



# DMPPT 2.0

## Prioritizing Voluntary Medical Male Circumcision Programs for Maximum Impact

Photo by Kevin Harber

### Determining the Effects of Circumcision on HIV Incidence

DMPPT 2.0 allows the user to...

- Model the effects of client age at circumcision
- Determine impact by geographic region
- Assess cost-effectiveness
- Generate program targets
- Track program progress and impact

The Decision Makers' Program Planning Tool (DMPPT) 2.0, prepared by the USAID- and PEPFAR-funded Health Policy Project (HPP), seeks to answer key strategic and programmatic questions about voluntary medical male circumcision (VMMC). The overarching goal of the model is to help VMMC program planners focus and prioritize their VMMC programs by client age group and subnational region. DMPPT 2.0 can determine the impact (HIV infections averted), cost per HIV infection averted, numbers of circumcisions needed (by age group), and cost savings of various targeting strategies, allowing for comparison of potential VMMC scale-up scenarios.

### How Does It Work?

DMPPT 2.0, a simple Excel-based model, uses local patterns of HIV incidence and circumcision prevalence by age, combined with VMMC efficacy data from clinical trials, to determine the effects of circumcision on HIV incidence. The model is first populated with exogenous estimates of population size, non-AIDS mortality, and HIV incidence (disaggregated by age and sex). It then calculates the effect of changing circumcision coverage on HIV incidence in each age group. DMPPT 2.0 traces circumcision and HIV status through time as men age and either become HIV positive or remain HIV negative. The model also includes secondary effects of circumcision on women.

Using a unit cost of VMMC specified by the user (which can vary by age depending on the cost of the procedure and the cost of recruiting new clients), the model calculates the discounted VMMC program costs and HIV infections averted of a user-specified scale-up strategy (for example, scale up to 80% coverage of men ages 15–49). These results are compared with a baseline scenario in which the male circumcision prevalence in each age group remains the same as it was prior to initiation of the VMMC program.

### What Can It Do?

By completing an application of the DMPPT 2.0 model, countries can examine the effects of client age and geographic region on the cost-effectiveness and impact of VMMC programs, as well as generate targets and track program progress and impact. DMPPT 2.0 country model applications have been conducted in Malawi, Tanzania, Swaziland, South Africa, and Uganda. Analyses employing the model have influenced country-specific decision making and the global PEPFAR policy. In PEPFAR's 2015 Country Operational Plan, guidance for VMMC was informed by results of the model's country applications. In Malawi, after an in-country exercise involving

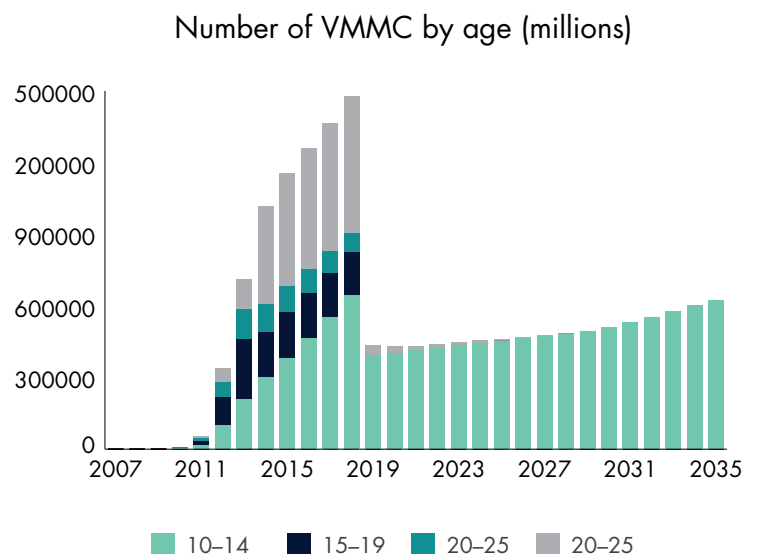
stakeholder input and discussion, targets generated by the model were incorporated into the 2014–2019 Malawi VMMC Strategy and Operational Plan. Similarly, stakeholders in Swaziland requested modeling support to inform national policy; the resulting targets, impact, cost, and cost-effectiveness estimates generated by the model were then incorporated into the Swaziland Male Circumcision Strategic and Operational Plan for HIV 2014–2018. In Uganda, South Africa, and Tanzania, country-specific modeling results are helping to influence policy and programming decisions, including informing each country’s operational and/or strategic plan for VMMC.

An updated version of the DMPPT model that allows users to more easily adjust the timeframe for evaluation is currently under development. This version—which is expected to be complete in late 2015—will also be converted into an easily accessible online tool. The model is not yet publicly available, but descriptions of DMPPT 2.0 and other software developed under HPP can be found at [www.healthpolicyproject.com/index.cfm?id=software&get=MaleCircumcision](http://www.healthpolicyproject.com/index.cfm?id=software&get=MaleCircumcision).

### Sample dashboard: VMMC scale-up scenario by age and annual targets by age based on that scenario

	Baseline MC Prevalence (%)	Target Coverage in 2018 (%)
EIMC*	17	17
10–14	23	80
15–19	22	80
20–24	29	80
25–29	28	80
30–34	26	80
35–39	26	80
40–44	22	80
45–49	22	80
50–54	22	80
55–59	22	80

\* Early infant male circumcision



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