



# AIDSFree Prevention Update



## November 2015

This is the November 2015 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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## **Pre-exposure Prophylaxis to Prevent the Acquisition of HIV-1 Infection (PROUD): Effectiveness Results from the Pilot Phase of a Pragmatic Open-label Randomised Trial**

**McCormack, S., Dunn, D.T., Desai, M., et al. *The Lancet* (September 2015), doi: [http://dx.doi.org/10.1016/S0140-6736\(15\)00056-2](http://dx.doi.org/10.1016/S0140-6736(15)00056-2).**

This open-label, randomized, controlled trial, conducted in 13 clinics in England between 2012 and 2014, tested the effects of pre-exposure prophylaxis (PrEP) for preventing HIV-1 infection in HIV-negative men who have sex with men (MSM) who reported having had condomless anal intercourse in the previous 90 days. The participants were randomly assigned (1:1) to receive daily oral PrEP with tenofovir–emtricitabine, either starting at the enrolment visit (immediate group, n = 275) or after a deferral period of one year (deferred group, n = 269). Quarterly follow-up visits were conducted for all participants. HIV incidence was significantly lower in the immediate group than in the deferred group. Three HIV infections occurred in the immediate group, compared to 20 in the deferred group, despite 174 prescriptions for post-exposure prophylaxis in this group. No serious adverse drug reactions were reported, but 28 adverse events, including common nausea, headache, and arthralgia, resulted in interruption of PrEP. Analysis showed no difference between groups in incidence of sexually transmitted infections, despite a suggestion of risk compensation among some PrEP recipients. The authors recommended that the addition of PrEP to the standard of prevention for MSM at risk of HIV infection should be strongly supported.

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## **New PEPFAR HIV Prevention and Treatment Targets**

### **U.S. President’s Emergency Plan for AIDS Relief (PEPFAR)**

The U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) announced ambitious new HIV prevention and treatment targets, setting a course toward achieving an AIDS-free generation. PEPFAR will work jointly with partner countries; the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund); and the private sector to achieve the following prevention and treatment targets:

- Significant reductions in HIV incidence in young women aged 15 to 24 within the highest-burden areas of 10 sub-Saharan African countries by the end of 2016: 25 percent by the end of 2016 and 40 percent by the end of 2017.
- 11 million voluntary medical male circumcisions for HIV prevention by the end of 2016, reaching 13 million by the end of 2017.
- 11.4 million children, pregnant women receiving B+, and adults on antiretroviral treatment by PEPFAR and partners by the end of 2016; and a total of 12.9 million by the end of 2017.
- With the inclusion of resources from the Global Fund and partner countries, PEPFAR will be able to jointly support 18.5 million men, women, and children on life-saving treatment by the end of 2017.

[View Full Announcement \(PDF, 641 KB\)](#)

## Barriers to the Uptake of Postexposure Prophylaxis Among Nairobi-based Female Sex Workers

Olsthoorn, A.V., Sivachandran, N., Bogoch, I., et al. *AIDS* (September 2015), e-publication ahead of print.

This study, conducted among 134 female sex workers (FSWs) in a Nairobi clinic from May to August 2013, evaluated knowledge, access, and adherence to post-exposure prophylaxis (PEP) among clinic attendees. PEP is available as part of an HIV care and prevention program through dedicated FSW clinics in Nairobi, but is underutilized. Of the participants, 64 (47.8 percent) were at high HIV risk, defined as the self-report of any high-risk sex act during the past year, and 70 (52.2 percent) were categorized as at low HIV risk. The authors reported no significant associations between knowledge or use of PEP and age, education, duration of sex work, or other demographic variables. However, the number of high-risk sexual events per year varied significantly between women who had and had not accessed PEP. High-risk FSWs were less likely to have heard of or accessed PEP than lower-risk FSWs. Women who had accessed PEP reported a significantly lower number of high-risk sexual acts over the past year compared to those who had not accessed PEP. Among high-risk FSWs, those who had accessed PEP were more likely to report treatment for a genital infection or sex with an HIV-positive man during the last six months. The authors concluded that program delivery needs to be improved to ensure that FSWs most at risk can benefit from available PEP.

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## Behavioral Prevention

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### Effects of Peer Education Intervention on HIV/AIDS Related Sexual Behaviors of Secondary School Students in Addis Ababa, Ethiopia: A Quasi-experimental Study

Menna, T., Ali, A., and Worku, A. *Reproductive Health* (September 2015), 12:84, doi: 10.1186/s12978-015-0077-9.

This quasi-experimental study, conducted from March to June 2013, assessed whether peer education is an effective method of HIV prevention in high school settings. The authors assigned 560 grade 11 students from four purposely-selected secondary schools in different areas of Addis Ababa, Ethiopia into intervention and control groups. Only the intervention group received the peer education. Data for both groups were collected using self-administered questionnaires. The intervention students received twice-weekly 40-minute educational sessions on topics such as the structure and functions of human reproductive organs, HIV and AIDS, HIV prevention methods, and risky sexual behaviors among in-school youth delivered by peer education facilitators (students nominated by their peers based on their active class participations and good communications with other students), who had received two days of training. Comparison of pre- and post-intervention data revealed significant increases in comprehensive knowledge of HIV, willingness to accept HIV testing services, and likelihood of condom use in the intervention group, relative to the control group. The authors concluded that implementing peer-led HIV education programs in secondary schools could have significant positive effects on sexual behaviors and HIV prevention among in-school youth.

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### **"If You Are Not Circumcised, I Cannot Say Yes": The Role of Women in Promoting the Uptake of Voluntary Medical Male Circumcision in Tanzania**

Osaki, H., Mshana, G., Wambura, M., et al. *PLOS ONE* (September 2015), 10(9):e0139009. doi:10.1371/journal.pone.0139009.

This study analyzed women's influence on the uptake of voluntary medical male circumcision (VMMC) in the Njombe and Tabora regions of Tanzania. The authors conducted semi-structured, in-depth interviews (IDIs) with 14 circumcised and 16 uncircumcised men, and 20 participatory single-sex group discussions with men and women aged 20–49 between February and March 2014. Participants in 14 of the 20 group discussions (6 out of 8 in the women's groups and 8 of the 12 male groups) mentioned the importance of women's roles in men's decision-making about VMMC. During IDIs, however, only 5 of 14 recently circumcised men mentioned women as key influences on their decision to seek circumcision. The authors also found that married women's role influenced VMMC decisions indirectly—making suggestions and providing information on VMMC services, for example. Unmarried women, by contrast, influenced VMMC decisions directly and powerfully, by withholding sex or making circumcision a condition for establishing a sexual relationship. These findings were similar to those of other studies in Tanzania and Kenya, the authors said. They recommended further exploration of the role of women in effective VMMC program strategies to strengthen the scale-up of VMMC in HIV-affected communities.

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### **A Cross-sectional Study of the Magnitude, Barriers, and Outcomes of HIV Status Disclosure among Women Participating in a Perinatal HIV Transmission Study, "The Nevirapine Repeat Pregnancy Study"**

Kiweewa, F.M., Bakaki, P.M., McConnell, M.S., et al. *BMC Public Health* (September 2015), doi:10.1186/s12889-015-2345-6.

This nested prospective study described patterns, barriers, and outcomes of HIV status disclosure among HIV-positive women participating in the Nevirapine Repeat Pregnancy (NVP-RP) Study, conducted in Kampala, Uganda between June 2004 and June 2006. From November 2005 to June 2006, the authors conducted exit interviews with 85 HIV-1–positive mothers at their 12-month visit in the prospective arm of the NVP-RP study. Virtually all (99%) of these women had disclosed their HIV status to at least one other person: 38 percent to sex partners, 66 percent to parents, 69 percent to other relatives, and 30 percent to friends; 1 percent had disclosed to an employer. Reported barriers to disclosure included fear of separation and subsequent loss of financial support (34%); separation from partner (not having opportunities to disclose) (26%); and stigmatization (2%). Outcomes or consequences of disclosure included receiving social support (67%); neglect or separation from partner (8%); negative reactions (violence, stigmatization, confidantes telling others) (9%); and loss of monetary support (5%). The authors concluded that overall, the results of this study showed high HIV disclosure proportions, and that disclosure can potentially foster social support if programs include such activities as male involvement in perinatal care along with supportive counseling.

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# Combination Prevention

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## Measuring the Potential Impact of Combination HIV Prevention in Sub-Saharan Africa

**Khademi, A., Anand, S. and Potts, D. *Medicine* (September 2015), 94(37):e1453, doi: 10.1097/MD.0000000000001453.**

The authors of this study developed an analytical framework to estimate the effects of scaling up HIV education and providing universal access to treatment on HIV incidence, prevalence, and mortality. Using demographic and epidemiologic data from South Africa, they compared the HIV prevalence generated by the model with the actual HIV prevalence observed in South Africa from 1990 to 2000. The results showed that combining expanded HIV education and universal access to treatment significantly decreased both incidence rates (declining from 2.3% to 0.6%) and prevalence (declining from 15.1% to 9.3%) over the course of 15 years. Thus, the benefit of a combined strategy of universal access to treatment and HIV education scale-up was greater than the benefit of the two strategies implemented individually. The combined strategy decreased the incidence rate by 74 percent over the course of 15 years, whereas universal access to treatment and HIV education scale-up separately decreased incidence by 43 percent and 8 percent, respectively. Additionally, universal access to treatment alone averted 7,596,439 deaths, whereas combining universal access with HIV education scale-up averted 7,679,917 deaths over 15 years. The authors concluded that comprehensive combination prevention might have a larger impact on containing the epidemic than implementing separate prevention programs. They recommended designing effective combination prevention programs in sub-Saharan Africa.

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## HIV Prevention and Care Services for Female Sex Workers: Efficacy of a Targeted Community-based Intervention in Burkina Faso

**Traore, I.T., Meda, N., Hema, N.M., et al. *Journal of the International AIDS Society* (September 2015), 18(1):20088. doi: 10.7448/IAS.18.1.20088, eCollection 2015.**

This prospective, interventional cohort study among 321 HIV-uninfected female sex workers (FSWs) aged 18–25 years in Ouagadougou, Burkina Faso, conducted from 2009 to 2011, assessed the impact of a comprehensive, dedicated intervention targeting FSWs. The intervention included locally available combined prevention and care, including peer-led education sessions, free syndromic management of sexually transmitted infections, condoms and hormonal contraceptives, psychological support, and free general medical and HIV care. At enrolment and during subsequent quarterly visits, participants completed a standardized questionnaire documenting sexual behaviors and alcohol consumption during the previous week, including the number and type of sexual partners; received a physical examination; and provided urine, vaginal, and endocervical samples, as well as a blood sample after a voluntary HIV counseling session. No seroconversion occurred during the study, though the modeled seroconversion rate was 1.23 infections per 100 person-years. Although the average number of casual clients did not change during follow-up, the odds of consistent condom use significantly increased; and the adjusted odds of having more than one regular client diminished significantly. Moreover, the odds of consistent condom use with regular clients increased over time. The authors concluded that integrating community-based prevention had a significant impact on HIV incidence among young FSWs in Burkina Faso.

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## **A Situational Analysis Methodology to Inform Comprehensive HIV Prevention and Treatment Programming, Applied in Rural South Africa**

Treves-Kagan, S., Naidoo, E., Gilvydis, J.M., et al. *Global Public Health* (September 2015), e-publication ahead of print.

This paper described the methodology for conducting a situational analysis in 2012 in two districts in North West Province, South Africa, conducted to ensure that a planned comprehensive prevention program would respond to the local needs. The analysis focused on characterizing communities' needs, existing resources, and cultural and structural barriers to health care. Specifically, the study sought to: (1) characterize the local epidemic profile (key populations, key drivers); (2) identify how sociocultural and service delivery contexts affected the epidemic; and (3) document opportunities for program partnerships and existing best practices. The authors described the analysis in terms of (1) *laying the foundation* (obtaining permission to conduct research); (2) *preparing for field work* (developing data collection tools and gathering existing data); (3) *field work* (interviews, focus groups, and service delivery assessments); (4) *sampling* (determining the sample size and ensuring inclusion of diverse conditions and populations); (5) *data analysis* (qualitative and quantitative analysis that includes coding transcripts and field notebooks). The report also described the method's strengths: yielding acceptable data breadth and saturation; producing data that translated into actionable findings to inform comprehensive HIV programming; and building community partnerships, buy-in, and support for intervention strategies. The authors said that this methodology could be used to guide community engagement and develop locally appropriate combination HIV prevention programs.

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## **Finding HIV in Hard to Reach Populations: Mobile HIV Testing and Geospatial Mapping in Umlazi Township, Durban, South Africa**

Bassett I.V., Regan, S., Mbonambi, H., et al. *AIDS and Behavior* (September 2015), 19(10): 1888–1895.

To optimize the effectiveness of community-based mobile HIV testing by the iThembalabantu Clinic in Umlazi Township, South Africa, the authors evaluated the number and characteristics of the population being tested during site visits. From July to November 2011, the researchers collected programmatic data from adults who self-presented for testing at the mobile HIV testing units at malls, taxi stands, and markets in Umlazi (mobile testers) and at the iThembalabantu HIV clinic (IPHC testers). The authors found that the mobile testing units attracted hard-to-reach populations, specifically men, who are less likely than women to seek HIV testing in clinic-based programs. Mobile testing also attracted proportionally more young people, which is especially important, since their HIV prevalence is high and increases rapidly with age. The sites demonstrating the highest HIV prevalence were supermarkets and taxi ranks. Almost a quarter of mobile clients sought HIV testing more than five kilometers from their homes, indicating that some people prefer being tested for HIV in more remote locations where they will not be recognized. The authors concluded that using mobile units in the highest-yield (hot spot) locations could dramatically increase the number of HIV cases detected, particularly among hard-to-reach populations such as men and young people.

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## Structural Prevention

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### **Sexual Communication Self-efficacy, Hegemonic Masculine Norms and Condom Use among Heterosexual Couples in South Africa**

**Leddy, A., Chakravarty, D., Dladla, S., et al. *AIDS Care* (September 2015), e-publication ahead of print.**

This study examined the relationship between couple-level sexual communication self-efficacy (SCSE) and consistent condom use, adjusting for the male partner's endorsement of hegemonic masculine norms (HMNs). HMNs, which value male "toughness," virility, and dominance over women, are believed to play a key role in the heterosexual HIV epidemic in South Africa. Couples SCSE, defined as a couple's confidence in their ability to communicate about sexual risk reduction, could be a key leverage point for HIV prevention interventions for this high-risk group. The authors interviewed 163 sexually active heterosexual couples to collect information on demographics, relationship dynamics, and sexual activity. Analysis showed that the odds that couples used condoms were lower when male partners reported moderate to high endorsement of HMNs, compared to couples whose male partner reported low endorsement of HMNs. Additionally, couples with higher levels of SCSE, and those who participated in couple HIV testing and counseling, had increased odds of consistent condom use. Mutual knowledge of joint serostatus and relationship duration were not significantly associated with condom use. The authors concluded that future interventions should focus on promoting gender-equitable norms while also equipping couples with the tools for improving SCSE and fostering partners' ability to work together to achieve improved sexual and reproductive health outcomes.

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### **The Impact of Alcohol Use and Related Disorders on the HIV Continuum of Care: A Systematic Review: Alcohol and the HIV Continuum of Care**

**Vagenas, P., Azar, M.M., Copenhaver, M.M., et al. *Current HIV/AIDS Reports* (September 2015), e-publication ahead of print.**

The authors reviewed 53 papers published between 2010 and 2015 on the impact of alcohol use and related disorders (AUDs) upon each stage of the HIV treatment cascade, given recommendations to provide antiretroviral therapy (ART) earlier in the course of their disease. Most of the studies (77%) found that alcohol use negatively affected one or more stages of the HIV care continuum. Two studies that addressed more than one step in the cascade found a negative link between alcohol use and at least one stage of the cascade. One study found a negative association between alcohol use and a specific stage of the HIV cascade, ART adherence—demonstrating lower adherence with greater alcohol use. Negative links between alcohol use and specific steps in the HIV treatment cascade were seen in countries with both low and high levels of per capita alcohol use. The authors concluded that the best approach for improving HIV treatment outcomes in HIV-positive persons with AUDs will be to ensure high-quality integration of prevention and treatment services, including alcohol treatment, within clinical care settings.

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### Assessment of Epidemic Projections Using Recent HIV Survey Data in South Africa: A Validation Analysis of Ten Mathematical Models of HIV Epidemiology in the Antiretroviral Therapy Era

Eaton, J.W., Bacaër, N., Bershteyn, A., et al. *The Lancet Global Health* (October 2015), 3(10): e598–608, doi: 10.1016/S2214-109X(15)00080-7.

This study compared 10 mathematical model projections of HIV prevalence, HIV incidence, and antiretroviral therapy coverage for South Africa against data from a large household survey done in 2012, seeking to validate past model projections. The authors reported that five models projected that prevalence in adults aged 15–49 years in 2012 would change by  $\leq 0.3$  percentage points from prevalence in 2008. Three models projected declines of 0.7 to 1.3 percentage points; one projected an increase of 0.9 percentage points. However, the household survey estimated that adult prevalence increased from 16.9 percent in 2008 to 18.8 percent in 2012. The disparity between the 2012 survey estimate and those in the 10 models was mainly because eight of the models projected that prevalence would decline among men, whereas 2012 household survey data estimated that prevalence increased by 2.9 percent among men. The authors concluded that the models might have been overly optimistic, especially for mid-aged adults (age 25–49 years), among whom prevalence and incidence were consistently higher than anticipated. However, they urged program planners and implementers to continue to collect surveillance and trial data to validate and improve the information provided through mathematical models.

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### Youth, Technology, and HIV: Recent Advances and Future Directions

Hightow-Weidman, L.B., Muessig, K.E., Bauermeister, J., et al. *Current HIV/AIDS Reports* (September 2015), e-publication ahead of print.

The authors synthesized recent observations and experimental studies on HIV, technology prevention, and care for young people. The analysis included 66 articles published in English between January 1, 2014 and May 1, 2015. The authors presented data in several categories including:

- *Use of technology and sexual risk.* Research suggests a relationship between online social networking and sexual risk behaviors among youth, especially the use of geosocial networking apps to find sex partners among young men who have sex with men (MSM).
- *Social media.* While research indicates that social media can be an effective way to reach young people, most studies to date were preliminary, limited in methodologies, and mainly centered on evaluating how youth use social media and the resulting health implications.

Other categories included: acceptability of technology for sexual health promotion, HIV technology interventions for youth outside of the US, and SMS texting. The authors concluded that technology, including mobile technologies and social media, offers powerful tools to reach, engage, and retain youth and young adults in HIV prevention and care interventions, and called for the continued development of new technology-based HIV interventions.

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## The Global Fund to Fight AIDS, Tuberculosis and Malaria's Investments in Harm Reduction Through the Rounds-based Funding Model (2002–2014)

Bridge, J., Hunter, B.M., Albers, E., et al. *The International Journal of Drug Policy* (September 2015), doi: <http://dx.doi.org/10.1016/j.drugpo.2015.08.001>.

The authors of this study reviewed grant budget data for the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) between 2002 and 2014 to develop a comprehensive dataset on the Global Fund's investments in harm reduction for people who inject drugs (PWID). They identified 151 grants for 58 countries and one regional proposal, with a total budget of US\$620 million. Of the 58 countries, 21 were from Eastern Europe and Central Asia, 17 from Asia, 10 from the Middle East and North Africa, 7 from sub-Saharan Africa, and 3 from Latin America and the Caribbean; the regional grant was for the Middle East and North Africa Harm Reduction Network. Global Fund investments targeting PWID mainly focused on the nine interventions comprising the United Nations' "comprehensive package" for PWID, with 15 percent allocated overall for program management and grant overheads. The budget analysis also identified US\$7.7 million for interventions and activities in compulsory drug detention centers in Asia. The authors recommended using this study as a baseline, and undertaking further analysis to understand the impact of the new funding model on harm reduction allocations as new grant agreements are signed. The analysis should also inform the development of the Global Fund's new strategy for 2017–2021.

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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@aidsfree.org](mailto:info@aidsfree.org).

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