a casual relationship, where condom use was more likely. Providing a variety of testing options may permit people to select the testing method that best suits their specific needs.

View Abstract

Combination HIV Prevention Options for Young Women in Africa


This review examined combination prevention strategies available for young women in Africa. The authors found some successes, but also numerous challenges:

- **Structural and behavioral interventions:** Abstinence, monogamy, and condom strategies present numerous behavioral challenges, including partner fidelity, mixed availability of condoms, and agreement on partner condom use. Peer and mass media education, sex education programs, and skills-building projects have improved HIV awareness and condom use and reduced risky behaviors, but have not demonstrated reduced HIV infection rates. HIV counseling and testing have reduced risk-taking behaviors, but stigma and discrimination limit uptake. Cash transfer programs have demonstrated success in school retention, condom use, delayed sexual debut, and reduced sexual risk-taking; but studies have not shown reduced HIV incidence.

- **Biomedical interventions:** Antimicrobial approaches and pre-exposure prophylaxis have had mixed results, requiring optimal adherence to improve effectiveness. Treatment as prevention is effective; two trials demonstrated zero transmission with viral loads below 400 copies/mL and 200 copies/mL. Although voluntary medical male circumcision reduces female-to-male transmission, it offers little immediate protection for women. Treatment for sexually transmitted infections reduced HIV incidence by 42 percent in one study, but the findings have not been replicated.

The authors concluded that HIV prevention in women requires flexible combination prevention packages that include context- and population-specific biomedical, behavioral, and structural interventions. Further research is needed to identify effective female-controlled prevention strategies.

View Abstract
Evolution of Couples Voluntary Counseling and Testing for HIV in Rwanda: From Research to Public Health Practice


This paper described the approaches Rwanda used to achieve 88–90 percent testing among married couples between ages 25–29. Over 90 percent of new infections are among couples who live together. In 1998, a research team introduced HIV testing to women, many of whom also requested it for their spouses. Follow-up data showed that HIV infection rates were twice as high among women whose partners had not been tested. Initial challenges with disclosure inspired development of procedures for couples pre- and post-test counseling. In 1999, the model was scaled up to antenatal care (ANC) clinics. Trained community leaders promoted couples testing, and 41,852 couples were tested from 2003–2008. By 2008, after a country-wide initiative for prevention of mother-to-child transmission in which community health workers promoted couples testing during home visits, 78 percent of male partners had tested at ANC clinics. In 2009, new national guidelines called for joint couples testing and counseling with shared disclosure. Initial findings indicated that counselors needed further training on joint counseling, as well as adapted data collection tools and procedures. As of 2012, more than 400 health facilities were offering couples HIV testing, with 84 percent of pregnant women’s husbands accepting testing. The authors concluded that programs should emphasize couples counseling, given its potential for risk reduction.

View Full Study

Structural Prevention

Men, Masculinity, and Engagement with Treatment as Prevention in KwaZulu-Natal, South Africa


This qualitative study examined how perceptions of masculinity affect men’s engagement in HIV care in the context of a test-and-treat trial in South Africa. The authors conducted 20 interviews (10 men, 10 women), 10 of them repeated three times, with participants recruited from households and a clinic. They also formed four focus groups—of younger individuals, older individuals, traditional healing practitioners, and mixed participants—that met four times. Findings showed that men avoided HIV testing due to fear of a positive diagnosis, preference for traditional medicine, and concern that health facilities are for women. Female partners who tested positive faced disclosure challenges, including blame and financial neglect; they sometimes relied on an antenatal care visit for support in disclosure. Men acknowledged their likely role in transmitting HIV to their partner, but still avoided the subject, and delayed testing and treatment. The literature indicates that for men, HIV is a threat to sexual capability, independence, and earning potential—all “masculine” traits. The authors concluded that to successfully promote test-and-treat approaches, policy and service delivery models must take into account family dynamics, including men’s concerns about masculinity; and also consider service delivery models that reach men in alternative settings.

View Abstract
Determining Barriers to Creating an Enabling Environment in Cambodia: Results from a Baseline Study with Key Populations and Police


Enforcement of Cambodian laws creates barriers to HIV service implementation for key populations, including men who have sex with men (MSM), people who inject drugs (PWID), and sex workers. The authors conducted a baseline study in advance of a harm-reduction intervention among police, clinicians, key population members, and implementing partners. The study was carried out to understand: 1) police attitudes and actions toward key populations, and 2) HIV prevention actions and actions toward police among key populations. The authors conducted structured interviews with 798 participants from key populations (MSM, PWID, transgender women, and female entertainment workers) and 199 police officers. Findings indicated that 11 percent of respondents had experienced arrest in the previous six months; 29 percent experienced verbal intimidation; and 25 percent experienced a body search. PWID reported higher incidence of these events than other key population groups. Among police, 58 percent reported arresting a key population member in the past six months; and 75 percent reported performing a body search. All police voiced support for HIV prevention; 94 percent stated that arrest/detention supported prevention activities. Future HIV prevention and harm reduction interventions must improve negative perspectives among key population members and police with specific research-informed interventions for each key population group.

View Full Study

Strategies for Reducing Police Arrest in the Context of an HIV Prevention Programme for Female Sex Workers: Evidence from Structural Interventions in Karnataka, South India


This study (2005–2011) examined a structural intervention to reduce police arrest among female sex workers (FSWs) in India. Arrested FSWs may be sexually abused by police; engage in risky (including condomless) sex to pay arrest costs; have condoms confiscated by police; and move to avoid arrest—reducing their community support and increasing HIV vulnerability. The intervention included one-day sensitization workshops with police to educate them on existing laws covering FSWs, human rights and abuse penalties, and FSWs’ daily struggles. Interventions for FSWs entailed formation of peer support groups, training on rights and how to report violence to police, and development of crisis management teams, including a 24-hour hotline and a human rights lawyer to address emergencies. As part of integrated biological and behavioral assessment surveys, FSWs were interviewed at 20-month intervals about their experiences. Interviews with 4,110 FSWs, showed that while 5.5 percent initially reported experiencing arrest, only 2.8 percent did 20 months later. Peer support also increased: 40.75 percent of FSWs initially reported having peer support, which increased to nearly 70 percent 20 months later. The authors concluded that in settings where sex work is criminalized, structural interventions that educate police officers can be an effective approach for reducing HIV risk among FSWs.

View Full Text
HIV and Tuberculosis in Prisons in Sub-Saharan Africa


This review of 48 grey and white articles published between 2011 and 2015 examined HIV and TB epidemiology, services, and research priorities in sub-Saharan African (SSA) prisons. Data were available for 24 of 49 countries. The authors found higher HIV and TB prevalence in imprisoned populations generally, and in incarcerated females, relative to non-incarcerated populations. Policies for HIV and TB testing, care, and treatment in SSA prisons are scarce. Most prisoners with TB also experienced HIV coinfection; one study estimated that the spread of TB could be as high as 90 percent in prison. Shortages of health staff, and transfers within and out of prisons, present challenges for treatment continuity. Prisoners are often in and out of prison, indicating that addressing HIV and TB in prisons will also benefit the communities to which they return. International recommendations, which are rarely followed due to financial and policy challenges, include structural interventions that reduce the spread of TB, harm reduction/HIV prevention activities, and voluntary testing and treatment for both HIV and TB. The authors concluded that improving the HIV/TB situation in prisons would require significant political commitment, including sustainable funding, strong management, and research, along with prison system reforms to decrease exposure by reducing pre-trial court delays, and reduced sentences to limit the duration of imprisonment.

View Abstract