AIDSFree Prevention Update

June 2017

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This is the June 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 program resources, tools, and curricula on HIV prevention.

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Lessons Learned From Option B+ in the Evolution toward "Test and Start" from Malawi, Cameroon, and the United Republic of Tanzania


Option B+ for prevention of mother-to-child transmission (PMTCT) specifies treating all HIV-positive women with antiretroviral therapy (ART) regardless of CD4 count. This simplified approach enhances countries’ capacity to reach national HIV targets and contribute to the global 90-90-90 goals. This article reviewed the progress of Malawi’s adoption of Option B+ for PMTCT and briefly described its implementation in Cameroon and Tanzania. Option B+ was developed in Malawi in response to numerous systemic barriers to the rapid scale-up of ART and PMTCT services. Operationalizing Option B+ required several critical considerations, including integrating ART and PMTCT programs, developing systems for following up mother–baby pairs, reducing systemic barriers to rapidly increase access to ART, building consensus with stakeholders, and securing funding for the new program. The authors detailed several lessons that could be of interest to countries adopting the approach of treating all HIV-positive pregnant women, as follows:

- Comprehensive change requires effective government leadership and coordination.
- ART services and commodities should be decentralized for broader access.
- National clinical guidelines must accommodate health system limitations.
- Regular monitoring and validation of program data support rapid program improvements.

View Abstract

Should Trained Lay Providers Perform HIV Testing? A Systematic Review to Inform World Health Organization Guidelines


This article examined using trained lay providers for HIV testing services (HTS) as a means of achieving the 90-90-90 targets proposed by the Joint United Nations Programme on HIV/AIDS. The authors conducted a systematic review of five studies comparing the outcomes of HTS by trained lay providers using rapid diagnostic tests versus no intervention, as well as six studies assessing end users’ perceptions of these services. One U.S.-based randomized trial found that patients’ uptake of HTS with lay providers was twice that with health care providers (57% uptake versus 27%). In Malawi, a pre-/post-intervention study showed increases in HTS sites and tests after delegation to lay providers. Studies from Cambodia, Malawi, and South Africa comparing testing quality between lay providers and laboratory staff found little discordance and high sensitivity and specificity. Studies on values and preferences generally found support for lay providers conducting HTS. The authors noted that since many countries still mandate that only professional staff can perform HTS, expanding guidance to include lay workers could increase HTS uptake cost-effectively. They also urged further studies on the effectiveness of lay-based HTS provision and community views of such services.

View Full Study
Beyond the Primary Endpoint Paradigm: A Test of Intervention Effect in HIV Behavioral Intervention Trials with Numerous Correlated Outcomes


The authors proposed an alternative approach for comparing intervention versus control outcomes in complex interventions. Behavioral interventions are generally measured using multiple endpoints, including risk behavior, biological measurements, and health outcomes. Often, these outcomes are difficult to measure because of multiple correlations, making it difficult to ascribe specific outcomes to the intervention. The usual approach is to use the "sign test" to highlight differences, such as in pre- and post-intervention outcomes. The proposed binomial approach counted the number of significant treatment/control differences, and accounted for correlations among the outcomes. The authors used Monte Carlo simulation (which adjusts for correlation and provides updated critical values and p values) to examine the Philani Intervention Program (PIP) in South Africa, an intervention targeting mothers and children that measured 28 outcomes including maternal alcohol use, malnutrition, and HIV. This approach overcame the risk of false positive results and showed, for example, that PIP yielded significantly better outcomes in maternal and infant wellbeing over six months, compared to standard care. The authors advocated for further research on other solutions for identifying the outcomes of multi-outcome studies.

View Abstract
Secrecy, Empowerment and Protection: Positioning PrEP in KwaZulu-Natal, South Africa


This study used participatory research to determine culturally appropriate demand creation approaches promoting women’s use of Truvada® vaginal microbicide for pre-exposure prophylaxis (PrEP) to support 90-90-90 targets. This study entailed six participatory workshops with 104 women in urban, rural, and peri-urban KwaZulu Natal, including women who had and had not participated in the Centre for the AIDS Programme of Research in South Africa (CAPRISA) trial. The workshop’s "participatory action media research process" included education on HIV prevention and vaginal microbicides, art-based activities, and group discussion using a semi-structured interview to assess women’s knowledge of PrEP, the features they would prefer, and ways of promoting Truvada for PrEP. Each workshop group produced a brand name and preliminary poster and, subsequently, a final poster for "V-Gel." The process identified three key themes relevant to product adoption: ability to maintain secrecy of product use, the need for personal agency in HIV prevention, and an increased desire for HIV protection. These findings, the authors said, underscored the critical importance of understanding end users’ perceptions and desires to ensure demand for and marketability of PrEP products. They advocated for development of marketing strategies targeting specific high-risk populations and addressing their local contexts and preferences to advance HIV prevention.

View Abstract

Acceptability and Use of a Dapivirine Vaginal Ring in a Phase III Trial


This nested study took place within the MTN-020/ASPIRE (A Study to Prevent Infection with a Ring for Extended Use) trial evaluating the safety and effectiveness of the dapivirine vaginal ring for preventing HIV among African women. The qualitative substudy, conducted at six study sites in Malawi, South Africa, Uganda, and Zimbabwe, evaluated acceptability of and adherence to the ring. The authors conducted semi-structured interviews with 214 participants, and analysis revealed three key findings. First, despite initial fears about the ring’s appearance and potential side effects, participants grew to like it and developed a sense of ownership of the ring once they had used it. Second, staff and peer support generally overcame challenges to uptake and sustained adherence. The participants became used to the ring as the trial progressed, and most reported that it was easy to use and integrate into their lives. Using the ring in ASPIRE was akin to joining a team and contributing to a broader, communal good. Third, the dynamics of participants’ male partner relationship(s) had the greatest influence on whether participants accepted and used the ring. The authors stressed the need to address challenges during the early stages of ring diffusion to help achieve its potential public health impact as an effective, long-acting, female-initiated HIV prevention option that addresses women’s disproportionate HIV burden.

View Abstract
Improving Early Identification of HIV-Infected Neonates with Birth PCR Testing in a Large Urban Hospital in Johannesburg, South Africa: Successes and Challenges


In countries with high rates of institutional delivery, polymerase chain reaction (PCR) testing at birth could improve early identification of exposed infants, enhance access to care, and avert early death in HIV-positive neonates. This article presented the findings from a pilot birth HIV diagnosis program (June 2014–December 2016) in Johannesburg, South Africa. The program identified new mothers who had tested positive during pregnancy and provided postpartum HIV antibody testing for women who did not have recent negative results. The program included counseling for inpatient women and active tracking to ensure follow-up and appropriate treatment after discharge. Of 30,591 women with live births, 6,372 were interviewed and agreed to data collection; a blood sample was collected for 6,377 infants. Of the infants tested, 99 were HIV-positive, and 95 were initiated on antiretroviral therapy. Just over half of infants testing negative returned for follow-up. Implementation required additional staff for counseling, quality control, and outreach. The authors concluded that this approach achieved high coverage and uptake of birth PCR testing and, through active tracking, started almost all HIV-positive neonates on antiretroviral therapy; but emphasized the need to follow up with all infants and ensure their timely linkage to any care needed.

View Abstract

Evidence that Promotion of Male Circumcision Did Not Lead to Sexual Risk Compensation in Prioritized Sub-Saharan Countries


In 2007 the World Health Organization (WHO) advocated for the scale-up of voluntary medical male circumcision (VMMC) to reduce men’s HIV risk. However, concerns remain over the possibility of increased risk behaviors following circumcision. This study investigated population-level survey data in 10 of the 14 African countries prioritized for VMMC scale-up. The authors used Demographic and Health Surveys to compare changes in sexual risk behaviors among circumcised and uncircumcised men from before and after the WHO recommendation. The main responses measured were condom use at last sex and number of non-cohabiting sexual partners in the last 12 months. Findings for 24,974 men before 2008 and 42,616 men after 2008 showed an increase in the prevalence of circumcision overall (33% to 43%). Condom use increased in both groups, but there was little change between circumcised and uncircumcised men in either condom use or number of partners relative to uncircumcised men from before the VMMC scale-up to after the scale-up. However, there were significant differences in risk levels among countries and by socioeconomic factors. The authors concluded that VMMC campaigns in high-priority countries did not appear to have spurred riskier behavior to date. They urged continued attention to the local context along with dissemination of accurate messages about circumcision within and beyond the VMMC context.

View Full Study
The Impact of Couple HIV Testing and Counseling on Consistent Condom Use among Pregnant Women and Their Male Partners: An Observational Study


In sub-Saharan Africa, couples HIV testing and counseling (CHTC) has been associated with substantial increases in safe sex, especially when at least one partner is HIV-positive. This observational study, conducted in an antenatal clinic in Lilongwe, Malawi, examined CHTC in the context of an Option B+ program. In 2016, the authors interviewed heterosexual pregnant couples (90 female-positive and 47 female-negative, including both seroconcordant and serodiscordant couples). They provided condoms and information about their use and assessed their behavior just before and one month after CHTC, focusing on safe sex (abstinence or consistent condom use in the last month). The authors then modeled changes in safe sex before and after CHTC and compared reports of safe sex between female-positive and female-negative couples. Before CHTC, safe sex was comparable between female-positive couples (8%) and female-negative couples (2%). One month after CHTC, reported safe sex increased markedly among female-positive couples, to a prevalence of 75 percent, compared to 3 percent among female-negative couples. Serodiscordant couples in both groups reported nearly universal condom use after CHTC. The authors concluded that engaging pregnant couples in CHTC can have prevention benefits for couples with an HIV-positive pregnant woman, but additional prevention approaches may be needed for couples with an HIV-negative pregnant woman.

View Abstract

Integration of Family Planning Services into HIV Care and Treatment Services: A Systematic Review


Integrating family planning (FP) and HIV services is associated with increased knowledge and use of modern contraceptives and supports international targets for reproductive health and the 90-90-90 goals for HIV. The authors reviewed 14 eligible articles and characterized the range of models used to integrate FP into HIV care and treatment and synthesized evidence on integration outcomes among women living with HIV. Eligible studies all described facility-based models delivered in a range of facilities, from small health centers to large hospitals. In many models, HIV-positive peers delivered the FP information. Overall, integration was associated with higher knowledge and use of modern method contraceptives, although there was insufficient evidence to evaluate its effects on unintended pregnancy or achieving safe and healthy pregnancy. Most “one-stop shops” offered a wide range of contraceptive options, including short- and long-acting methods, but few offered female condoms or emergency contraception. Only a few studies measured the prevalence of dual contraceptive use to prevent pregnancy and HIV transmission. Providers’ attitudes about respecting the fertility intentions of HIV-positive women improved in some studies, but overall remained negative. The authors concluded that especially where contraceptive use is low, integration must address community-wide and HIV-specific barriers to using effective FP methods while also improving access to information, commodities, and services within routine HIV care.

View Abstract
Integrating PMTCT into Maternal, Newborn, and Child Health and Related Services: Experiences From the Global Plan Priority Countries


In 2011, the Global Plan towards the Elimination of New HIV Infections among Children by 2015 and Keeping Their Mothers Alive (Global Plan) urgently advocated expanding delivery of services for prevention of mother-to-child transmission (PMTCT) services through greater integration with sexual and reproductive health and child health services. This article gave an overview of approaches taken by some of the Global Plan’s 22 focus countries and identified key programmatic considerations. PMTCT has become progressively integrated within a range of services, including maternal health, pediatrics, antiretroviral therapy, and family planning. Integration has increased access to PMTCT services, and has generally been acceptable to both clients and providers. Promising practices for successful integration included:

- Foster national-level political will to facilitate the policy and system changes needed for full integration.
- Ensure that systems for commodity management are in place at all levels and throughout the services that are to be integrated.
- Support task shifting to accommodate the extra duties and prepare providers fully for the new services.

The authors concluded that full integration will call for strong leadership. They called for a rigorous assessment of the impact of integrating PMTCT into existing programs, including costs, the effects on the wider health care system, and outcomes.

View Full Study


Reaching 90-90-90 goals will require novel approaches for reaching men who have sex with men (MSM), transgender women (TW), and other populations who face stigma. This formative study in Myanmar investigated the feasibility of HIV self-testing (HIVST) to improve testing and diagnosis among MSM and TW. In 2015 the authors conducted in-depth interviews in Yangon with 12 MSM and 13 TW and carried out focus group discussions with 35 participants. Both MSM and TW believed that HIVST would benefit their communities. Participants cited privacy (enabling them to avoid stigma), ease and convenience, and painlessness as advantages of HIVST. However, participants voiced concerns about the potential mental health consequences of a positive home test, especially since they believed that HIVST did not include counseling or linkage to care. Participants made the following suggestions for implementation: including some form of pre-test counseling; including psychological support; ensuring access to confidential, nondiscriminatory treatment; and launching communication initiatives to provide accurate information on HIVST and related care. The authors concluded that if implemented appropriately, HIVST could play an important role in reducing the number of undiagnosed infections and improving the overall HIV response for these key populations in Myanmar.

View Abstract
**Linkage to HIV Care After Home-Based HIV Counselling and Testing in Sub-Saharan Africa: A Systematic Review**


Home-based HIV counseling and testing (HBHCT) has the potential to increase HIV testing uptake in sub-Saharan Africa (SSA), supporting 90-90-90 objectives. However, data on linkage to HIV care after HBHCT are scarce. This systematic review examined linkage to care after HBHCT in SSA—specifically, initiation of cotrimoxazole (CTX) prophylaxis and antiretroviral therapy (ART). The authors identified 14 eligible studies from six countries. HIV-positive clients were referred for care in all studies; nine studies described specific strategies for facilitating linkage. Time intervals for ascertaining linkage ranged from one week to 12 months post-HBHCT. Linkage rates varied widely (from 8.2% to 99.1%), and were generally lower (<33%) if HBHCT was followed by referral only, and higher (>80%) if additional strategies were used. Of the 14 studies, 5 included data on CTX prophylaxis and 12 on ART initiation. CTX uptake among those eligible ranged from 0 to 100 percent. ART initiation also varied: among those eligible, the proportion starting ART ranged from 14.3 percent to 94.9 percent. The authors concluded that few studies from SSA have investigated linkage to care among adults newly diagnosed with HIV through HBHCT. They called for randomized controlled trials to confirm the effectiveness of linkage strategies.

**View Full Study**

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**Structural Prevention**

**Framing Mechanisms Linking HIV-Related Stigma, Adherence to Treatment, and Health Outcomes: A Conceptual Framework**


Addressing HIV and reaching 90-90-90 goals require addressing structural factors such as stigma, which affect the wellbeing of people living with HIV (PLHIV) and impede their access and adherence to treatment. However, it is not fully understood how stigma leads to worse health behaviors or outcomes. This article presented a conceptual framework that highlights how individual-level HIV-related stigma (perceived community stigma, experienced stigma, internalized stigma, and anticipated stigma) might affect the health of those living with HIV. The framework was based on research on stigma and existing models and theories. It described how structurally embedded stigma could affect individuals in terms of interpersonal factors, mental health, psychological resources, and biological stress—and subsequently, could affect PLHIV directly (physiologically) and indirectly (in terms of engagement in care and HIV-related health). A conceptual framework such as this one, the authors said, could inform future research and interventions aiming to address stigma as a driver of HIV-related health. As a next step, they recommended longitudinal studies to strengthen evidence on the causal effects and pathways of stigma, and development of improved measurement strategies.

**View Full Study**
High Self-Reported Non-Adherence to Antiretroviral Therapy amongst Adolescents Living with HIV in Malawi: Barriers and Associated Factors


Reaching 90-90-90 goals will be impossible without addressing HIV in adolescents and young adults, who account for more than 40 percent of new HIV infections. However, there is a paucity of research on adherence among adolescents living with HIV (ALHIV) in Southern Africa. This cross-sectional study examined antiretroviral therapy (ART) adherence, barriers to adherence, and factors associated with non-adherence among ALHIV in Malawi. ALHIV attending two large HIV clinics self-reported missed doses (past week or month) and barriers to adherence, and completed questionnaires on stress factors, disclosure, depression, substance use, treatment self-efficacy, and social support. Biomedical data were retrieved from existing medical records. Of the 519 participants, nearly half reported non-adherence to ART: 153 (30%) within the past week, and 234 (45%) in the past month. The most frequently self-reported barriers to adherence were forgetting (39%), travel from home (14%), and being busy with other things (11%). Analysis revealed several factors that were independently associated with missing a dose in the past week: drinking alcohol in the past month, missing a clinic appointment in the past six months, witnessing or experiencing violence in the home, and poor treatment self-efficacy. Suboptimal adherence, the authors concluded, is a major issue for ALHIV that urgently requires strong, tailored interventions to meet the needs of this key risk group.

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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.

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