



PEPFAR

U.S. President's Emergency Plan for AIDS Relief

CHAPTER ONE.

INTRODUCTION & BACKGROUND TO EDITION 2

PEPFAR'S BEST PRACTICES FOR VOLUNTARY MEDICAL MALE CIRCUMCISION SITE OPERATIONS

A Service Guide for Site Operations

Acknowledgments

This publication is made possible by the generous support of the American people through the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) with the U.S. Agency for International Development (USAID) under the Cooperative Agreement Strengthening High Impact Interventions for an AIDS-free Generation (AIDSFree) Project, 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.

We are eternally grateful to Dr. Tigistu Adamu Ashengo of Jhpiego and Dr. Emmanuel Njeuhmeli of USAID, who developed the first edition of this manual.

The second edition was developed under the leadership of Dr. Valerian L. Kiggundu (USAID) and Mr. Jonathan Grund (CDC). Special thanks are given to the Male Circumcision Technical Working Group, who edited and contributed to the development of both the first and second editions.

Special appreciation is given to the AIDSFree staff members who coordinated with different authors, agencies and organizations to support the development of this document, including providing editing and graphic design support.

Finally, we are most grateful to the men who stepped forward to receive male circumcision for HIV prevention; the Ministries of Health from the 14 priority countries, and the implementing partners who generously shared the best practices that have been used throughout this document.

Contact Info

D. Heather Watts, MD
Director, HIV Prevention and Community, Program Quality Team
Office of the Global AIDS Coordinator and Health Diplomacy
1800 G Street NW, Room 10300
Washington, DC 20006
Office: 202-663-2547

Authors

1. United States Agency for International Development (USAID), Office of HIV/AIDS Bureau for Global Health, 1300 Pennsylvania Avenue NW, Washington, DC 20523

Valerian Kiggundu, Kim S. Ahanda, Reden Sagana, Meghan Mattingly, Nithya M, Mani, Maria Carrasco, Gina Sarfaty, Nida Parks, Emmanuel Njeuhmeli

2. United States Centers for Disease Control and Prevention (CDC), 1600 Clifton Road, Atlanta, GA 30329

Naomi Bock, Carlos Toledo, Stephanie Davis, Jonathan Grund, Paran Pordell, Dan Rutz, Marta Bornstein

3. United States Department of Defense HIV/AIDS Prevention Program, Naval Health Research Center, 140 Sylvester Rd., San Diego, CA 92106-3521

Anne G. Thomas, Jonathan Davitte

4. Office of the Global AIDS Coordinator, 1800 G Street NW, Washington, DC 20006

Renee Ridzon

5. The Health Communication Capacity Collaborative (HC3), Johns Hopkins Bloomberg School of Public Health, Center for Communication Programs, 111 Market Place, Suite 310, Baltimore, MD 21202

Elizabeth Gold

6. University Research Co., LLC/USAID ASSIST Project, 5404 Wisconsin Avenue, Suite 800, Chevy Chase, Maryland 20815

Donna Jacobs, Lani Marquez, Haley Brightman, John Byabagambi

7. GHSC-PSM Global Health Supply Chain Project, Chemonics, 1717 H Street NW, Washington, DC 20006

Mary Lyn Field-Nguer, Scott Ackerson

8. Project SOAR/Population Council, 4301 Connecticut Avenue NW, Suite 280, Washington, DC 20008

Liz Nerad, Andrea Vazzano

9. USAID's AIDSFree Project, JSI Research & Training Institute, Inc. 1616 Fort Myer Drive, 16th Floor, Arlington, VA 22209

Erin Broekhuysen, Lauren Alexanderson, Zebedee Mwandji, Tracy McClair, Victoria Rossi, Jackie Sallet, Marya Plotkin, Tigistu Adamu Ashengo, Augustino Hellar, Alice Christensen, Kait Atkins

CHAPTER I.

Introduction & Background to Edition 2

This document provides implementing partners supported by the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) with a collection of the best resources available for sites providing voluntary medical male circumcision (VMMC) for HIV prevention. This version is Edition 2; Edition 1, released in 2013, focused on assisting implementing partners and site staff with opening new VMMC service locations. The first version covered all aspects of the planning, launch, and oversight of daily operations at the site level. Given the maturation of VMMC programs since 2012, Edition 2 focuses on optimizing management of existing service locations, though chapters still remain for those establishing new sites. The primary intended audience for Edition 2 remains site-level staff, with different chapters most relevant to different staff positions.

Optimized management includes renewed attention to safety and quality of the services provided; technological innovation and efficiencies in service delivery techniques; and strategies for the age pivot (to males aged 15 to 29 years) and the geographical pivot (to DREAMS districts and non-DREAMS scale-up districts with high HIV burden and low male circumcision prevalence) to contribute to epidemic control, to name a few. [See [PEPFAR DREAMS](#)].

DREAMS was launched on World AIDS Day in December 2014 and is an ambitious \$385 million public-private partnership to reduce HIV infections among adolescent girls and young women in 10 sub-Saharan African countries. The goal of DREAMS is to help girls develop into **D**etermined, **R**esilient, **E**mpowered, **A**IDS-free, **M**entored, and **S**afe women. Girls and young women account for 71 percent of new HIV infections among adolescents in sub-Saharan Africa. The 10 DREAMS countries (Kenya, Lesotho, Malawi, Mozambique, South Africa, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe) account for nearly half of all the new HIV infections that occurred among adolescent girls and young women globally in 2014.

Since 2013 standards of care have changed, and new PEPFAR policies have been introduced covering issues like tetanus risk mitigation, age requirements for certain surgical techniques, and enhanced adverse event (AE) reporting requirements. Two medical devices, PrePex and ShangRing, have also been prequalified by the World Health Organization (WHO) for use by VMMC programs since the release of Edition 1. These updated/new topics are covered in this revised version. In addition to an update of the technical content, this document gives attention to increasing utilization by enabling web-based and mobile access. While the print version appears much the same, the e-platforms have been designed for “point-and-click” functionality, so that resources are more readily available to the broadest possible audience of VMMC sites and staff.

As in the first edition, the second edition has included new best practices of VMMC service provision from across the 14 priority countries. These have been summarized and placed in the respective chapters.

In addition, each chapter is designed as a stand-alone resource covering all aspects of the respective topic, including:

- **Chapter Goals:** States the objectives of the chapter.
- **What Users Need to Know:** Summarizes the most important information and referenced documents with links (online version) or directions (printed version) to the tools/instruments/resources.
- **Frequently Referenced Information:** Additional relevant content embedded into the body of the text.
- **For Additional Information:** Provides additional details on the topic for those who want more.
- **Tools, Instruments and Guidance Documents:** Lists all the resources referenced in the chapter.
- **Case Studies:** Provides program examples where applicable.
- **References:** Lists the manuscripts cited in the chapter.

The printed version of this guide will be made available on the AIDSFree website. The tools, instruments, and guidance documents referenced throughout are available on the web through links that take you directly to the information of interest.

The array of materials referenced in this collection have been sourced from Joint United Nations Programme on HIV/AIDS (UNAIDS) and WHO guidance, the PEPFAR Voluntary Medical Male Circumcision Technical Working Group (VMMC TWG), and the experiences and materials from existing VMMC programs in Southern and Eastern Africa.

The scope of this document is limited to establishing and supporting quality VMMC services for HIV prevention at the facility or VMMC site level. The necessary steps involved in scaling up VMMC services at the national, regional, and district levels are beyond the scope of this document. For a more comprehensive view of the key steps in scaling up VMMC services at the above site (national VMMC program), see [WHO Operational Guidance for Scaling Up Male Circumcision Services for HIV Prevention](#).

BACKGROUND

VMMC reduces men's risk of acquiring HIV through heterosexual intercourse by approximately 60 percent.¹ As more men get circumcised, fewer will become infected with HIV. VMMC indirectly protects men's female sexual partners from HIV because HIV-negative men cannot infect their female sexual partners. The indirect protection for women is substantial; modeling at levels of 80 percent circumcision coverage shows an approximately equal number of HIV infections will be averted in women as in men after 15 years (Njeuhmeli, Forsythe, Reed, et al. 2011). However, for HIV-positive men, VMMC does not reduce their risk of transmitting HIV to their sexual partners. Furthermore, if men who are already HIV-positive become circumcised, it will not reverse their HIV-positive status.

WHO and UNAIDS determined 14 VMMC priority countries which all have high HIV burden and low male circumcision prevalence (WHO and UNAIDS 2007). These countries are all in Eastern and Southern Africa (Botswana, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Tanzania,

¹ Auvert, Taljaard, Lagaarde, et al. 2005; Bailey, Moses, Parker, et al. 2007; Gray, Kigozi, Serwadda, et al. 2007; Mehta, Li, Moses, et al. 2012; Kong, Kigozi, Ssempija, et al. 2011; Gray, Kigozi, Kong, et al. 2012; Mehta, Moses, Agot, et al. 2013.



Uganda, Zambia, and Zimbabwe) and are scaling up VMMC, with 11.7 million men and boys circumcised by the end of 2015. According to VMMC modeling presented at the 2016 International AIDS Conference in Durban, South Africa (Njeuhmeli 2016), these VMMCs are projected to avert a total of 450,000 infections by the end of 2030, even assuming that countries achieve UNAIDS 90-90-90 targets for scaling up ART. And if the 14 priority countries continue to scale up VMMC to reach 80 percent coverage by 2020 and maintain coverage at this level thereafter, these VMMCs will avert an additional 470,000 HIV infections by 2030, bringing the total HIV infections averted up to 922,000 (Ibid.).

In addition to the reduction in risk of HIV acquisition among circumcised men, VMMC provides other health benefits to men and to women. Evidence shows that VMMC reduces some sexually transmitted infections (STIs), particularly ulcerative STIs, including chancroid, herpes, and syphilis, as well as balanitis, phimosis, and penile cancer.² One of the primary benefits of VMMC for female partners is its association with a reduction in penile human papillomavirus (HPV), which is associated with cervical cancer in female partners (Castellsagué, Bosch, Muñoz, et al. 2002; Wawer, Tobian, Kigozi, et al. 2011).

Although VMMC has been shown to significantly reduce men's risk of acquiring HIV via heterosexual intercourse, VMMC does not provide complete protection from HIV.³ Because VMMC provides only partial protection from acquiring HIV, it is necessary for circumcised males to minimize any potential increased risky sexual behaviors following VMMC provision (known as risk compensation). Risk compensation, however, has not been shown to increase following circumcision.⁴

In order to ensure that VMMC is provided as part of a comprehensive HIV prevention package, WHO recommends that all VMMC clients receive the minimum package of services [See [WHO Manual for Male Circumcision Under Local Anaesthesia, 1st edition](#)], including:

- Offering of HIV testing services (HTS)
- Screening and treatment for STIs
- Promotion and provision of male and female condoms
- Promotion of safer sex practices and risk reduction counseling
- Male circumcision (surgical or device removal of the foreskin).

In addition to WHO's minimum package of services, PEPFAR also recommends VMMC program components that ensure high-quality VMMC services, including:

- Identifying and implementing active referral and linkages of HIV-positive men to HIV care and treatment and STI services
- Assuring voluntarism and informed consent.

²Weiss, Thomas, Munabi, et al. 2006; Tobian, Serwadda, Quinn, et al. 2009; Auvert, Blake, Maseko, et al. 2012; Nasio, Nagelkerke, Mwatha, et al. 1996; Johnson, Sherman, Ssempijja, et al. 2009; Gray, Serwadda, Tobian, et al. 2009; Pintye, Baeten, Manhart, et al. 2014; Mahiane, Legeai, Taljaard et al. 2009; Hernandez, Wilkens, Zhu, et al. 2008; Castellsagué, Bosch, Muñoz, et al. 2002; Auvert, Sobngwi-Tambekou, Cutler, et al. 2009; Gray, Serwadda, Kong, et al. 2010; Wiswell and Hachey 1993.

³Auvert, Taljaard, Lagarde, et al. 2005; Bailey, Moses, Parker, et al. 2007; Gray, Kigozi, Serwadda, et al. 2007.

⁴Westercamp, Agot, Jaoko, et al. 2014; Mattson, Campbell, Bailey, et al. 2008; Gray, Kigozi, Kong, et al. 2012; Harper 2016; Maughan-Brown and Venkataramani 2012; Riess, Achieng, Otieno, et al. 2010; Abbott, Haberland, Mulenga, and Hewett 2013.

As VMMC programs continue to mature, some aspects of VMMC are taking on new importance: for example, demand creation to balance supply and demand, continuous quality improvement to ensure high quality and safety of VMMC services, and follow-up and tracking/monitoring of adverse events. The majority of men seeking VMMC are uninfected with HIV. It will be important to tailor messages to help HIV-negative men remain uninfected while HIV-positive men identified at VMMC sites are appropriately referred and linked to HIV care and treatment and STI services.

REFERENCES

- Abbott, S.A., N.A. Haberland, D.M. Mulenga, and P.C. Hewett. 2013. “Female Sex Workers, Male Circumcision and HIV: A Qualitative Study of Their Understanding, Experience, and HIV Risk in Zambia.” *PLOS ONE* 8(1): e53809. doi:10.1371/journal.pone.0053809
- Auvert, B., A. Blake, V. Maseko, et al. 2012. ANRS-12126 “Impact of Male Circumcision Roll-out on HSV-2 Prevalence among Men: Orange Farm, South Africa.” 19th Conference on Retroviruses and Opportunistic Infections (CROI 2012): Seattle, WA, USA, March 5–8.
- Auvert, B., J. Sobngwi-Tambekou, E. Cutler, et al. 2009. “Effect of Male Circumcision on the Prevalence of High-Risk Human Papillomavirus in Young Men: Results of a Randomized Controlled Trial Conducted in Orange Farm, South Africa.” *The Journal of Infectious Diseases* 199: 14–9.
- Auvert, B., D. Taljaard, E. Lagarde et al. 2005. “Randomized, Controlled Intervention Trial of Male Circumcision for Reduction of HIV Infection Risk: The ANRS 1265 Trial.” *PLOS Medicine* 2(11): e298.
- Bailey, R.C., S. Moses, C.B. Parker, et al. 2007. “Male Circumcision for HIV Prevention in Young Men in Kisumu, Kenya: A Randomized Controlled Trial.” *The Lancet* 369 (9562): 643–656.
- Castellsagué, X., F. X. Bosch, N. Muñoz, et al. 2002. “Male Circumcision, Penile Human Papillomavirus Infection, and Cervical Cancer in Female Partners.” *New England Journal of Medicine* 346: 1105–1112.
- Gray, R.H., D. Serwadda, A.A.R. Tobian, et al. 2009. “Effects of Genital Ulcer Disease and Herpes Simplex Virus Type 2 on the Efficacy of Male Circumcision for HIV Prevention: Analyses from the Rakai Trials.” *PLOS Medicine* 6(11): e1000187. doi:10.1371/journal.pmed.1000187
- Gray, R., G. Kigozi, X. Kong, 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* Mar 13; 26 (5): 609–615.
- Gray, R.H. G. Kigozi, D. Serwadda, et al. 2007. “Male Circumcision for HIV Prevention in Men in Rakai, Uganda: A Randomized Trial.” *The Lancet* 369 (9562): 657–666.
- Gray, R.H., D. Serwadda, X. Kong, et al. 2010. “Male Circumcision Decreases Acquisition and Increases Clearance of High-Risk Human Papillomavirus in HIV-Negative Men: A Randomized Trial in Rakai, Uganda.” *The Journal of Infectious Diseases* 201(10): 1455–62.
- Harper, K.N. 2016. “No Changes in Sexual Behaviour after Voluntary Medical Male Circumcision in the Dominican Republic.” *AIDS* Jun 1; 30 (9): N13. doi: 10.1097/QAD.0000000000001056.



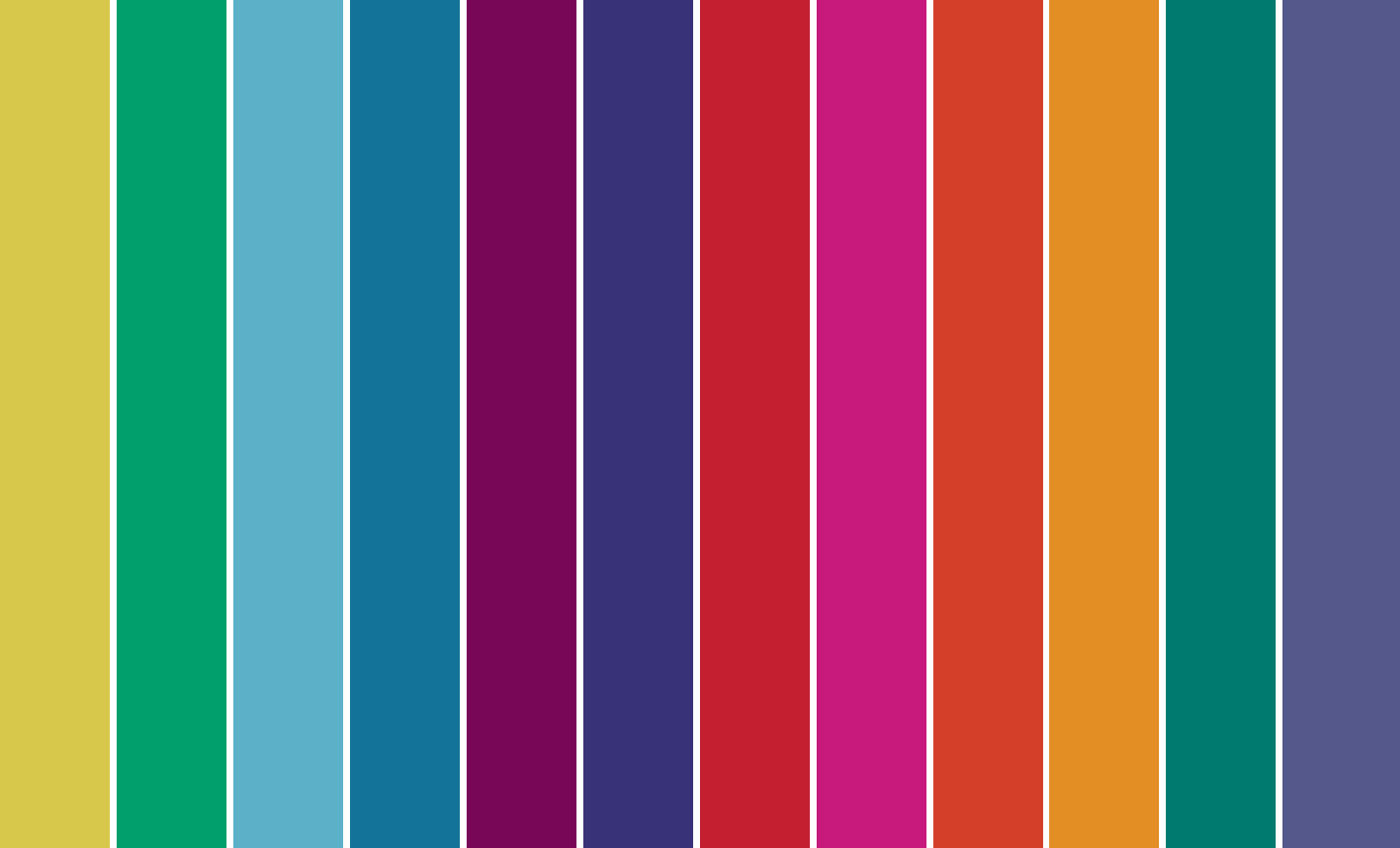
- Hernandez, B.Y., L.R. Wilkens, X. Zhu, et al. 2008. Circumcision and Human Papillomavirus Infection in Men: A Site-Specific Comparison. *Journal of Infectious Diseases* 197 (6): 787–794.
- Johnson, K.E., M.E. Sherman, V. Ssempiija, et al. 2009. “Foreskin Inflammation Is Associated with HIV and Herpes Simplex Virus Type-2 Infections in Rakai, Uganda.” *AIDS* 23 (14): 1807–1815.
- Kong, X, G. Kigozi, V. Ssempiija, et al. 2011. “Longer-Term Effects of Male Circumcision on HIV Incidence and Risk Behaviors during Post-Trial Surveillance in Rakai, Uganda.” 18th Conference on Retroviruses and Opportunistic Infections, Boston, MA, USA, February 27–March 2, Abstract 36.6.
- Mahiane, S.-G., C. Legeai, D. Taljaard, et al. 2009. “Transmission Probabilities of HIV and Herpes Simplex Virus Type 2, Effect of Male Circumcision and Interaction: A Longitudinal Study in a Township of South Africa.” *AIDS* 23 (3): 377–383.
- Mattson, C.L., R.T. Campbell, R.C. Bailey, et al. 2008. “Risk Compensation Is Not Associated with Male Circumcision in Kisumu, Kenya: A Multi-faceted Assessment of Men Enrolled in a Randomized Controlled Trial.” *PLOS ONE* 3(6): e2443. doi:10.1371/journal.pone.0002443.
- Maughan-Brown, B., and A.S. Venkataramani. 2012. “Learning that Circumcision Is Protective against HIV: Risk Compensation among Men and Women in Cape Town, South Africa.” *PLOS ONE* 7(7): e40753. doi:10.1371/journal.pone.0040753
- Mehta S., H. Li, S. Moses, et al. 2012. “The Efficacy of Medical Male Circumcision against HIV Acquisition at 66 Months Post-Procedure in Kisumu, Kenya.” TUAC0402. XIX International AIDS Conference, Washington, DC, July 22–27.
- Mehta, S.D., S. Moses, K. Agot, et al. 2013. “The Long Term Efficacy of Medical Male Circumcision against HIV Acquisition.” *AIDS* Nov 28; 27 (18): 2899–907.
- Nasio, J.M., N.J. Nagelkerke, A. Mwatha, et al. 1996. “Genital Ulcer Disease among STD Clinic Attenders in Nairobi: Association with HIV-1 and Circumcision Status.” *International Journal of STD and AIDS* 7: 410–414.
- Njeuhmeli, E. 2016. Presentation: Update of Kripke, K., E. Njeuhmeli, J. Samuelson, et al. “Assessing Progress, Impact, and Next Steps in Rolling Out Voluntary Medical Male Circumcision for HIV Prevention in 14 Priority Countries in Eastern and Southern Africa through 2014.” International AIDS Conference, Durban, South Africa, July 18–22, 2016. Available online at: http://programme.aids2016.org/PAGMaterial/PPT/1610_5186/Njeuhmeli%20VMMC%20progress%20for%20AIDS%202016_Final.pptx.
- Njeuhmeli, E., S. Forsythe, J. Reed, et al. 2011. “Voluntary Medical Male Circumcision: Modeling the Impact and Cost of Expanding Male Circumcision for HIV Prevention in Eastern and Southern Africa.” *PLOS Medicine* 8(11): e1001132
- PEPFAR (U.S. President’s Emergency Plan for AIDS Relief). 2016. “Voluntary Medical Male Circumcision.” In *PEPFAR Technical Considerations for COP/ROP 2016*, pp. 37–39. Washington, DC: United States Agency for International Development, U.S. Department of State.

- Pintye, J., J.M. Baeten, L.E. Manhart, et al. 2014. "Association between Male Circumcision and Incidence of Syphilis in Men and Women: A Prospective Study in HIV-1 Serodiscordant Heterosexual African Couples." *The Lancet Global Health* 2: e664–71.
- Riess, T.H., M.M. Achieng', S. Otieno et al. 2010. "'When I Was Circumcised I Was Taught Certain Things': Risk Compensation and Protective Sexual Behavior among Circumcised Men in Kisumu, Kenya." *PLOS One* 5(8): e12366. doi:10.1371/journal.pone.0012366
- Tobian, A.A., R.H. Gray, and T.C. Quinn. 2010. "Male Circumcision for the Prevention of Acquisition and Transmission of Sexually Transmitted Infections: The Case for Neonatal Circumcision." *Archives of Pediatric Adolescent Medicine* 164 (1):78–84. doi: 10.1001/archpediatrics.2009.232.
- Tobian, A.A.R., D. Serwadda, T. C. Quinn, et al. 2009. "Male Circumcision for the Prevention of HSV-2 and HPV Infections and Syphilis." *New England Journal of Medicine* 360 (13): 1298–1309. <http://www.nejm.org/doi/full/10.1056/NEJMoa0802556>.
- Wawer, M.J., A.A.R. Tobian, G. Kigozi, et al. 2011. "Effect of Circumcision of HIV-Negative Men on Transmission of Human Papillomavirus to HIV-Negative Women: A Randomised Trial in Rakai, Uganda." *The Lancet* 377 (9761): 209–218. doi:10.1016/S0140-6736(10)61967-8.
- Weiss, H., S. Thomas, S. Munabi, and R. Hayes. 2006. "Male Circumcision and Risk of Syphilis, Chancroid, and Genital Herpes: A Systematic Review and Meta-analysis." *Sexually Transmitted Infections* 82(2): 101–109, Discussion 10.
- Westercamp, N., K. Agot, W. Jaoko, et al. 2014. "Risk Compensation Following Male Circumcision: Results from a Two-Year Prospective Cohort Study of Recently Circumcised and Uncircumcised Men in Nyanza Province, Kenya." *AIDS Behavior* 18 (9): 1764–75. doi:10.1007/s10461-014-0846-4.
- Wiswell, T.E., and W.E. Hachey. 1993. "Urinary Tract Infections and the Uncircumcised State: An Update." *Clinical Pediatrics* 1993; 32: 130–134.
- World Health Organization. 2007. *New Data on Male Circumcision and HIV Prevention: Policy and Programme Implications*. WHO/UNAIDS Technical Consultation on Male Circumcision and HIV Prevention: Research Implications for Policy and Programming, Conclusions and Recommendations. Montreux, Switzerland. 6-8 March 2007. Geneva, Switzerland: WHO and UNAIDS. Available online at: http://www.who.int/hiv/pub/malecircumcision/research_implications/en/.



ABBREVIATIONS

AE	adverse event
HIV	human immunodeficiency virus
HPV	human papillomavirus
HTC	HIV testing and counseling
PEPFAR	U.S. President’s Emergency Plan for AIDS Relief
STI	sexually transmitted infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
VMMC	voluntary medical male circumcision
VMMC TWG	PEPFAR Voluntary Medical Male Circumcision Technical Working Group
WHO	World Health Organization



PEPFAR

U.S. President's Emergency Plan for AIDS Relief

Contact Info

D. Heather Watts, MD

Director, HIV Prevention and Community, Program Quality Team

Office of the Global AIDS Coordinator and Health Diplomacy

1800 G Street NW, Room 10300

Washington, DC 20006

Office: 202-663-2547

