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REFERENCE

Voluntary medical male circumcision

Steady progress in the scaleup of VMMC as an HIV prevention intervention in 15 eastern and southern African countries before the SARS-CoV2 pandemic

Introduction

Voluntary medical male circumcision (VMMC) is a one-time preventive measure that reduces by 60% the risk of heterosexual transmission of HIV from women to men, in settings of high HIV prevalence among the general population. VMMC impacts on the HIV epidemic in high-prevalence settings. VMMC services are provided as a package of prevention interventions in 15 eastern and southern African countries, including safer sex education, condom education and provision, HIV testing and linkages to care and treatment, and management of sexually transmitted infections.

Numbers of VMMCs performed each year in high-priority countries

In 2016 UNAIDS set global VMMC Fast-Track targets recommending 25 million additional men and boys accessing VMMC services by 2020, translating to about 5 million boys and men accessing or availing themselves of VMMC services per year. Table 1 shows the numbers of VMMCs in males aged 10 years and older conducted in high-priority countries since 2008. The past 4 years of implementation alone have contributed about 61% (15 million VMMCs) to the total cumulative VMMCs performed since the recommendation was issued.

Countries maintain pace on VMMC scaleup

There have been 13 years of good progress since VMMC was recommended in 2007 by UNAIDS and WHO as a key HIV prevention intervention in high-prevalence settings, particularly for countries in the eastern and southern Africa region. Nearly 27 million men and boys have accessed VMMC services in high-priority countries since then (Figure 1).

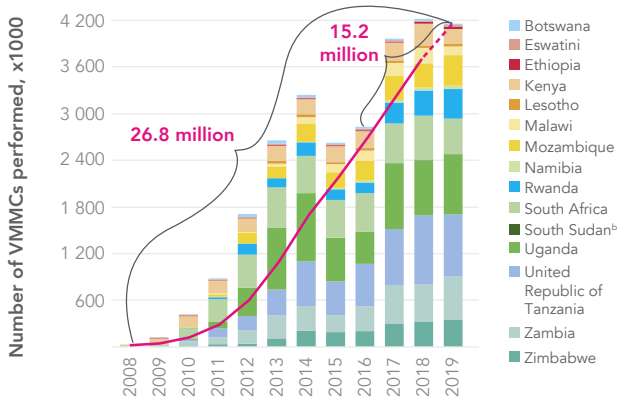
Table 1. Annual provision of voluntary medical male circumcisions (VMMCs) in 15 high-priority countries

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total 2016-2019	Total 2008-2020
Botswana	0	5 424	5 773	14 661	38 005	46 793	30 033	15 722	24 042	19 756	24 207	17 123	85 128	241 539
Eswatini	1 110	4 336	18 869	13 791	9 977	10 105	12 289	12 952	17 374	18 138	14 316	17 360	67 188	150 617
Ethiopia[a]	0	769	2 689	7 542	11 961	16 393	11 831	9 744	10 306	15 789	23 009	31 042	80 146	141 075
Kenya	11 663	80 719	139 905	159 196	151 517	190 580	193 576	207 014	219 086	233 879	286 899	191 863	931 727	2 065 897
Lesotho	0	0	0	0	10 835	37 655	36 245	25 966	34 157	25 150	26 448	34 144	119 899	230 600
Malawi	589	1 234	1 296	11 881	21 250	40 835	80 419	108 672	129 975	166 350	210 239	114 465	621 029	887 205
Mozambique	0	100	7 633	29 592	135 000	146 046	240 507	198 340	253 079	315 380	311 891	390 589	1 270 939	2 028 157
Namibia	0	224	1 763	6 123	4 863	1 182	4 165	17 388	27 340	30 134	34 942	40 868	133 284	168 992
Rwanda	0	0	1 694	25 000	138 711	116 029	173 191	138 216	137 218	264 973	327 904	382 223	1 112 318	1 705 159
South Africa	5 190	9 168	131 117	296 726	422 009	514 991	482 474	485 552	497 186	591 941	572 442	451 636	2 113 205	4 460 432
South Sudan[b]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 147	1 453	2 600	2 600
Uganda	0	0	21 072	77 756	368 490	801 678	878 109	556 546	411 459	847 633	619 082	768 882	2 647 056	5 350 707
United Republic of Tanzania	0	1 033	18 026	120 261	183 480	329 729	573 845	435 302	548 390	730 435	885 599	799 456	2 963 880	4 625 556
Zambia	2 758	17 180	61 911	85 151	173 992	294 466	315 168	222 481	311 792	483 816	482 183	549 655	1 827 446	3 000 553
Zimbabwe	0	2801	11 176	36 603	40 755	112 084	209 125	188 732	205 784	301 366	326 012	354 819	1 187 981	1 789 257
Total	**21 310**	**122 988**	**422 924**	**884 283**	**1 710 845**	**2 658 566**	**3 240 977**	**2 622 627**	**2 827 188**	**4 044 740**	**4 146 320**	**4 145 578**	**15 163 826**	**26 848 346**
Cumulative									**2 827 188**	**6 871 928**	**11 018 248**	**15 163 826**		

[a] Ethiopia's implementation of VMMCs is in the Gambela region.
[b] South Sudan has only recently initiated a pilot VMMC programme, and data were reported for the first time in 2018.

Source: 2020 Global AIDS Monitoring.

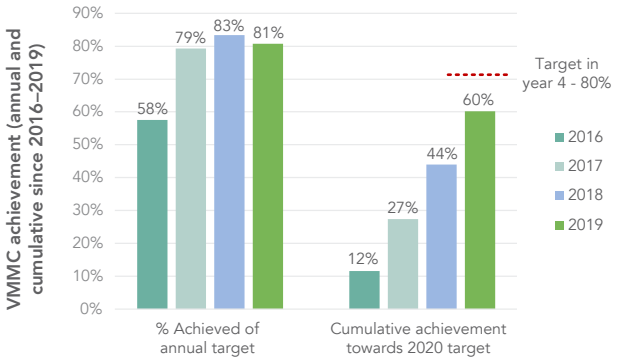
Figure 1. Annual and cumulative numbers of boys and men opting for voluntary medical male circumcision (VMMC) in 15 high-priority eastern and southern African countries, 2008–2018



[b] South Sudan has only recently initiated a pilot voluntary medical male circumcision programme, and data were reported for the first time in 2018.

Source: 2020 Global AIDS Monitoring.

Figure 2. Voluntary medical male circumcision (VMMC) progress towards annual targets and global 2020 target of 20 million VMMCs in 15 countries of eastern and southern Africa



Source: 2020 Global AIDS Monitoring.

The pace of scaleup has varied across high-priority countries. An increase in the annual number of men and boys opting for VMMC was observed from 2008 through 2018, with a slowdown only in 2015–2016. Although this progress in VMMC programme scaleup remains impressive, more intensified efforts are required to reach men at higher risk of HIV infection, especially in countries that are lagging behind.

VMMC scaleup has maintained progress over the past 4 years, achieving 58%, 79%, 83% and 80% of their annual recommended targets in 2016, 2017, 2018 and 2019, respectively. Cumulative performance towards the global target set in 2016 is 60%, falling short by 20% of an 80% figure in its fourth year for the 5-year target.

Global reporting on VMMC progress is improving, including age disaggregation

National VMMC programme monitoring and reporting is improving over time, including on age-disaggregated data, which is crucial for programming. In the 2018 reporting period, 84% (12/15) of high-priority countries reported on age-disaggregated VMMC data. About 84% of VMMCs conducted in 12 of the 15 countries in 2018 were among males aged 10–29 years. Although disparities exist across countries, a large proportion of VMMCs were among boys aged 10–14 years, an age group which recent WHO guidance (2020) no longer prioritises due to concerns regarding safety, and informed consent [1] (Figure 3).

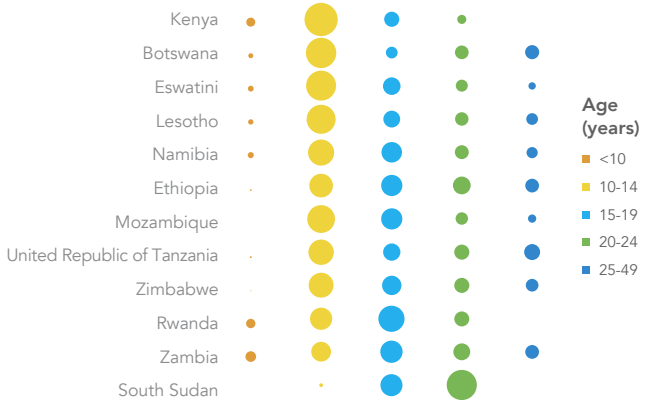
VMMC services and COVID-19

This progress brief focuses on data through 2019, and normally key messages would emanate from those data. The annual progress over time, and the more than 4 million VMMCs performed over the past few years, brought hope that the target for 2020 would be achieved. Unfortunately, due to the SARS-CoV2 pandemic, service delivery of this elective HIV prevention procedure was disrupted during 2020. As services resume, it will be important to ensure facility site readiness (including PPE) and a focus on males aged 15 years and older[2].

1 Preventing HIV through safe voluntary medical male circumcision for adolescent boys and men in generalized HIV epidemics: recommendations and key considerations. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO
2 WHO (2020) Maintaining essential health services: operational guidance for the COVID-19 context. Interim guidance, 1 June 2020.

A young man about to be circumcised at the Zola medical male clinic in South Africa, 2011. Credit: UNAIDS.

Figure 3. Proportion of men and boys accessing voluntary medical male circumcisions (VMMCs) by age group in 12 high-priority countries, 2018



Note: The size of the circle is proportional to the proportional contribution of that age band to the country's total number of VMMCs conducted that year. For 12 countries, data are shown only for 2019.

Source: 2019 Global AIDS Monitoring.

VMMC impact

From 2008 to 2019, 26.8 million men and boys accessed VMMC in 15 countries in sub-Saharan Africa. Using mathematical modelling we estimate this programme averted 340 000 (260 000–440 000) new HIV infections by 2019, including 260 000 infections among males and 75 000 among females (due to reduced secondary transmission from males). The future benefits will presumably be much larger since VMMC provides protection for life. We estimate that if men and boys stopped accessing VMMCs today, the number of HIV infections averted would still rise to about 1.8 million by 2030 and to 5.7 million by 2050, if coverage of other interventions remains constant. The actual benefits are likely to be larger as programmes continue to provide more men and boys with access to VMMC each year (unpublished data, Avernir Health, June 2020). In Rakai, Uganda, HIV incidence was reduced in circumcised men showing VMMC effectiveness which was sustained with increasing time from surgery and consistent with efficacy trials[3].

In areas with low population coverage of VMMC and a generalised HIV epidemic, the focus should be on providing services to sexually active adolescents 15 years and older and adult men at higher risk of HIV infection to make an immediate impact on HIV incidence. In areas where the prevalence of circumcision among sexually active men is already high, a focus on sustaining and expanding services for adolescent boys over 15 years is needed to maintain high coverage levels and reap other health benefits by reaching adolescent boys.

3 Loevinsohn G, Kigozi G, Kagaayi J, Wawer MJ, Nalugoda F, Chang LW, Quinn TC, Serwadda D, Reynolds SJ, Nelson L, Mills L, Alamo S, Nakigozi G, Kabuye G, Ssekubugu R, Tobian AAR, Gray RH, Grabowski MK. Effectiveness of Voluntary Medical Male Circumcision for HIV prevention in Rakai, Uganda. Clin Infect Dis. 2020 Oct 12:ciaa1533. doi: 10.1093/cid/ciaa1533. Epub ahead of print. PMID: 33043978.

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Global data have highlighted challenges in reaching desirable health outcomes for men in the HIV response. The VMMC programme is a good example of one service providing an entry point for a package of integrated health services that serve the needs of men and boys.

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