

RESEARCH BRIEF

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Background

Eastern and Southern Africa continue to bear the greatest burden of the global HIV epidemic. In response to clear evidence that voluntary medical male circumcision (VMMC) can reduce the risk of HIV transmission in heterosexual men by approximately 60%, numerous countries in Eastern and Southern Africa have initiated the scale-up of VMMC services for adolescent and adult males. To meet the demand, the international community has sought ways to increase the efficiency of VMMC service delivery while ensuring quality of service. This study, The Systematic Monitoring of the Voluntary Male Circumcision Scale-up (SYMMACS), was designed to assess VMMC scale-up in four priority countries: Kenya, South Africa, Tanzania, and Zimbabwe.

In 2010, an expert committee convened by the WHO outlined “considerations” or ways in which efficiency within VMMC programs could be improved, depending upon applicability in the local context, while ensuring safety. For the purposes of this study, practitioners working closely with the scale-up of VMMC in their localities identified six elements specifically related to surgical efficiency in high-volume settings.

SYSTEMATIC MONITORING OF THE VOLUNTARY MEDICAL MALE CIRCUMCISION SCALE-UP IN EASTERN AND SOUTHERN AFRICA (SYMMACS)

KEY FINDINGS

ADOPTION OF THE SIX ELEMENTS OF SURGICAL EFFICIENCY OF VMMC SERVICE DELIVERY

Results from data collection in 2011 and 2012 indicated that each of the four countries differed in their adoption of the WHO’s six elements for increasing surgical efficiency in voluntary medical male circumcision (VMMC).

1. South Africa, Tanzania, and Zimbabwe demonstrated optimizing the use of facility space, as measured by the presence of multiple bays in the operating theater during 2011 and 2012.
2. South Africa and Zimbabwe adopted the practice of using purchased pre-bundled supplies and disposable instruments during both years.
3. Kenya and Tanzania practiced task-shifting, or allowing well-trained clinicians who are not medical doctors to perform VMMC during both 2011 and 2012.
4. All four countries demonstrated task-sharing, or allowing non-physicians to conduct certain aspects of the procedure, during both years of data collection.

5. All four countries implemented the forceps-guided surgical method in the majority of cases during both years.
6. South Africa used electrocautery to stop bleeding instead of ligaturing sutures during both 2011 and 2012, and Zimbabwe demonstrated partial adoption of this method in 2011 and full adoption in 2012.

POSITIVE EVIDENCE ON QUALITY AND SAFETY OF VMMC SERVICES

SYMMACS showed that safe, high quality VMMC can be implemented and sustained at a larger scale, and demonstrated positive evidence across the countries on several points:

- VMMC sites in all four countries universally provided group education for HIV prevention.
- Kenya, Tanzania, and Zimbabwe achieved close to 100% HIV testing and counseling by 2012, whereas South Africa showed lower percentages, reportedly because clients were tested offsite and referred by these facilities for VMMC.



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- Quality scores for the surgical portions of the VMMC package was universally high in all four countries
- The percentage of sites with a functioning information system increased between 2011 and 2012.

Areas for improvement of VMMC services (in two or more countries)

- Systems for registering adverse events were inadequate.
- Sites often lacked post-exposure prophylaxis (PEP) and guidelines for administering it onsite.
- There were occasional lapses in the correct technique used in tying surgical knots. There was also room for improvement in the correct maintenance of the surgical field during surgery. Providers tended not to follow the WHO guidance on a post-operative review of vital signs and use of protective eye gear.

Areas for improvement of VMMC services

- The total elapsed operating time for VMMC procedures averaged 23-25 minutes across the four countries and two years, excluding outliers.
- SYMMACS also yielded data on the median time spent by the primary provider with the client, which is particularly important in countries such as South Africa and Zimbabwe that do not authorize other clinical providers to perform VMMC.
- The findings clearly demonstrated that task-sharing on suturing and use of electrocautery reduced the total elapsed operating time as well as the median time spent by the primary provider with clients in South Africa and Zimbabwe.

SYMMACS AIMED TO

1. Track the implementation of services and adoption of efficiency elements amidst rapid expansion of program sites and client loads;
2. Monitor quality and safety in the evolving VMMC programs in each country; and
3. Determine the elements of efficiency most closely related with increased productivity.

SIX ELEMENTS SPECIFICALLY RELATED TO SURGICAL EFFICIENCY IN HIGH-VOLUME SETTINGS

- Optimizing the use of facility space
- Pre-bundling of supplies and instruments
- Task-shifting (allowing well-trained clinicians who are not medical doctors, labeled herein as “other clinical providers,” to perform VMMC)
- Task-sharing (allowing other clinical providers to conduct certain aspects of the procedure)
- Use of electrocautery/diathermy instead of ligaturing sutures
- Use of the forceps guided surgical method absence of efficiency elements at the site, and related data

RECOMMENDATIONS

Results from the SYMMACS evaluation revealed certain areas in need of improvement VMMC programs in the four target countries. VMMC programs should consider the following recommendations:

Adoption of efficiency elements

- Work toward change in the national policy in South Africa and Zimbabwe that currently prohibits task-shifting.
- Provide more systematic training of other clinical providers to assist in various aspects of the procedure (e.g., administering local anaesthesia and completing interrupted sutures).
- Consider expanding the use of electrocautery in Kenya and Tanzania, if appropriate given local conditions.
- Encourage the more widespread use of purchased pre-bundled kits with disposable instruments in Kenya and Tanzania.

Adoption of efficiency elements

Findings highlighted the importance of ongoing monitoring, evaluation, and quality assurance for these programs, specifically:

- Effective monitoring and reporting of adverse events: Train personnel in the use of consistent definitions to classify adverse events; improve staff performance in consistently screening for, recording, and reporting adverse events, especially severe adverse events; and provide external monitoring of this process.
- Supervision: Establish a system of regular supervisory visits to each VMMC site, including supervision of adverse events registration.

- Training: In training of primary providers, place particular emphasis on techniques or steps that caused difficulty to some providers in some countries, such as:
 - Currently identifying skin to be excised
 - Safe administration of local anesthesia
 - Using the correct technique to tie the surgical knot
 - Correctly aligning the frenulum and placing the secure mattress suture.
 - Protocols and guidelines: Ensure that key guidelines are available at or near operating theatre.

CONCLUSION

The SYMMACS study included the in-depth examination and documentation of the actual implementation of VMMC service delivery over a two-year period in key countries. Results offer insight into common trends across countries as well as country-specific strengths and weaknesses. SYMMACS is the first study to provide data on the implementation of VMMC programs and adoption of elements of surgical efficiency. Findings have already had demonstrable effects including a policy change on task-shifting in Zimbabwe, a review of the monitoring system for adverse events specifically and M&E and QA generally in South Africa, a shift towards increased use of commercially bundled VMMC kits in Tanzania, and policy dialogue on improving VMMC service delivery in Kenya.

STUDY METHODS & DESIGN

The SYMMACS study consisted of two rounds of cross-sectional data collection during 2011 and 2012. Seventy-three VMMC facilities were selected for assessment across the four countries in 2011, and 122 in 2012 (sampling was designed to accommodate new facilities that became operational in 2012).

Data was collected during two-day visits to each VMMC site, supplemented by data from existing health information systems. Data were collected using four instruments:

- A quality-assessment of the VMMC site (a shortened version of the WHO assessment tool for this purpose)
- Observation of up to 10 VMMC procedures per site, including timing of each operation
- Interviews with the primary and secondary VMMC service providers
- Compilation of monthly data on number of operations, rate of adverse events, presence/absence of efficiency elements at the site, and related data

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