

and provide immediate treatment for men living with HIV and referral of VMMC for those who are negative, and will also allow PEPFAR to educate and empower women to protect themselves.

In FY 2016, PEPFAR directly supported HTS for more than 9.1 million pregnant women and provided technical support to clinics that tested an additional 2.3 million (Appendix W). PMTCT service coverage, as well as an effective cascade of services, are variable and differ greatly between communities. PEPFAR uses site-specific data to ensure resources are focused in the highest-burden areas with the greatest need to maximize the impact on babies and their mothers. The ultimate goal is to increase antenatal care attendance for all women and to test 95 percent of all pregnant women receiving an antenatal care visit, independent of country or community.

PEPFAR has continued to shift resources to high-burden areas to ensure strong linkages for HIV-positive pregnant women to the continuum of care. An additional benefit of this site-level analysis is the utilization of program data to geographically map the HIV epidemic at a granular level. This analysis is being replicated across partner countries to further focus

the HIV response and understand the evolving epidemic at a geographic and facility level.

In FY 2016, 11.5 million pregnant women learned their HIV status with PEPFAR support. Of those identified as HIV-positive, 98 percent received ARVs during their pregnancy to reduce vertical transmission, and, of those, 97 percent received Option B+, initiation of lifelong ART. An additional 2.5 percent received triple combination regimens for prevention (Figure 33). ART reduces mother-to-child transmission at birth to less than 5 percent. Transmission rates under 1 percent are seen among women who conceive while on ART and who continue their ART throughout pregnancy.

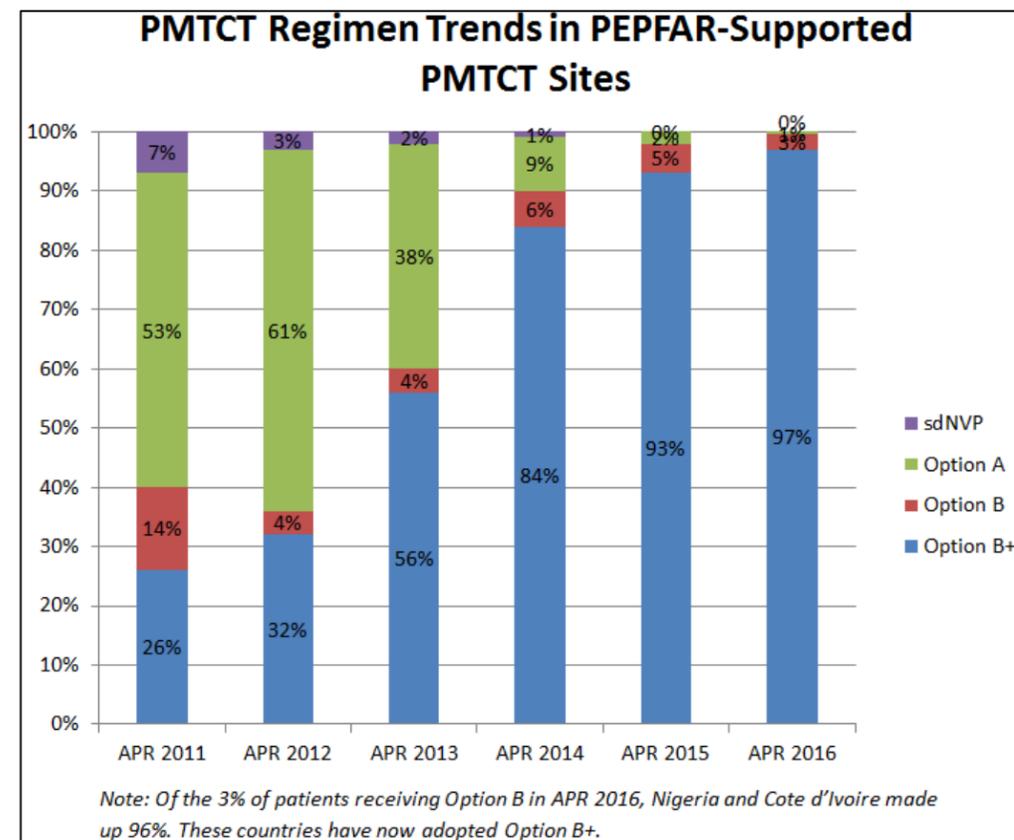
While 95 percent of babies are born HIV free, if their mothers do not remain on treatment, there is a 15 to 25 percent risk for infection to be transferred to the infant during the breastfeeding period. The breastfeeding period is therefore a crucial time for women to be retained in care and on ART. PEPFAR recognizes the need for data on retention of pregnant and breastfeeding women and now requires partner countries to report the age of women known to be alive and on treatment 12 months after initiation of lifelong therapy. During 2016, PEPFAR's retention rate for pregnant women on ART was 68 percent (Appendix W), which may be related to mobility as well as adherence. Increased efforts are being directed at retaining pregnant and breastfeeding women in care and treatment and providing testing for their infants to allow for early treatment of infected infants. Pregnant and breastfeeding women are priority populations for providing viral load testing to assure viral suppression or provide enhanced counseling for ART adherence if not suppressed. PEPFAR programs work closely with CSOs and OVC programs to provide support to breastfeeding women and their families to keep them on ART and ensure follow-up for their infants.



CREDIT: PEPFAR

■ A mother with her child in Mozambique.

Figure 33. PEPFAR PMTCT Regimens: Ensuring the Most Effective Regimens to Save Mothers and Ensure Babies Are Born HIV Free



## APPENDIX L: Preventing New HIV Infections in Young Men – Voluntary Medical Male Circumcision (VMMC)

VMMC is a one-time, low-cost intervention shown in randomized control trials to reduce men's risk of HIV by approximately 60 percent, with the prevention effect maintained over time. Recent evidence from the Rakai District in Uganda demonstrates that the HIV preventive effect of VMMC continues to increase rather than decline.<sup>7</sup> Male circumcision has the potential to prevent millions of new infections

and save millions of lives and billions of dollars in averted HIV treatment costs. Importantly, the procedure brings men, some for the first time, into health services.

PEPFAR programs strive to achieve 80 percent adolescent and adult male circumcision coverage in 15–49-year-olds, prioritizing the high transmission areas among the 14 countries to maximally and efficiently reduce HIV incidence in the shortest period of time possible. As of the end of 2016, PEPFAR supported more than 11.7 million VMMC procedures in 14 priority eastern and southern African countries: Botswana, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Tanzania, Uganda, Zambia, and

<sup>7</sup> Gray, R. H., et al. (2012). The Effectiveness of Male Circumcision for HIV Prevention and Effects on Risk Behaviors in a Post-Trial Follow-up Study in Rakai, Uganda. *AIDS* (London, England), 26(5), 609–615. <http://doi.org/10.1097/QAD.0b013e3283504a3f>



CREDIT: PEPFAR

■ An HIV/AIDS prevention educator in Zambia.

Zimbabwe, rapidly approaching the 2017 target of 13 million. PEPFAR will support more than 3 million additional VMMCs in FY 2017. Assuming each country reaches the 90-90-90 HIV treatment targets, modeling analysis projects that the nearly 9 million male circumcisions conducted through September 2015 will avert

more than 240,000 HIV infections by 2025. PEPFAR continues to prioritize this one-time intervention by increasing central funding to this intervention in 2017.

In addition, PEPFAR is targeting men aged 15–29 for VMMC to maximize the preventive benefits, with expanded inclusion of the 10–14-year-olds as saturation is reached in the older age groups. Maximum benefit is seen when circumcision is done before sexual debut, and the most immediate benefits are obtained by focusing on the 15–29 age group. The distribution of VMMC by age bands is shown in Figure 36. VMMC procedures done over the past six years should start to impact new infections in men now 20–34 years old and also the secondary transmission to young women over the next four years. PEPFAR will be carefully tracking this impact through the PHIA in Kenya, where VMMC coverage has been high over the past several years.

Annual VMMC results are shown in Figure 34, with cumulative results shown in Figure 35.

Figure 34. PEPFAR Annual VMMC Results, FY 2009–2016

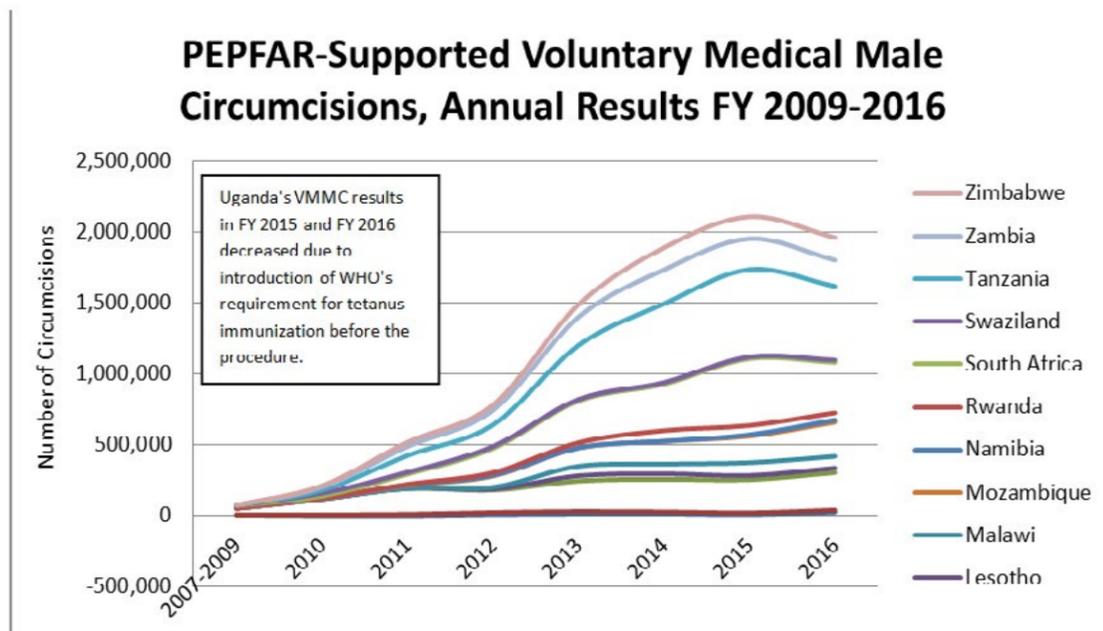


Figure 35. PEPFAR Cumulative VMMC Results, FY 2009–2016

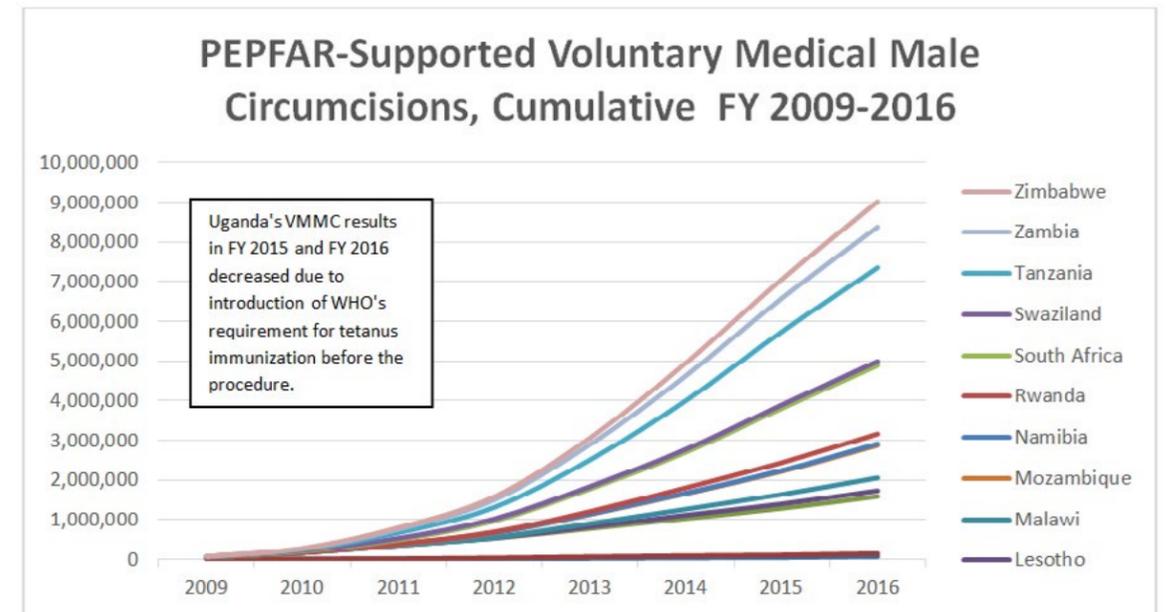
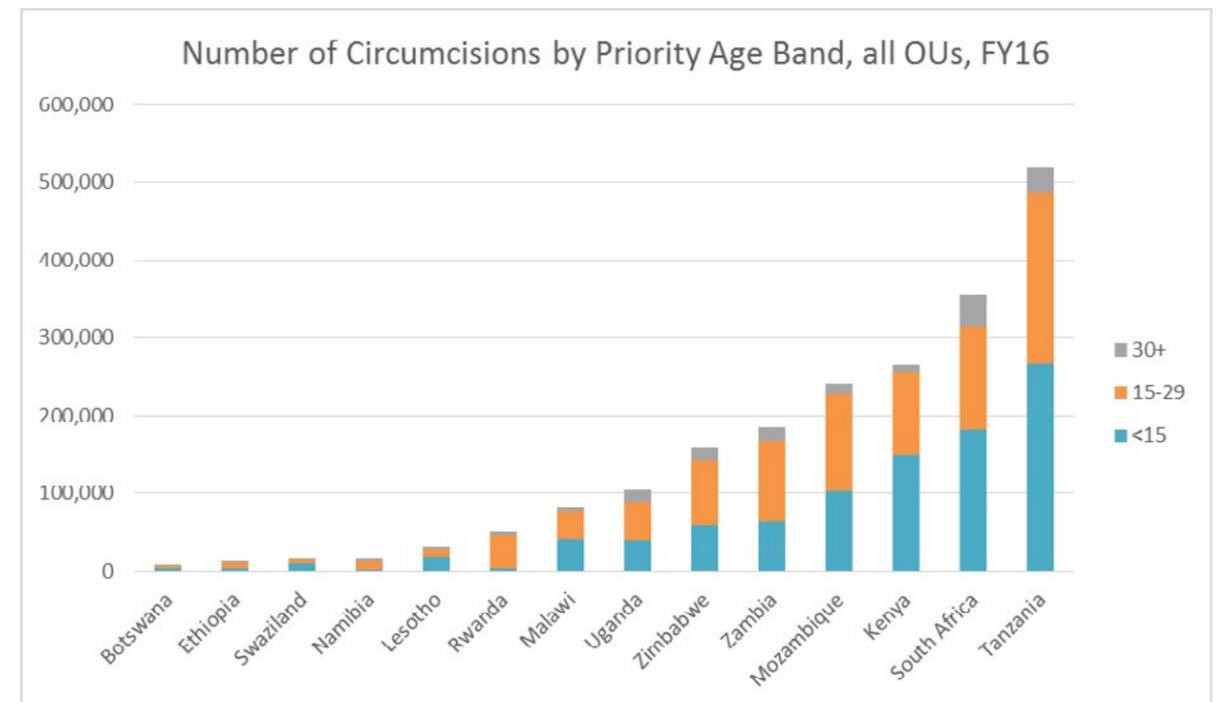


Figure 36. Number of Circumcisions by Priority Age Band and Priority Country, FY 2016



The decline in slope in 2015 was due to a reduced number of VMMC in Uganda due to the introduction of the WHO's requirement for tetanus immunization before the procedure. Based on analysis performed by the WHO, the increased risk of tetanus appears to be associated with the use of an elastic collar compression device—in which the foreskin is left in place for several days after placement—a risk not present when VMMC is performed surgically. Changes to immunization practices in line with recent guidance from the WHO should lead to a rebound in the number of circumcisions in Uganda in the coming year.

## APPENDIX M: Prioritizing Prevention of New HIV Infections in Women, Adolescent Girls, and Children

HIV remains the leading cause of death and disease in women of reproductive age globally, leading to increased risk of death for orphaned children.<sup>8</sup> In sub-Saharan Africa, 60 percent of those living with HIV are women, and in some African countries, prevalence among young women aged 15–24 years is at least three times higher than that among men of the same age.<sup>9</sup> Due to the success of the MDGs in reducing child mortality by more than 50 percent as well as continued high fertility rates, significantly larger numbers of young women who survived childhood are now entering their most vulnerable years for HIV infection, particularly in sub-Saharan Africa. In fact, the population of young women is rapidly increasing as a part of the youth bulge illustrated below, where young people between the ages of 15 and 24 in sub-

Saharan Africa will increase to more than 200 million by the year 2020, doubling the number in 1990 (previously shown in Figure 16). These two factors heighten the urgency of effectively preventing HIV infection among AGYW, which is more critical than ever if we are to reach epidemic control.

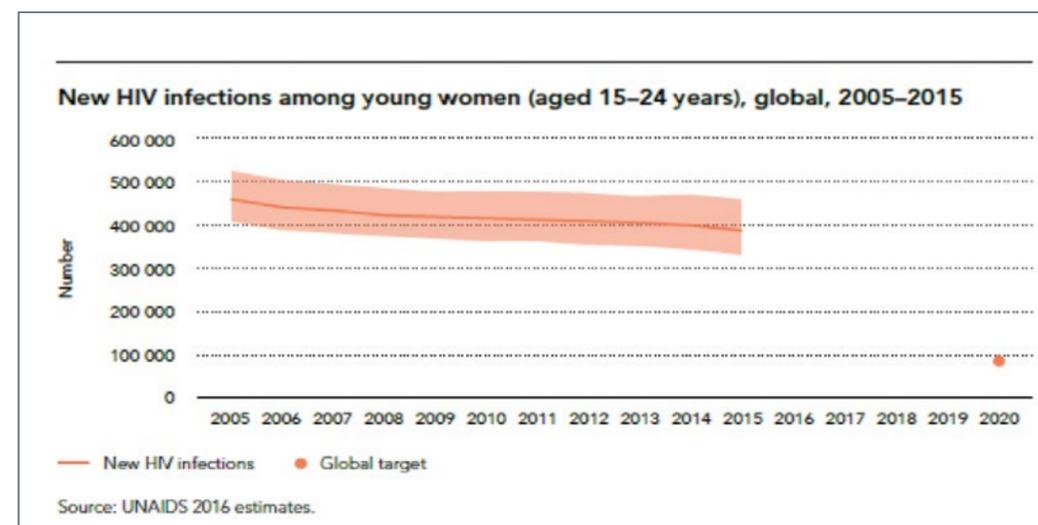
The lives of AGYW are a complex mixture of social, behavioral, and biological risks, with intersecting factors that make them vulnerable to HIV. One in three women experience gender-based violence (GBV) at their first sexual experience, increasing the likelihood of contracting HIV.<sup>10</sup> Women account for two-thirds of the world's 774 million illiterate adults, 54 percent of the 72 million children not in school, and 98 percent of all cross-border trafficking victims in sex exploitation cases.<sup>11</sup> All of these factors negatively impact the overall health and well-being of women while placing AGYW at heightened risk for HIV infection.

PEPFAR is dedicated to continued implementation of its *2013 Gender Strategy*,<sup>12</sup> which calls for



■ Actress and philanthropist Charlize Theron and Ambassador Deborah L. Birx meet with young women at the DREAMS Booth at the AIDS 2016 Conference in Durban, South Africa.

Figure 37. New HIV Infections in Adolescent Girls and Young Women



providing gender-equitable HIV prevention, care, treatment, and support; implementing GBV prevention activities and post-GBV care services; implementing interventions to change harmful gender norms and promote positive gender norms; bolstering gender-related policies and laws that increase legal protection; and expanding gender-equitable access to income and productive resources, including education.

Through the collection of age by sex disaggregated data—a specific combination of age and sex disaggregation, the HIV/AIDS community recognized that AGYW, a group that is highly vulnerable to new infections in sub-Saharan Africa, were being left behind in the AIDS response (Figure 37). Every year, an astonishing 390,000 AGYW are infected with HIV—more than 7,500 every week and 1,000 every day. Girls and young women account for around three-quarters of new HIV infections among adolescents in sub-Saharan Africa.<sup>13</sup> In the last 10 years, the number of new infections in AGYW has only decreased by less than 15 per-

cent. It is clear that preventing new infections in young women is essential to controlling the HIV epidemic.

In response, PEPFAR, along with the Bill & Melinda Gates Foundation, Girl Effect, Johnson & Johnson, Gilead Sciences, and ViiV Healthcare, launched the DREAMS partnership on World AIDS Day 2014, which dramatically increased our focus and investment in preventing HIV infections in 15–24-year-old girls and women. DREAMS is a comprehensive \$385 million prevention program addressing the multi-dimensional circumstances placing young women at increased risk to HIV. The goal of DREAMS is to reduce new HIV infections in AGYW in the highest HIV-burden locations of 10 sub-Saharan African countries (Kenya, Lesotho, Malawi, Mozambique, South Africa, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe) by providing a holistic approach to HIV prevention. Specifically, DREAMS aims to achieve 40 percent reduction in new HIV infections among AGYW within DREAMS districts by the end of 2017. DREAMS recognizes

<sup>8</sup> Ortblad, K. F., Lozano, R., Murry, C. J. L. (2013). The Burden of HIV: Insights from the Global Burden of Disease Study 2010. *AIDS*, 27, 2003–2017.

<sup>9</sup> PEPFAR. (2015). *PEPFAR 2015 Annual Report to Congress*. Available at: <http://www.pepfar.gov/documents/organization/239006.pdf>

<sup>10</sup> United States Agency for International Development. (2015). *Report on Gender Equality and Women's Empowerment*. Washington, DC. January, 2015.

<sup>11</sup> UNAIDS. (2010). *The World's Women 2010: Trends and Statistics*. Geneva.

<sup>12</sup> PEPFAR. (2013). *Updated Gender Strategy*. Available at: <http://www.pepfar.gov/documents/organization/219117.pdf>

<sup>13</sup> UNAIDS. (2015). *Empower Young Women and Adolescent Girls: UNAIDS and The African Union | Reference | 2015: Fast-Tracking the End of the AIDS Epidemic in Africa*. Available at: [http://www.unaids.org/sites/default/files/media\\_asset/JC2746\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/JC2746_en.pdf)