AIDSFree Prevention Update

October 2016

This is the October 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.

In this issue:

In Focus

Age Targeting of Voluntary Medical Male Circumcision Programs Using the Decision Makers’ Program Planning Toolkit (DMPPT) 2.0

Community-Based HIV and Health Testing for High-Risk Adolescents and Youth

Prevention Gap Report

Behavioral Prevention

Evaluation of Sexual Risk Behavior Among Study Participants in the TDF2 PrEP Study Among Heterosexual Adults in Botswana

Biomedical Prevention

Integrated Delivery of Antiretroviral Treatment and Pre-Exposure Prophylaxis to HIV-1–Serodiscordant Couples: A Prospective Implementation Study in Kenya and Uganda

The AIDSFree Prevention Update is made possible by the generous support of the American people with support from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and the United States Agency for International Development (USAID) under the Cooperative Agreement Strengthening High Impact Interventions for an AIDS-free Generation (AIDSFree), number AID-OAA-A-14-00046. AIDSFree is implemented by JSI Research & Training Institute, Inc. with partners Abt Associates Inc., Elizabeth Glaser Pediatric AIDS Foundation, EnCompass LLC, IMA World Health, The International HIV/AIDS Alliance, Jhpiego Corporation, and PATH. The authors' views expressed in this publication do not necessarily reflect the views of USAID, PEPFAR, or the U.S. Government.
Combination Prevention

Cost and Efficiency of a Hybrid Mobile Multi-Disease Testing Approach with High HIV Testing Coverage in East Africa

Promotion of Couples’ Voluntary HIV Counseling and Testing: A Comparison of Influence Networks in Rwanda and Zambia

The Effect of HIV Counselling and Testing on HIV Acquisition in Sub-Saharan Africa: A Systematic Review

Population-Based Active TB Case Finding During Large-Scale Mobile HIV Testing Campaigns in Rural Uganda

Interventions to Strengthen the HIV Prevention Cascade: a Systematic Review of Reviews

Structural Prevention

Costs along the HTC and PMTCT Service Cascades: Findings from Kenya, Rwanda, South Africa, and Zambia

Stigma, Facility Constraints, and Personal Disbelief: Why Women Disengage from HIV Care During and After Pregnancy in Morogoro Region, Tanzania

Social Network Influence on HIV Testing Among Urban Men in Tanzania

Epidemiology


Reports, Guidelines & Tools

Reaching the 90-90-90 Targets: The Implications of HIV Misdiagnosis

Age Targeting of Voluntary Medical Male Circumcision Programs Using the Decision Makers’ Program Planning Toolkit (DMPPT) 2.0


The United States Agency for International Development and the Bill & Melinda Gates Foundation supported scale-up of the DMPPT 2.0, an Excel-based voluntary medical male circumcision (VMMC) tool that calculates HIV infections prevented, cost, and scale-up cost-effectiveness. This study described the tool’s use for age-specific strategies in Malawi, South Africa, Swaziland, South Africa, and Tanzania. Findings indicated that the lowest number of circumcisions required per HIV infection prevented would be achieved by circumcising 20–34-year-olds in Malawi, South Africa, Tanzania, and Uganda, and 15–34-year-olds in Swaziland. In hypothetical 80 percent VMMC coverage scenarios, the largest number of HIV infections prevented in the short term would be among 20–29-year-olds in Swaziland, and among 20–34-year-olds in Malawi, South Africa, Tanzania, and Uganda. Fifteen-year projections showed that targeting 10–19-year-olds in Uganda, 15–24-year-olds in Malawi and South Africa, 10–24-year-olds in Tanzania, and 15–29-year-olds in Swaziland result in the greatest reductions in new HIV infections. Policymakers can use the DMPPT 2.0 tool to establish VMMC priorities and plan effective strategies. Policymakers should also not underestimate the impact of VMMC among boys aged 10–14, the authors said; these represent the greatest number of infections prevented over the long term. Since most men contract HIV at younger ages, targeting older men is not an effective prevention strategy.

View Full Study

Community-Based HIV and Health Testing for High-Risk Adolescents and Youth


This study examined a community-based campaign on HIV, sexually transmitted infections, tuberculosis, and pregnancy testing implemented by the Haitian Group for the Study of Kaposi’s Sarcoma and Opportunistic Infections and targeting 10–24-year-olds in slum areas of Port-au-Prince, Haiti. Trained community health workers (CHWs) conducted community sensitization and then recruited 3,425 youth and adolescents from schools and other venues, and escorted or referred them to an unmarked community-based counseling and testing center. CHWs provided counseling and testing services and physically escorted individuals who tested HIV-positive (2.65%) to an HIV clinic for further testing on the same day. Results showed that 98 percent of participants accepted an HIV test; of these, 76 percent were female, with a median age of 19 years. Among the 89 individuals who tested HIV-positive, the majority were between 20 and 24 years old and 73 percent were female. All were enrolled in HIV services; 24 of those eligible began same-day HIV treatment, and 12 began treatment a median of 13 days post-diagnosis. Community-based targeting of youth and adolescents in slum areas can effectively identify HIV-positive individuals and enroll them in care. This campaign reported HIV prevalence six times higher than the nationally expected adolescent prevalence rate. Providing opt-out community-based HIV testing that is packaged with other health screens may reduce stigmatization and increase the acceptability of testing among adolescents.

View Abstract
Prevention Gap Report


This report summarizes challenges and next steps for ending the HIV epidemic by 2030. Progress toward this goal is off track. Despite significant progress in access to antiretrovirals, expanded services for prevention of mother-to-child transmission, and diminished HIV incidence among children, prevention of new adult infections has stagnated. This jeopardizes the UNAIDS goal of fewer than 500,000 new infections by 2020. Closing the “prevention gap” will require continued scale-up of the 90-90-90 goals along with an intensified commitment to combination prevention—specifically, five “pillars” of primary prevention, implemented through a combination, “people-centered” approach to reach those most at risk:

- Comprehensive combination prevention (through education, empowerment, and access to services) for young and adolescent women and their partners
- Evidence-informed, rights-based prevention for key populations
- Strengthened national condom programs
- Voluntary medical male circumcision as part of wider sexual and reproductive health services for boys and men
- Pre-exposure prophylaxis for populations at higher risk of HIV.

The report then summarizes challenges to prevention and opportunities for accelerating progress through eight prevention intervention categories, giving country-specific indicators for each category (structural changes, condoms, voluntary medical male circumcision, harm reduction, viral suppression, pre-exposure prophylaxis, social and behavior change communication and demand creation, and eliminating new infections among children). Finally, it summarizes global and regional progress toward 90-90-90 goals; provides incidence and prevalence findings among various populations; and describes challenges and opportunities for prevention for each region.

View Full Report
Behavioral Prevention

Evaluation of Sexual Risk Behavior Among Study Participants in the TDF2 PrEP Study Among Heterosexual Adults in Botswana


This longitudinal study (2007–2010) examined whether heterosexual men and women participating in a pre-exposure prophylaxis (PrEP) trial changed sexual behaviors, including condom use and number of sexual partners. The 1,200 participants received PrEP, risk reduction counseling, condoms, and screening for sexually transmitted infections. They were interviewed about their sexual behaviors at baseline and each month to determine if risk compensation was taking place. Among participants, the odds of reporting using a condom during sex increased by 23 percent each year. Participants who reported having at least one condomless sexual encounter were more likely to have herpes simplex virus 2, be male, and report early sexual debut (≤15 years). The odds of reporting no sexual activity increased by 2 percent each year. Among participants who reported at least one sexual encounter in the past 30 days, the rate of reported sexual activity diminished by 3 percent each year. Men and participants who initiated sexual activity at ≤15 years were more likely to increase the number of their sexual partners during the study. Overall findings indicated that PrEP programs can be effectively implemented without increasing risk compensation. This study actually showed a reduction in the number of condomless sexual acts and an increase in the number of participants reporting no sexual partners.

View Abstract

Biomedical Prevention

Integrated Delivery of Antiretroviral Treatment and Pre-Exposure Prophylaxis to HIV-1–Serodiscordant Couples: A Prospective Implementation Study in Kenya and Uganda


This prospective implementation study (2012–2015) examined the feasibility of integrated delivery of antiretroviral therapy (ART) and short-term pre-exposure prophylaxis (PrEP), looking at uptake and adherence among 1,001 serodiscordant couples in Kenya and Uganda. Participants received pre-treatment counseling, ART initiation in the HIV-positive partner, and PrEP initiation in the HIV-negative partner until viral suppression occurred for the positive partner (usually around 6 months). Follow-up, after one month and then quarterly, consisted of routine lab tests (CD4 cell count, HIV and serum creatinine testing), referrals to voluntary medical male circumcision for HIV-negative partners, counseling on ART and PrEP adherence and risk reduction, and treatment for sexually transmitted infections. Results showed that 89 percent of those on ART experienced viral suppression after six months of treatment. Among negative partners, 94 percent remained on PrEP after three months; and 95 percent of PrEP pills were consumed as directed. Two women became HIV-positive during the course of the study. However, further lab testing showed no evidence of ART and PrEP usage in these women. These findings, the
authors concluded, showed that ART and PrEP can be effectively provided among high-risk couples during routine health services; and that PrEP can effectively provide short-term protection for HIV-negative partners while the HIV-positive partner achieves viral suppression through ART.

View Full Study

Combination Prevention

Cost and Efficiency of a Hybrid Mobile Multi-Disease Testing Approach with High HIV Testing Coverage in East Africa


This study examined the costs of community-based HIV testing and counseling provided through multi-disease testing campaigns in 32 Ugandan and Kenyan communities (2013–2014). The initiative consisted of a community census, followed by two weeks of a community health campaign (CHC) including public screening for HIV, tuberculosis, malaria, hypertension, and diabetes. After CHC, individuals who had not yet accessed testing were identified and offered home-based testing (HBT). Researchers examined the testing costs in 12 of the 32 communities. The average cost for implementing the approach was USD$92,403 per community. The average cost per adult test was USD$20.50, including CD4 test for those testing positive. For each HIV-positive adult, the associated cost was $230.70, although costs varied among study communities ($87–$1,245) given variations in HIV incidence across settings. Testing during CHC cost $13.80 for each adult, while HBT cost $31.70. The cost per HIV-positive diagnosis was $153.30 for CHC and $298.50 for HBT. During CHC, 74 percent of adult community members were tested; follow-up HBT increased coverage to 89 percent. While costs associated with CHC testing were lower, more HIV-positive individuals were identified through HBT. The authors suggested using these findings to inform programs seeking to scale up HIV testing, and to support decisions on resource distribution and policies.

View Abstract

Promotion of Couples’ Voluntary HIV Counseling and Testing: A Comparison of Influence Networks in Rwanda and Zambia


This study examined couples’ voluntary counseling and testing (CVCT) led by the Rwanda Zambia HIV Research Group. Influential network leaders (INLs) were trained to encourage CVCT, and recruit and mentor influential network agents (INAs), who were trained to educate and invite couples to CVCT. Through surveys distributed to INLs (31 in Zambia, 27 in Rwanda), INAs (53 in Zambia, 33 in Rwanda), and couples who underwent testing (1,271 in Zambia, 3,895 in Rwanda), this study examined INL and INA supportive mentoring, their CVCT promotion activities, and where couples received CVCT information. The results showed that Rwandan INLs and INAs reported speaking with couples more often in comparison to those in Zambia, who more often spoke to married women and community groups. In Rwanda and Zambia, each INL supported on average 2 and 3 INAs, respectively, meeting 7 times per
month for 32–45 minutes. Zambian couples were twice as likely to learn about CVCT from an INA, whereas Rwandan couples more often learned about CVCT from another couple. More couples were tested in Rwanda than Zambia (6% versus 18%). The authors concluded that Rwanda may have had higher CVCT rates due to the Rwandan INA’s personal experience undergoing HIV testing services themselves, more hours per week spent promoting CVCT, and promotion of group and couples CVCT.

View Full Study

The Effect of HIV Counselling and Testing on HIV Acquisition in Sub-Saharan Africa: A Systematic Review


This systematic review of eight articles examined the influence of HIV counseling and testing (HCT) on risk of acquiring HIV among HIV-negative individuals. The authors compared sites that provided complete HTC services versus those that did not; individuals who received HCT versus those who did not; and provision of individual versus couples HCT. The site comparisons, which compared full workplace HCT versus workplace HCT with provision of off-site results, did not show that the HCT site had an impact on HIV acquisition. Of the five studies that examined individual HCT HIV acquisition, four were conducted in households and one in the work setting. There was no statistically significant difference in HIV positivity between those who received individual HCT and those who did not. One study that adjusted for sexual behavior found that HCT was protective. Two studies examining individual versus couples testing showed that couples HCT tended to be more protective, though one study indicated that this effect was stronger for women. All results indicated that individual HCT does not change the risk of HIV positivity; and that couples HCT reduces the risk of HCT positivity by nearly half. These findings, the authors said, are consistent with other studies that show larger behavioral changes following couples HCT versus individual HCT.

View Abstract

Population-Based Active TB Case Finding During Large-Scale Mobile HIV Testing Campaigns in Rural Uganda


The authors of this study conducted integrated multi-disease community campaigns, including HIV and tuberculosis (TB) testing and screening, in seven rural Ugandan communities, and examined TB screening yield and TB treatment outcomes. The campaigns comprised a community census, a two-week public rapid HIV test and TB symptom screening campaign, and household follow-up for those not yet accessing testing and screening services. Individuals with positive TB symptoms provided sputum samples at the campaign; these were evaluated by a lab the same day. Those with positive sputum results were directed to come to the clinic for treatment within 24 hours. A total of 2,876 individuals reported persistent (>2 weeks) cough, but only 1,099 individuals provided sputum samples. Of these, 10 adults were identified as having TB; nine were newly diagnosed. TB screening yield for newly diagnosed individuals with persistent cough was 9/2,876. To identify one new individual with TB through sputum microscopy, 320 had to be screened for those with persistent cough, and 80 for those who were HIV-
positive with persistent cough. This approach successfully integrated TB case finding through an integrated community campaign. Nine individuals diagnosed with TB were enrolled in TB services; six successfully completed treatment; one experienced treatment failure and started second-line therapy, one was lost to follow-up, and one died from other causes.

View Abstract

**Interventions to Strengthen the HIV Prevention Cascade: a Systematic Review of Reviews**


This systematic review of 292 studies (1995–2015) mapped the current evidence for HIV prevention, using the HIV prevention cascade to classify interventions. Studies were categorized into four intervention areas:

- **Demand-side interventions** (n=194) included information, education, and communication to increase knowledge of risk and change attitudes towards prevention practices. These interventions consisted of multimedia, text messages, posters, and peer-to-peer approaches. Demand-side interventions generally did not influence HIV outcomes; the exact mix of interventions to influence population level HIV acquisition requires further analysis.

- **Supply-side interventions** (n=35) included HIV integration, and policy changes to influence needle/syringe and condom distribution program access. Supply-side interventions generally proved efficacious. The authors called for further studies, including randomized controlled trials (RCTs), to understand how supply-side interventions influence HIV outcomes.

- **Adherence interventions** (n=51) included individual and couples HIV testing and counseling, prevention for positives, and cash transfer and microfinance interventions. These interventions comprised counseling in health facilities and community settings, cash transfers for school attendance and school performance, and small loans for income-generation activities, at times combined with life skills training. There remain significant evidence gaps for adherence interventions.

- **Direct mechanism interventions** for HIV prevention (n=98) included voluntary medical male circumcision, condoms, pre-exposure prophylaxis, microbicides, treatment of sexually transmitted infections, and vaccines. Multiple RCTs provided evidence for direct mechanism interventions, although vaccine trials have provided mixed results.

View Abstract
Costs along the HTC and PMTCT Service Cascades: Findings from Kenya, Rwanda, South Africa, and Zambia


This study examined 230 HIV testing and counseling (HTC) and 212 prevention of mother-to-child transmission (PMTCT) sites to examine site-level average yearly cost per client along the cascades in Kenya, Rwanda, South Africa, and Zambia. Retrospective data was collected from facility records covering a period of one year. Data collection include five cost categories including personnel, recurrent inputs and services, equipment and vehicle operating costs, training, and supervision. For HTC, average yearly cost per client tested ranged from USD$5 to $31, and $122 to $1,367 per HIV-positive client. Costs ranged widely between and within countries with some facilities skewing results with higher costs. On average, cost per HTC client in South Africa and Zambia was significantly higher than in Rwanda and Kenya. Average cost per PMTCT client ranged from $18–89 and $565–$2,021 per HIV-positive client. Average cost per PMTCT client was significantly less in Rwanda than other countries and per HIV-positive client, significantly higher in Rwanda than Kenya and Zambia. For HTC and PMTCT, per HIV-positive client average cost in Rwanda was significantly higher due to the low positivity rate encountered. Staffing for HTC and PMTCT comprised the majority of costs in all countries with the exception of PMTCT in Rwanda. Study findings indicated that improving intervention targeting, altering staffing, or adapting service models could improve efficiency.

View Abstract

Stigma, Facility Constraints, and Personal Disbelief: Why Women Disengage from HIV Care During and After Pregnancy in Morogoro Region, Tanzania


This qualitative study (2011–2013) examined reasons why pregnant women fall out of HIV care during pregnancy. The authors interviewed 40 women in Tanzania who had begun services for prevention of mother-to-child transmission (PMTCT) but stopped attending. Most women (*n*=38) fell out of care during pregnancy, most often after one or two antenatal care visits. Two defaulted after four postnatal visits. The authors grouped findings into three categories. Category 1, “Antiretroviral therapy (ART) as beneficial but inaccessible,” described observed and experienced stigma associated with ART, lack of privacy at facilities, and insufficient time and funds to access ART, since women often travel to more remote facilities to maximize privacy. Stigma was the most powerful and common obstacle experienced. Category 2, “ART as unnecessary or harmful,” described women who did not believe that ART was necessary because they felt healthy or were in denial about their status; and women who preferred alternative healing techniques, were concerned about side effects, or no longer cared to live. Category 3, “Not knowing or forgetting to use ART,” described lack of information from clinicians about appointments and medications, or forgetting to take ART, as a cause of drop-out. The authors concluded that programmers must address stigma, limitations of facilities, and patient denial to improve retention in PMTCT care.

View Abstract
Social Network Influence on HIV Testing Among Urban Men in Tanzania


This study in Dar es Salaam, Tanzania examined perceptions of links between social networks and HIV testing among men in camps, which are formalized social networks with formally selected leaders. A total of 923 men from 48 social networks were interviewed using a structured survey. Results showed that 51.5 percent of the men had ever been tested for HIV (range 20–84.2%). Higher age and having children, more household assets, and higher education were associated with ever being tested. If a man was a socially important component of the camp, rather than at the social periphery, he was more likely to be tested, given that more socially connected men are often rich sources of information and can reach other men with HIV testing messages. Camps with higher female membership were also more likely to have men who had been tested. Men who thought that a close friend had been tested were also more likely to be tested. High levels of HIV stigma within a social network decreased the likelihood of testing—men who test for HIV are more likely to be stigmatized than women. The authors concluded that interventions targeting social networks should seek to reduce stigma. Future interventions among male social networks should increase discussions around HIV testing among men, including their friends, to increase testing uptake.

**View Abstract**

---


Previous research has shown an association between injectable depot medroxyprogesterone acetate (DMPA) and the risk of HIV acquisition. The authors of this review update analyzed 31 studies, 10 of which provided new data, from 2014–2016, about the influence of hormonal contraceptive types on HIV risk. Most of the studies examined oral contraceptive or injectable methods (DMPA and norethisterone enanthate [NET-EN]). None examined hormonal patches, rings, combined injectables, or levonorgestrel intrauterine devices. Results indicated that levonorgestrel implants do not increase HIV risk; but data were limited, and more research is needed. Of 11 studies on oral contraceptive, only 1 reported slightly elevated HIV risk. Five of twelve studies on injectables showed higher HIV risk. Two additional studies found a 41 percent greater HIV acquisition risk with DMPA compared to NET-EN; NET-EN injectable did not increase HIV acquisition risk. DMPA again was found to have increased HIV acquisition risk when compared to combination oral contraceptives. Women who took DMPA were also more likely to acquire HIV than those using no hormonal methods. The authors concluded that despite questions about confounding factors and study methodology, and variance among study findings, the newer studies reinforce the associations between DMPA and HIV risk that were noted by previous research. They recommended that the World Health Organization consider reevaluating guidance on DMPA.

**View Abstract**
Reaching the 90-90-90 Targets: The Implications of HIV Misdiagnosis

Strengthening High Impact Interventions for an AIDS-free Generation (AIDSFree) Project.

Attaining the Joint United Nations Programme on HIV/AIDS (UNAIDS') 90–90–90 targets largely depends on the first 90—correctly diagnosing 90 percent of all people living with HIV. Many people with HIV have already been diagnosed; an estimated 13 million people are on antiretroviral therapy worldwide. Although most technologies for HIV testing have high sensitivity and specificity and are highly accurate when used in a validated national algorithm, the volume of tests conducted (over 150 million in 2014 alone) could result in thousands of misdiagnosed cases, particularly if tests are not conducted correctly. Misdiagnosis of HIV has significant implications for individuals and for public health.

Please join AIDSFree for a webinar on October 13, 2016 from 9:00 a.m.–10:30 a.m. EST. Presenters will highlight the evidence collected on HIV misdiagnosis and discuss the ethical, legal, human rights, and public health implications. A list of speakers will follow.

A link to the webinar will be distributed to all registrants prior to the webinar.

Register for the Webinar


This report examines the potential of health technologies in relation to conflicting interactions among intellectual property (IP) policies, trade rules, and international human rights. The document contains four chapters and related recommendations:

- **Health Technology, Innovation and Access:** Describes policy- and practice-related incongruities among public rights to health, IP, and international trade laws; and their impact on technology advancement and rights to use.
- **IP Laws and Access to Health Technologies:** Describes aspects of IP law that can be manipulated to improve access to health technology, free-trade agreements, and their influence on IP rights; and provides recommendations on aligning public health priorities and trade laws, specifically the World Trade Organization’s Trade Related Aspects of IP Rights (TRIPS) Agreement.
- **New Incentives for Research and Development of Health Technologies:** Explains how coordinating and prioritizing research and development can systematically address health gaps. The chapter includes recommendations on financing and coordinating new health technologies.
- **Governance, Accountability, and Transparency:** Reviews the oversight and responsibility needed to inspire innovation and access to health technology, and describes the roles of stakeholders. The chapter provides recommendations on coordinating the work of governments, the private sector, multilateral organizations, clinical trials, the patent process, and research and development to align policies and improve access to health technology.

View Report
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@aids-free.org. The selection of material, the summaries, and any other editorial comments are the responsibility of the Editorial Board and do not represent any official endorsement by AIDSFree or USAID. The authors and/or publishers retain copyright of the original published materials.

Click here to subscribe. To access current and past editions on our website, click here.