AIDSFree Prevention Update

March 2017

This is the March 2017 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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Conditional Cash Transfers Improve Retention in PMTCT Services by Mitigating the Negative Effect of Not Having Money to Come to the Clinic
In Focus


This study assessed the feasibility of pharmacy-based HIV self-testing (HST) in an urbanizing area of coastal Kenya. Between 2015–2016, staff and research assistants at five pharmacies recruited adult clients (≥18 years) seeking services that might suggest HIV risk, including HIV testing, treatment for sexually transmitted infections, malaria/fever treatment, pregnancy testing, and needles/syringes. Participants were offered oral HST kits at USD$1 per test. A total of 463 clients were invited to participate; 174 clients (38%) enrolled and 161 purchased a test. Only 4 percent of non-testers cited inability to pay as the reason for not participating. Uptake of HST was high among clients seeking HIV testing (84%), but low among those seeking other services (11%). Within one week, participants were contacted for post-test data collection and counseling. All but one tester found the process easy (29%) or very easy (70%). Participants cited privacy, followed by personal empowerment, as the main advantages of HST; and risk of distress/harm when testing without a counselor present as the main disadvantage. A majority agreed or strongly agreed (35% and 59%, respectively) that HST kits should be widely available. Demand for HST kits persisted after the study and participating providers expressed interest in continuing to offer HST. The authors noted concerns about the low uptake among clients seeking services other than HIV.

View Full Study

Factors Associated with the Uptake of and Adherence to HIV Pre-Exposure Prophylaxis in People Who Have Injected Drugs: An Observational, Open-Label Extension of the Bangkok Tenofovir Study


Results of the Bangkok Tenofovir Study (BTS), a randomized, double-blind, placebo-controlled, HIV pre-exposure prophylaxis (PrEP) study in Thailand, showed that taking tenofovir daily as PrEP can reduce the risk of HIV infection by 49 percent among people who inject drugs (PWID). Between 2013–2014, an extension to the trial offered non-pregnant, non-breastfeeding, HIV-negative BTS participants (all current or previous PWID at the time of enrollment in BTS) daily oral tenofovir via 17 Bangkok Metropolitan Administration drug treatment clinics. Afterward, researchers followed up with participants to examine demographic characteristics, drug use, and risk behaviors. Of the BTS participants, 798 chose to start taking daily PrEP (35% of all surviving participants and 61% of those who returned and were eligible). Although overall adherence was low, 25 percent of participants who returned for at least one open-label follow-up visit were more than 90 percent adherent; and 59 percent returned for the 12-month visit. Participants who injected heroin or had been in prison were more likely to choose to take PrEP, suggesting that participants partly based their decision on their perceived risk of infection. The authors note that findings suggest that PWID can assess their risk of HIV infection and decide appropriately whether or not to take PrEP.

View Full Study
Could Circumcision of HIV-Positive Males Benefit Voluntary Medical Male Circumcision Programs in Africa? Mathematical Modeling Analysis


This paper modeled the epidemiological and programmatic implications of including HIV-positive males in voluntary medical male circumcision (VMMC) programs, with Zambia as an illustrative example. Using the Age-Structured Mathematical model, the authors evaluated the effectiveness (potential number of VMMCs needed to avert one HIV infection) of including varying proportions of HIV-positive males in VMMC programs; and the potential reduction in incidence rate. They concluded that implementing VMMCs regardless of HIV status can reduce the number of VMMCs needed to avert one infection.

Programs that inadvertently focus on HIV-negative males may discourage VMMC uptake in higher-risk males, the authors said. They suggested that including HIV-positive males in VMMC programs could achieve reductions in HIV incidence rates equal to those of some lifelong antiretroviral programs. This enhanced effectiveness would occur with only moderate increases (i.e., 20%) in the uptake of VMMC among higher-risk males, and/or if male circumcision has moderate efficacy against male-to-female HIV transmission. Under these conditions, VMMC’s efficacy in preventing male-to-female transmission means that programs can benefit females nearly as much as males. They suggested framing VMMC recruitment messages broadly as a sexual and reproductive health service; emphasizing that HIV testing services are offered but not required; and ensuring that providers offer VMMC to clinically eligible males regardless of HIV status and willingness to test for HIV.

*View Full Study*
Sexual Behavior among Orphaned Adolescents in Western Kenya: A Comparison of Institutional- and Family-Based Care Settings


This study used baseline data from the Orphaned and Separated Children’s Assessment Related to their Health and Well-Being Project to examine whether risky sexual behaviors and sexual exploitation in orphaned adolescents differed between family-based and institutional care environments. It included a cohort of 1,365 orphaned adolescents aged 10–18 years, 712 (52%) living in institutional environments and 653 (48%) in family-based care in Uasin Gishu County, Kenya. Multivariate logistic regression compared primary outcomes (ever having consensual sex, number of sex partners, transactional sex, and forced sex) among participants, adjusting for age, sex, orphan status, importance of religion, caregiver support and supervision, school attendance, and alcohol and drug use. The findings suggested that the care environment influenced orphaned adolescents’ sexual behaviors and risks. Participants in institutional care were less likely to report engaging in transactional sex or experiencing forced sex. Adult supervision played a role in reducing the risk of a forced first sexual encounter; being in school was associated with reduced sexual risks. The authors suggested cautious interpretation of study findings, but concluded that adolescents in family-based care may be at increased risk of transactional sex and sexual violence compared to those in institutional care. Institutional care may reduce vulnerabilities by providing basic material goods and improved living standards.

Behavioral Interventions to Promote Condom Use among Women Living with HIV: A Systematic Review Update


This study updated a previous systematic review and meta-analysis (1980–2010) on behavioral interventions promoting condom use among women living with HIV. The authors broadened the previous review, including newly published studies (2010–2014). They identified recent randomized controlled trials (RCTs) or controlled studies investigating behavioral interventions that: included women living with HIV; focused on condom use promotion; presented/analyzed outcomes by gender; used a three-month follow-up or more; and considered at least one HIV-related behavioral or biological outcome. Eight studies comprising a total of 1,355 women living with HIV were included in the meta-analyses, and 13 studies were qualitatively described. The authors noted that data on how behavioral interventions affect HIV-positive women’s condom use remain limited. The meta-analysis showed that behavioral interventions did not have a greater impact on consistent condom use or unprotected sex when compared to standard care or minimal support interventions. However, the qualitative syntheses showed improvements in consistent condom use and fewer unprotected sexual acts in all but one intervention. The authors suggested interpreting the findings with caution (they were based on a few small trials). They said that behavioral change interventions appear to be difficult to evaluate through RCTs and called for additional research to assess potential gains from interventions that promote safe sexual behavior.
Identification of Key Beliefs Explaining Male Circumcision Motivation among Adolescent Boys in Zimbabwe: Targets for Behavior Change Communication


This study examined specific factors that explain adolescent boys’ level of motivation to undergo male circumcision (MC) in Zimbabwe. It applied the Integrated Behavioral Model (IBM) as the theoretic framework. The IBM focuses on six constructs. Three constructs are determinants of intention, specifically attitude, social influence, and personal agency. Each of these constructs includes two further components: experiential attitude (one’s emotional or affective response to the idea of performing the behavior) and instrumental attitude (beliefs about positive or negative consequences or attributes of the behavior). The study included a questionnaire development phase and a cross-sectional survey to quantitatively measure the issues identified in the qualitative phase to explain circumcision intention. The survey was administered to 802 13–17-year-old adolescent boys in two urban and two rural areas. The findings suggested that communication interventions to increase MC uptake among adolescent boys may be most effective if they target all six IBM constructs/components. Messaging focused on reducing HIV risk would not be effective in increasing adolescents’ intention to get circumcised. The study demonstrated the application of theory-driven research as a systematic approach for identifying beliefs to address through behavior change messaging, the authors said. They suggested that incorporating findings into communication campaigns is likely to improve demand for MC.

View Abstract

Structural Level Differences in the Mother-to-Child HIV Transmission Rate in South Africa: A Multilevel Assessment of Individual-, Health Facility-, and Provincial-Level Predictors of Infant HIV Transmission


This study from South Africa assessed factors explaining geographic differences in early (4–8 weeks postpartum) mother-to-child transmission (MTCT) rates, which ranged from 1.4 to 5.9 percent at the provincial level in 2011. The authors conducted multilevel modeling using 2010 South African prevention of mother-to-child transmission (PMTCT) evaluation data from 530 facilities; collected interview data and infant blood samples from 3,085 mother-infant pairs; and interviewed facility staff. The results showed no substantial geographic differences in early MTCT. Three individual-level indicators significantly predicted early MTCT: low uptake of antiretrovirals (ARVs) by mothers, infants, or both; feeding pattern; mixed breastfeeding; and maternal age below 20 years. Adjusted analysis showed that facilities that allocated two or fewer staff for HIV testing services had higher odds of transmission compared to those who allocated more than two health personnel. In adjusted models, provinces with lower than universal (80.0%) coverage for perinatal PMTCT ARV regimens had higher MTCT compared to provinces that achieved universal coverage. Provincial variation in human resource distribution was also a predictor of MTCT; for each additional health professional per 10,000 population, MTCT decreased by 0.01 percent. The authors concluded that plans to improve maternal and child health outcomes should address both aggregate and individual-level factors.

View Abstract
Increasing Uptake of HIV, Sexually Transmitted Infection, and Family Planning Services, and Reducing HIV-Related Risk Behaviors among Youth Living with HIV in Uganda


This study reviewed the effectiveness of Link Up, a peer-led intervention model to address barriers to care for youth living with HIV (YLHIV) in Uganda. The model provided a comprehensive package of HIV and sexual and reproductive health and rights (SRHR) services through community-based peer support groups for YLHIV. Peer educators delivered targeted counseling and health education, and referred or linked YLHIV to antiretroviral therapy (ART) and reproductive health services at youth-oriented SRHR facilities staffed with trained providers. The study used a pre-post cohort design, following individuals over a nine-month intervention period (January–September 2015). Eligible participants were male and female Link Up peer support group members aged 15–24 years in rural Luweero and Nakasongola districts. A cohort of 473 youth was recruited, and an endline survey captured 350 members of the original cohort. The results showed significant increases in self-efficacy, comprehensive HIV knowledge, HIV disclosure, condom use at last sex, uptake of services for sexually transmitted infection and ART, ART adherence, CD4 testing, and current use of a modern contraceptive method. The authors concluded that this SRHR and HIV intervention strategy shows promise, and should be further evaluated and adapted for use among YLHIV in similar settings.

**View Abstract**

Sustained Effect of Couples' HIV Counseling and Testing on Risk Reduction among Zambian HIV Serodiscordant Couples


This study examined the impact of couples’ voluntary HIV counseling and testing (CVCT) services on sexual risk behavior in a cohort of HIV-serodiscordant heterosexual couples in Zambia. The study enrolled 3,049 heterosexual Zambian HIV-serodiscordant couples (M+F−, M−F+) with longitudinal follow-up over time (1994–2012); and compared self-reported and biological markers of unprotected sex. The findings showed substantial reductions in self-reported unprotected sex after CVCT among participants:

- M+F− couples reported an average of 16.6 unprotected sex acts in the three months before enrollment, which dropped to 5.3 in the >0–3-month interval, and 2 in >6-month intervals.
- M−F+ couples reported 22.4 unprotected sex acts in the three months before enrollment, dropping to 5.2 in the >0–3 month interval, and 3.1 in >6-month intervals.

Neither group showed evidence of relapse in these risk behaviors over time. The study also showed significant reductions in self-report and biological markers of outside partners. However, almost 40 percent of couples continued to have some indicator of unprotected sex, highlighting the need for targeted risk reduction counseling (especially for pregnant couples, those wanting children, and those in which HIV− women have outside partners or use alcohol or injectable or oral contraception). These results supported the World Health Organization’s recommendation to provide joint HIV testing and counseling for prevention.

**View Full Study**
Linking Sexual and Reproductive Health and Rights and HIV Services for Young People: The Link Up Project


This commentary provided an overview of Link Up, a three-year project (2013–2016) to improve the sexual and reproductive health and rights (SRHR) of over 800,000 10–24-year-olds affected by HIV in Bangladesh, Burundi, Ethiopia, Myanmar, and Uganda. The project aimed to enable and scale up access to integrated HIV services and SRHR for marginalized young people, including young men who have sex with men, sex workers, people who use drugs, trans people, homeless people, and other youth. Link Up demonstrated the need to tailor project implementation to address sensitive issues within diverse country contexts. The project focused on interventions led by young people. Over 10,000 peer educators and youth leaders were trained to provide HIV and SRHR information, education, counseling, and communication materials (including hotlines and social media) within their communities. They created demand for integrated HIV and SRHR services and distributed vouchers to facilitate referrals to public or private services. The project supported the integration of HIV and SRHR programming and facilitated service outreach through support groups, youth clubs, and other activities. Link Up also provided training to over 3,300 public and private providers and community workers on topics including stigma reduction and service integration. More information on the research and programmatic activities of Link Up is included throughout this issue of the AIDSFree Prevention Update.

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Social and Structural Factors Related to HIV Risk among Truck Drivers Passing Through the Iringa Region of Tanzania


This analysis described social and structural factors contributing to HIV risk among truck drivers who visited rest stops along the Tanzania–Zambia Highway in Iringa, Tanzania. The authors conducted thematic data analysis (as part of a larger, comprehensive strategic assessment examining HIV risk factors in Iringa) based on 11 in-depth interviews with truck drivers and a transport owner. Interviewees described structural risk factors for HIV, including work conditions, the power imbalance between male drivers and their sexual partners, and low perceived HIV risk with certain partners (e.g., regular partners). The analysis indicated that multiple interrelated social norms associated with truck stop environments influenced HIV risk, including peer influence and expectations, the presence of sex workers, the ability to purchase sex, and alcohol consumption. All drivers interviewed described alcohol consumption as common and often excessive. These factors all contributed to behavior that participants said they would not commonly engage in elsewhere. The authors concluded that HIV prevention strategies with truck drivers should address individual, social, and structural barriers to HIV prevention, and should partner with the health and transportation sectors, local government, and local communities. Strategies suggested by participants included adapting services to drivers’ schedules, offering positive messaging, and addressing the risk environment holistically.

View Abstract
Sexual and Reproductive Health Services Utilization by Female Sex Workers is Context-Specific: Results From a Cross-Sectional Survey in India, Kenya, Mozambique and South Africa


This paper shared results from the cross-sectional baseline survey of the Diagonal Interventions to Fast-Forward Enhanced Reproductive Health implementation research project on female sex workers' (FSWs) use of sexual and reproductive health (SRH) services (looking specifically at use of contraceptive methods [hormonal, intrauterine device, or sterilization] and services for cervical cancer screening, unwanted pregnancies, and sexual violence). The FSWs were recruited from Durban, South Africa (n=400), Mombasa, Kenya (n=400), Mysore, India (n=458) and Tete, Mozambique (n=308). Findings varied considerably across cities, after controlling for socioeconomic characteristics. Current use of any modern contraception ranged from 86.2 percent in Tete to 98.4 percent in Mombasa. Non-barrier contraception use varied from 33.4 percent in Durban to 85.1 percent in Mysore. The proportion ever screened for cervical cancer ranged from 0.0 percent in Tete to 29.0 percent in Durban; the proportion that had ever gone to a facility to terminate an unwanted pregnancy ranged from 15.0 percent in Durban to 93.7 percent in Mysore. Between 34.4 percent (Mombasa) and 51.9 percent (Mysore) had sought medical care after forced sex. The authors concluded that differences in results may reflect variations in the availability and accessibility of SRH services. They concluded that intervention packages to improve use of contraceptives and SRH services should be tailored to local gaps.


Since 2008 the World Health Organization has recommended increasing the scope of work of trained lay providers. However, in many settings lay providers have not been used for HIV testing services (HTS). This paper analyzed national HIV testing policies from 50 countries to determine the role of lay providers in delivering HIV testing as well as pre- and post-test counseling. Of the 50 countries, 21 allowed lay providers to use rapid diagnostic tests using fingerstick blood; 15 explicitly prohibited lay providers from performing them; and 14 did not specify. Twenty-eight of the 50 countries permitted lay providers to provide pre- and post-test counseling; 12 prohibited them from performing counseling; and 10 did not specify. Overall, 42 percent of countries permitted lay providers to perform HIV testing; 56 percent permitted them to administer pre- and post-test counseling. The authors compared these findings with Global AIDS Response Progress Reporting data to understand if national HIV health policy reflects what happens in health care systems. They found that less than half of reported data from countries aligned with their national HIV testing policies regarding lay counselors. The authors said that given the low use of lay providers globally, and their proven effectiveness in increasing HIV testing, countries should consider revising policies to support lay provider testing using rapid diagnostic tests.
Cluster-Randomized Controlled Study of SMS Text Messages for Prevention of Mother-to-Child Transmission of HIV in Rural Kenya


This study assessed the utility of short message service (SMS) text messages to improve uptake of antenatal and prevention of mother-to-child transmission (PMTCT) services by improving communication between women and their health providers in Nyanza, Kenya. The cluster-randomized study focused on government-supported clinical sites, enrolling 550 women (June 2012–July 2013). Results indicated that SMS text messages had no significant effect on key PMTCT milestones (uptake and adherence to antiretrovirals, or ARVs, among mothers and infants, facility-based deliveries, or infant HIV testing at six weeks of age). However, communication increased in both groups during successive visits, with the intervention arm showing greater cumulative increases in communication by the time of delivery compared to the control arm. Additionally, very high uptake of ARVs and infant HIV testing was noted in both the intervention and control arms (86.8% and 83.7%, respectively)—higher than that reported in program data from facilities within the region. The authors said that retraining health workers on PMTCT may have led to improvements in program implementation, and that improvement may have been mediated through the increase in communication observed in both the intervention and control sites. They concluded that the study provides evidence for the potential role of increased communication, by text messages, phone calls, or in person visits, on effective PMTCT program implementation.

View Full Study

Conditional Cash Transfers Improve Retention in PMTCT Services by Mitigating the Negative Effect of Not Having Money to Come to the Clinic


This study examined the mechanisms by which a cash incentive intervention increased retention in the prevention of mother-to-child transmission (PMTCT) programs. It used data from a randomized controlled trial in Kinshasa, Democratic Republic of Congo (2013–2014) of 433 newly diagnosed HIV-positive women who received either the standard of care or the standard of care plus small and increasing payments (starting at USD$5 and increasing by $1 under various conditions (i.e., that the woman attended clinic visits; accepted a referral for antiretroviral therapy [ART]; delivered in a facility; and provided a blood sample at six weeks postpartum for early infant diagnosis). Results showed that better knowledge of PMTCT and a greater understanding of and belief in the effectiveness of ART were positively associated with higher adherence to PMTCT services. They also indicated that cash transfers may improve retention in PMTCT services by mitigating the barrier of not having money to come to the facility. The authors noted that the minimum financial incentive proposed should be at least equal to the cost of attending clinic visits. They concluded that interventions that combine sufficient cash incentives to retain pregnant women who are likely to be lost to follow-up with education programs to improve understanding of HIV risk may achieve sustained retention.

View Abstract
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.

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