



AIDSFree Prevention Update



May 2016

This is the May 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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Challenges in the Elimination of Pediatric HIV-1 Infection

Luzuriaga, K., and Mofenson, L.M. *New England Journal of Medicine* (February 2016): 761–770, doi:10.1056/NEJMra1505256.

This review summarized five steps required for preventing mother-to-child transmission of HIV-1 and caring for women and their infants during pregnancy, delivery, and the postpartum period. The steps comprise:

1. Use of combination antiretroviral therapy (ART) during pregnancy as the most effective intervention for the prevention of mother-to-child transmission
2. The Option B+ program, in which all HIV-1-positive pregnant and breastfeeding women begin lifelong ART regardless of their CD4+ cell count
3. Reduction of new HIV-1 infections among women of reproductive age and actions to address unmet family planning needs
4. Prevention of new infections in children and control of HIV-1 in children who become infected
5. Further research on optimizing ART to make pregnancies safer for HIV-1-positive women and improve health outcomes for their uninfected infants.

Challenges include inadequate access to early antenatal care, poor linkage between mother-child pairs and postnatal health services, and a lack of systems to ensure long-term retention in care and continued provision of and adherence to maternal ART. The authors concluded that unless health care systems can reach the majority of pregnant women, and each step along the pathway to prevention is carried out with more than 95 percent reliability, the goal of eliminating HIV transmission will not be attainable.

[View Full Review](#)

A Hybrid Mobile Approach for Population-Wide HIV Testing in Rural East Africa: An Observational Study

Chamie, G., Clark, T.D., Kabami, J., et al. *The Lancet HIV* (January 2016), doi:10.1016/S2352-3018(15)00251-9.

This observational study in 32 communities in Kenya and Uganda employed a novel, hybrid mobile HIV testing approach entailing multiple-disease community health campaigns (CHCs), followed by home-based testing (HBT) of people who did not participate in the CHCs. Two-week, mobile, multiple-disease CHCs conducted in each community offered rapid HIV testing and counseling, followed by CD4 cell count measurement, provision of a 30-day supply of cotrimoxazole, and referral to HIV care. Non-HIV services included hypertension and diabetes screening, malaria rapid diagnostic testing, male condom distribution, referral for medical male circumcision, and family planning. Residents who did not engage in HIV testing at CHCs were offered testing at their homes from one to six months after the CHCs. Over one year, 131,307 (89%) of 146,906 adults with stable residence were tested for HIV using CHCs followed by HBT for non-participants. Predictors of non-testing via CHCs included being male, single marital status, age 30–39 years, residence in Kenya, and migration out of the community for at least one month in the past year. The authors concluded that the hybrid mobile HIV testing approach was effective at rapidly achieving the high levels of population HIV testing coverage that are essential for the success of recent advances in HIV treatment and prevention.

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HIV-Alcohol Risk Reduction Interventions in Sub-Saharan Africa: A Systematic Review of the Literature and Recommendations for a Way Forward

Carrasco, M.A., Esser, M.B., Sparks, A., and Kaufman, M.R. *AIDS and Behavior* (March 2016), 20(3), 484–503.

This review synthesized findings from 19 HIV-alcohol risk reduction interventions in the African region. All studies promoted individual behavior change using strategies such as peer education, health trainings and workshops, and health education videos; 15 promoted HIV-alcohol risk reduction; and 4 focused on integrating HIV-alcohol risk reduction into multifaceted HIV prevention programs. Seventeen studies showed efficacy in at least one of the three main types of outcomes analyzed (HIV-alcohol risk behaviors, sexual risk behaviors, and alcohol consumption). The authors reported that studies targeting youth in schools had limited efficacy; studies targeting women who use drugs, sex workers, and clients of services for voluntary testing and counseling or sexually transmitted infections were more successful. Studies targeting drinking venue patrons were efficacious when delivered as a short intervention in a community setting, but not when delivered by peers at the drinking venues. However, the authors also emphasized that though many studies show an association between alcohol consumption and risky sexual behavior, there is a scarcity of HIV-alcohol risk reduction interventions in sub-Saharan Africa. They urged integrating alcohol risk reduction components into current HIV prevention programming, and expanding the use of structural interventions to increase the sustainability of less risky alcohol consumption patterns and sexual behaviors.

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Behavioral Prevention

Psychological and Behavioral Interventions to Reduce HIV Risk: Evidence from a Randomized Control Trial among Orphaned and Vulnerable Adolescents in South Africa

Thurman, T.R., Kidman, R., Carton, T.W., and Chiroro, P. *AIDS Care* (February 2016), 28(1): 8–15, doi: 10.1080/09540121.2016.1146213.

This cluster-randomized controlled trial evaluated the effectiveness of two interventions, offered independently and in combination, on sexual risk behaviors among 14- to 17-year-old orphaned and vulnerable adolescents in South Africa (N = 1016). Participants were randomized into one of the four experimental conditions:

1. The *Vhutshilo* (Life) intervention only (13 weekly 60-minute sessions covering alcohol and substance abuse, crime and sexual violence, HIV, healthy sexual relationships, transactional sex, and condom use)
2. Interpersonal psychotherapy for groups (IPTG) only (16 weekly 90-minute group sessions that included practice on interpersonal skills and emotional support among group members)
3. IPTG followed immediately by *Vhutshilo*
4. No new interventions aside from standard care (control group).

The authors interviewed each participant three times over 22 months. They reported 95 percent retention, and observed significant effects (which varied by gender) among adolescents enrolled in both interventions. Girls enrolled in both interventions showed significant increases in consistent condom use relative to the control group; boys had significant decreases in the prevalence of risky sexual partnerships relative to those in the control group at the final follow-up survey. The authors concluded that strategically packaging psychological and behavioral interventions together may achieve greater reductions in sexual risk behavior among adolescents.

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The Need for Second-Line Antiretroviral Therapy in Adults In Sub-Saharan Africa up to 2030: A Mathematical Modelling Study

Estill, J., Ford, N., Salazar-Vizcaya, L., et al. *The Lancet HIV* (March 2016), 3(3), doi:10.1016/S2352-3018(16)00016-3.

This study modeled the need for first- and second-line antiretroviral therapy (ART) in sub-Saharan Africa between 2015 and 2030. Using the World Health Organization's country database from 2005 to 2014, the authors developed 12 future scenarios for 41 countries by combining variations on several scenarios: degrees of ART scale-up; retention in care and regimen switching after confirmed treatment failure; and monitoring strategy. They presented findings for eight countries. In these countries, the proportion of patients receiving second-line therapy in 2014 ranged from 0.7 to 13.1 percent. However, in 2020, this proportion increased to between 8.2 and 17.2 percent with routine viral load monitoring, and between 2.5 and 7.8 percent with targeted viral load monitoring across all countries and scenarios. In 2030, the proportion of patients receiving second-line therapy was 13.5–21.0 percent with routine viral load monitoring and 5.1–12.2 percent with targeted viral load monitoring across all countries and scenarios. For each monitoring strategy, the future proportion of patients receiving second-line ART differed only minimally between countries. The authors concluded that countries and donors should prepare for a substantial increase in the need for second-line drugs during the next few years as access to viral load monitoring improves.

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I Knew I Would Be Safer. Experiences of Kenyan HIV Serodiscordant Couples Soon After Pre-Exposure Prophylaxis (PrEP) Initiation

Ngure, K., Heffron, R., Curran, K., et al. *AIDS Patient Care and STDs* (February 2016), 30(2): 78–83. doi:10.1089/apc.2015.0259.

This study in Thika, Kenya explored how serodiscordant couples make decisions about using PrEP for HIV prevention. From August 2013 to March 2014, the authors conducted in-depth interviews with 20 heterosexual HIV-serodiscordant couples participating in the Partners Demonstration Project, an open-label implementation study evaluating integrated delivery of PrEP and antiretroviral therapy for HIV prevention among high-risk serodiscordant couples. Members of couples were interviewed together to assess the couples' dynamics and communication patterns. The main themes emerging from these couple interviews were 1) *resuming a normal life* (PrEP provided a way for couples to stay together and deal with their HIV serodiscordance); 2) *additional protection through PrEP* (couples agreed that PrEP provided additional protection and that they felt safer when using it); 3) *early experiences with PrEP use* (couples reported adjusting well to the daily PrEP use by the HIV-negative partner, and had developed measures to optimize their adherence, such as use of text reminders and incorporating taking PrEP into daily routines); and 4) *the clinical encounter* (most participants believed the health providers' message that PrEP could help them avoid contracting HIV). The authors concluded that health care providers have an influential role in HIV prevention and can exert a significant impact on the success of this novel HIV prevention strategy.

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Option B+ for the Prevention of Mother-to-Child Transmission of HIV Infection in Developing Countries: A Review of Published Cost-Effectiveness Analyses

Karnon, J., and Orji, N. *Health Policy and Planning* (March 2016), pii: czw025, e-publication ahead of print.

This review analyzed studies that reported the cost-effectiveness of Option B+ for prevention of mother-to-child transmission of HIV (PMTCT) in developing countries. All five of the eligible studies synthesized data from disparate sources to estimate the costs and numbers of averted HIV infections associated with alternative PMTCT strategies. Across all studies, Option B+ showed variable results, with some studies showing lower costs and greater benefits and cost-effectiveness. The studies also varied with respect to the effects of ongoing antiretroviral therapy (ART) on subsequent pregnancies, baseline transmission rates, the effects of ART in reducing transmission rates, and ART costs. The authors emphasized that differences in the design and methodology of the alternative cost-effectiveness analyses may reflect real and relevant differences between countries; but they may also reflect variation in the validity and accuracy of alternative estimates of the cost-effectiveness of Option B+. They concluded that Option B+ is highly likely to be cost-effective, recommended that decision makers note the findings of this study when planning cost-effectiveness analyses, and requested several alternative calculation methods to form local funding decisions around alternative strategies for PMTCT.

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Combination Prevention

Comparing the Impact of Increasing Condom Use or HIV Pre-Exposure Prophylaxis (PrEP) Use among Female Sex Workers

Mukandavire, Z., Mitchell, K.M., Vickerman, P. *Epidemics* (March 2016), doi:10.1016/j.epidem.2015.10.002.

This modeling study estimated the relative impact of PrEP and condom use by female sex workers (FSWs) to clarify the importance of PrEP for preventing HIV transmission in this group and compare the benefits of introducing PrEP versus prioritizing the scale-up of condom use among FSWs. The authors stratified the population into three classes, denoting the HIV prevalence among FSWs, their clients, and pimps (boyfriends and "others" in the sex industry). Analyses showed that increasing PrEP use among FSWs was unlikely to result in the same population-level impact as increasing condom use. Furthermore, the relative impact of PrEP was lower than that of condoms for HIV infections averted over 10 years; a >3 percent increase in PrEP coverage achieved the same impact as a 1 percent increase in condom use. A potentially important use for PrEP, the authors said, was to protect FSWs against HIV transmission from pimps and other male sexual partners involved in the sex industry, who might be reluctant to use condoms. The authors concluded that PrEP could be an effective HIV prevention tool for FSWs, but is unlikely to achieve the same population-level impact as existing condom use promotion interventions among FSWs. They recommended that PrEP only be implemented once condom promotion interventions have reached their maximum impact.

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Adolescent Sexual and Reproductive Health Services and Implications for the Provision of Voluntary Medical Male Circumcision: Results of a Systematic Literature Review

Kaufman, M.R., Smelyanskaya, M., Van Lith, L.M., et al. *PLOS ONE* (March 2016), 11(3):e0149892, doi:10.1371/journal.pone.0149892.

The authors of this systematic review synthesized research on sexual and reproductive health (SRH) and voluntary medical male circumcision (VMMC) services for male adolescents in sub-Saharan Africa, and identified the best age-appropriate practices for this population. The 79 eligible studies, which were published between January 1990 and March 2014, tended to focus on SRH services for adolescents and VMMC services for males in general. Factors that facilitated effective services for adolescent males included involving parents and the community, creating a youth-friendly service environment, promoting additional perceived benefits of VMMC, and creating messages specifically for young males. National and media campaigns have been effective in reaching male adolescents with specific information about VMMC and its protective effects. Such factors as feelings of shame, negative interactions with providers, violations of privacy, and fear of pain comprised barriers to SRH and VMMC services. The authors called for more research to explore how to tailor counseling on SRH during the VMMC process to adolescents of different ages, levels of maturity, and sexual experience.

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Structural Prevention

Social Context of Adherence in an Open-Label 1 % Tenofovir Gel Trial: Gender Dynamics and Disclosure in KwaZulu-Natal, South Africa

MacQueen, K.M., Dlamini, S., Perry, B., et al. *AIDS and Behavior* (March 2016), e-publication ahead of print.

CAPRISA 106, an ancillary study of the Centre for the AIDS Programme of Research in South Africa (CAPRISA 008) trial, assessed the acceptability of tenofovir gel among women and men; the influence of gender dynamics on tenofovir gel use disclosure; and social barriers and facilitators of tenofovir gel use. The authors conducted interviews with 63 CAPRISA 008 participants and 13 male partners in rural and urban KwaZulu-Natal. For women, disclosure of tenofovir gel use was determined by relationship dynamics, including the duration of the relationship, the living situation, and an evaluation of the relationship (e.g., partner intimacy and expectations about the relationship). Whether or not they disclosed, women reported using the gel effectively; in some situations, disclosure was itself a barrier to adherence. Women were least likely to disclose to their partners that the gel's active ingredient is tenofovir, which is an antiretroviral (ARV), because of the prevalent understanding of ARVs as treatment for HIV infection and the social stigma surrounding HIV. The authors concluded that women should be supported in their choice about what to disclose to their partners, and should have opportunities to use tenofovir gel and similar products without their partners' knowledge.

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Applying a Family-Level Economic Strengthening Intervention to Improve Education and Health-Related Outcomes of School-Going AIDS-Orphaned Children: Lessons from a Randomized Experiment in Southern Uganda

Ssewamala, F.M., Karimli, L., Torsten, N., et al. *Prevention Science* (January 2016), 17(1): 134–43, doi:10.1007/s11121-015-0580-9.

This two-arm cluster-randomized controlled trial assessed whether a *Suubi-Maka* intervention (a family-level economic strengthening intervention) would improve developmental outcomes (education, health, and psychosocial functioning) in children between ages 12 and 16 who had been orphaned by AIDS. Participating children from 10 schools were randomly assigned to Suubi-Maka (5 schools, 179 children) or bolstered usual care (5 schools, 167 children). Bolstered usual care consisted of counseling, school uniforms, school lunches, notebooks, textbooks, and mentorship from a near-peer. Children in the Suubi-Maka arm received bolstered usual care plus a family-level economic strengthening intervention in the form of a matched Child Savings Account. The authors collected data at baseline (pre-intervention) and at 24 months after the intervention. They reported significant differences in health outcomes between the two groups; children in the Suubi-Maka group reported significantly lower levels of hopelessness, and had significantly higher academic scores, than those in the control group. Additionally, children in the intervention group had much higher confidence in their educational plans than did their counterparts in the control group. The authors concluded that family-level economic strengthening programs, over and above bolstered usual care, may have positive developmental impacts on education and health.

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Epidemiology

Estimation of Country-Specific and Global Prevalence of Male Circumcision

Morris, B.J., Wamai, R.G., Henebeng, E.B., et al. *Population Health Metrics* (March 2016), 14(4), doi:10.1186/s12963-016-0073-5.

The authors determined the current country-by-country and global prevalence of male circumcision (MC) by reviewing articles through a PubMed search and examining country-level Demographic and Health Surveys, AIDS Indicator Surveys, and Behavioral Surveillance Surveys. They developed estimates for every country and territory in the world (N = 237) by using 2015 figures on sex ratios, total populations, and males aged 15–64 years derived from the U.S. Central Intelligence Agency and the United Nations. Their findings suggested a global MC prevalence of approximately 37.7 percent, although the real percentage could be slightly higher or lower. In some countries, the authors estimated MC prevalence based on populations of ethnic/religious groups known to perform it, most notably Muslims and Jews. However, the authors noted that this was not a completely accurate estimation because 1) uncircumcised Muslims and Jews do exist, so the proportion of circumcised males in these groups is less than 100 percent, and 2) a percentage (possibly 5–10% in developed countries) of males are circumcised for medical reasons unrelated to HIV, such as conservative treatment of early-stage penile cancer. The authors concluded that their findings on the current prevalence of MC across geographies and cultures may help guide policy development and resource allocation in all countries.

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Reports, Guidelines & Tools

Fast-Track to Ending AIDS

United Nations Secretary-General (2016).

This document from the United Nations (UN) General Assembly announces a High-Level Meeting on Ending AIDS, to convene June 8–10, 2016 at the UN headquarters in New York. The meeting responds to the need for UN member states to take a "Fast-Track" approach during the next five years to reach the goal of ending the HIV epidemic by 2030, and to achieve global goals for sustainable development. Achieving these goals will require not only increased investment in outreach, care, and treatment, but broader commitment to a rights-based approach to HIV programming that includes participation from civil society. Meeting attendees will draft a new Political Declaration on Ending AIDS. The UNAIDS Fast-Track approach aims to achieve ambitious targets by 2020, including:

- Fewer than 500,000 people newly infected with HIV
- Fewer than 500,000 people dying from AIDS-related illnesses
- Eliminating HIV-related discrimination.

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Tanzania PrePex™ Acceptability and Safety Study (TZ-Pass)

Strengthening High-Impact Interventions for an AIDS-Free Generation (AIDSFree) Project Tanzania/Jhpiego (2016).

This report presented findings from a pilot study in Tanzania to test a nonsurgical device for medical male circumcision. Multiple studies have shown that voluntary medical male circumcision (VMMC) can prevent heterosexual HIV infection in uninfected men by up to 60 percent. Both the World Health Organization and the Joint United Nations Programme on HIV/AIDS recommend promoting male circumcision as part of a comprehensive HIV treatment package. However, given the limited financial and human resources in many developing countries, alternatives to conventional procedures for medical circumcision may help countries reach their VMMC targets. This document presents findings from the Tanzania PrePex™ Acceptability and Safety Study (TZ-PASS), implemented by the AIDSFree Project to determine the benefits, acceptability, and risks of the PrePex™ device for nonsurgical circumcision in routine clinical settings in three regions of Tanzania. This device, which accomplishes VMMC nonsurgically through a procedure that can be performed by mid-level health care providers in a nonsterile setting, may make it easier for countries to reach recommended national targets. The study examined clinical outcomes, healing time, and client and partner views on the experience of circumcision with this device, and found the PrePex™ approach safe and socially acceptable in the study regions.

[View Full Study](#)

Alcoholic Beverage Companies and the HIV Response in Sub-Saharan Africa: A Case Study of HIV Programs at Heineken and SABMiller

Thior, I. Strengthening High Impact Interventions for an AIDS-free Generation (AIDSFree) Project (March 2016).

This case study described the HIV programs developed by the Heineken and SAB Miller beverage companies to address HIV in the sub-Saharan African countries where they operate. These programs began in the 1990s and evolved from an initial focus on prevention to encompass prevention, care, and treatment for employees and dependents—reflecting concerns about the effect of HIV on the companies’ business interests. Subsequently, as an expression of corporate social responsibility or business imperative, both companies developed public-private partnerships to address HIV within communities and partner organizations. Interventions included outreach and prevention activities aimed at farmers and high-risk populations, such as bar patrons and long-distance truck drivers working for the companies and their subsidiaries. Both companies have also collaborated on HIV projects at the community and national levels by partnering with governments, nongovernmental organizations, and international agencies. The report recommended including large private-sector companies in the global HIV response as a way of reaching global goals for ending the epidemic.

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The *AIDSFree Prevention Update* provides a representative sample of summaries and abstracts of recent articles on global HIV prevention issues from a variety of scientific, peer-reviewed journals. It also includes state-of-the-art program resources, such as tools, curricula, program reports, and unpublished research findings.

We would like the *AIDSFree Prevention Update* to be as helpful to you as possible. If you would like to recommend a recently published, web-accessible article or other information for inclusion, please let us know by sending an email to info@aid-free.org.

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