VMMC CQI and EQA Toolkit

This toolkit was designed for voluntary medical male circumcision (VMMC) program managers, supervisors, providers, and implementing partners, to guide efforts to improve the quality of VMMC services through continuous quality improvement (CQI) and external quality assessment (EQA). The toolkit is divided into eight sections:

1. **Introduction [1]**: This section highlights key quality issues in VMMC programming, describes how quality assurance and quality improvement approaches are applied to improve VMMC program effectiveness and efficiency, and summarizes results from applying CQI in PEPFAR-supported VMMC programs.

2. **Stages in VMMC CQI Roll-out [2]**: This section explains the process of introducing CQI into a VMMC program. Twelve discrete stages of developing and rolling out CQI in VMMC programs are described.

3. **External Quality Assessment [3]**: This section describes the EQA process and explains the tools used in US Government-led VMMC external quality assessments.

4. **Addressing Key VMMC Quality Issues [4]**: Experience with improving VMMC services led to the identification of critical patient safety issues as well as other program issues that lend themselves to CQI. This section describes such issues and points to specific resources to address them.

5. **Tools [5]**: Tools developed by the USAID ASSIST Project and others to support CQI in VMMC programs are grouped in this section for easy access.

6. **Change Ideas and Common Solutions [6]**: This section draws on the experience of over two hundred QI teams to offer tested change ideas for common problems encountered in meeting VMMC quality standards.

7. **Case Studies, Articles & Reports [7]**: This section includes descriptive reports about applications of CQI to VMMC as well as links to peer-reviewed journal articles related to VMMC CQI and EQA.

8. **Multimedia [8]**: This section presents video clips, webinar recordings, and conference presentations related to VMMC CQI and EQA.

The right-hand navigational tabs on each page of this toolkit may be used to navigate between sections. The "Home" link returns you to this page. The "About [9]" link takes you to information on how this toolkit was developed. The "All Resources [10]" link takes you to a page where all of the resources included in this toolkit can be accessed.

**Introduction**

This section highlights key quality issues in VMMC programming [11], describes how quality assurance and quality improvement approaches [12] are applied to improve VMMC program effectiveness and efficiency, and summarizes results [13] from applying CQI in PEPFAR-supported VMMC programs.

**Addressing quality in VMMC programming**

Since 2007, the World Health Organization (WHO) and United National Programme on AIDS (UNAIDS)
have recommended that voluntary medical male circumcision (VMMC) services be adopted as part of comprehensive HIV prevention in countries with a generalized epidemic. Similarly, the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) cites VMMC as one of the core biomedical prevention interventions to achieve an AIDS-free generation.

With the expansion of VMMC programs, the importance of addressing quality issues affecting patient safety and outcomes has also gained greater attention. These quality issues cut across the continuum of VMMC services, including demand creation, counseling and client communications, supply logistics, staff competency, infection prevention, surgical procedure, waste management, referral and linkages to care and treatment, client follow-up, and management of adverse events.

As part of comprehensive VMMC services, the WHO has sought to address quality through the development of detailed service standards and assuring the competence of VMMC service providers through training and supervision. WHO’s Male Circumcision Quality Assurance Guide [14], published in 2008, outlined steps for improving VMMC quality by assessing compliance with 10 male circumcision standards and encouraging the development of site-level improvement teams to implement interventions to improve quality.

PEPFAR has also recommended both internal and external quality assurance activities as part of its best practices for site operations [15], including continuous quality improvement activities, internal supervision, periodic external supervision, and external quality assessment. Initially, PEPFAR emphasized quality assurance approaches such as external quality assessment (EQA) and input-driven measures such as training and provision of guideline as its major quality strategies for VMMC.

And yet, even with competency-based training of health care providers and evidence-based standards and guidelines, VMMC services, like other health services, often fail to meet standards in practice. This situation is largely because standards and training alone simply address the inputs to health care, without necessarily leading to quality in the processes of care delivery. Experience over the past 20 years with health care quality improvement has demonstrated that addressing only inputs (e.g., standards, training) without attention to service delivery processes has not yielded strong results. Another way to think about improving quality of care is that assessments identify gaps but do not necessarily provide a strong mechanism for addressing the gaps—other actions are needed that go beyond assessments.

For this reason, PEPFAR has turned to continuous quality improvement or CQI to provide a strong engine for improving the quality of VMMC services. CQI is the combined and ongoing efforts of stakeholders in the health system to make changes that lead to better patient outcomes and better system performance. Health system stakeholders include health care providers, site managers, patients, civil society organizations, and implementing partners. CQI is led by teams of health workers who are empowered to use tools such as process analysis and self-assessment against standards to define priorities for improvement based on gaps identified, develop and test changes to close gaps, and monitor results using pre-defined quality indicators.

The next section of the VMMC CQI toolkit examines the differences between quality assurance (QA) and quality improvement (QI) approaches and discusses how both have an important role to play in assuring high-quality performance in VMMC programs.

**QA vs. QI: The role of continuous quality improvement**

As described in the PEPFAR Quality Strategy [16], quality assurance (QA) is an approach to assuring that service delivery sites meet minimum standards through regulatory approaches such as accreditation which are based on the application of explicit standards of care and external quality assessment (EQA) to measure the extent of compliance to these standards, often conducted by independent individuals or organizations using standard tools. Both EQA [3] and Site Improvement...
Through Monitoring Systems (SiMS) are examples of QA approaches.

Quality improvement (QI) is the process of collecting and using valid data to:

- understand the current level of quality (defined by compliance with standards of care),
- identify gaps between actual quality and expected quality for that setting
- introduce changes in the care system (affecting inputs and processes of care), and
- frequently measuring the effect of those changes on health outcomes and system performance.

QI approaches include ad hoc team-based problem solving, performance improvement, collaborative improvement, and continuous quality improvement (CQI), which embeds the improvement process in the routine delivery of services.

CQI engages frontline health care providers and site managers in an ongoing process of comparing their own performance against standards and figuring out what they can do to meet those standards by introducing changes in care processes and monitoring the results in a continuous cycle of assessment and action.

Implementation of and support for CQI involves forming a team at the site level to do the improvement work, training in CQI and in the use of tools, regular assessment using these tools, and ongoing coaching and mentoring support, and sharing of learning across teams. Most importantly, CQI engages site-level.

In CQI, changes introduced address both what is done (content of care) and how it is done (process of care). This paradigm for improvement makes organizations more efficient and able to provide quality care with increased access and decreased waste, often at lower cost.

**QA and QI for VMMC**

QA and QI approaches are mutually reinforcing to lead to better quality services. QA approaches like EQA and SiMS seek to ensure that the PEPFAR VMMC programs for HIV prevention are conducted according to recommended national policies and guidelines, WHO guidelines, and PEPFAR policy directives and technical considerations and to provide feedback regarding the quality of specific service delivery elements.

Whereas EQA is a periodic formal assessment carried out typically by outside experts to identify performance gaps against a set standard, CQI is an ongoing process, structured but potentially less formal, carried out by site-level staff to identify inadequate performance against either defined standards or their own insights and then take concrete actions to achieve improvement.

PEPFAR EQA assessments place additional emphasis on program efficiency and productivity and ability to meet impact targets. CQI helps sites to introduce changes to improve quality, efficiency, and productivity and thus strongly complements EQA and SiMS.

**Results from applying CQI to VMMC**

PEPFAR has supported the application of CQI to VMMC programs since 2013, beginning with a pilot activity in Uganda [17] with 30 sites supported by 10 different implementing partners. An improvement team was formed in each site and supported with monthly coaching visits by the USAID ASSIST Project and the implementing partner. When these 30 sites started improvement work in March and April 2013, their baseline assessments showed various quality gaps and areas where performance was below 50% compliance. A color-coded dashboard was used to summarize results for each area, where red showed performance was below 50%; yellow showed performance at
Through consistent work on finding ways to improve in each of the seven areas, after 18 months, all
30 sites had consistently demonstrated performance in green (good) or yellow (needs some
improvement) across all standards; none of the ASSIST-supported sites still had a standard classified
as red (poor).

CQI is supporting VMMC sites to address a whole range of critical issues. Sites in Uganda have
dramatically increased the proportion of HIV-positives identified in VMMC who are linked to care and
treatment as well as mitigation of tetanus risk through integrating tetanus toxoid immunization in
VMMC services. In South Africa, sites have applied CQI to improve coordination with local health
authorities, data quality, client follow-up, and the management of adverse events. CQI-supported
sites in Malawi have made steady gains in increasing 48-hour post-operative review. In both South
Africa and Namibia, CQI is being applied with private VMMC providers in addition to public sites
operated by the Department of Health and PEPFAR implementing partners. In Tanzania, in addition
to applications to adult VMMC services, CQI is helping to integrate early infant male circumcision into
Reproductive and Child Health clinics.

Stages in VMMC CQI Roll-out

Experience applying CQI in VMMC programs in eight countries has identified 12 stages of
incorporating CQI in VMMC programs:

1. Engage stakeholders [19]
2. Adapt standards and tools [20]
3. Plan the CQI baseline assessment [21]
4. Conduct the CQI baseline assessment, give feedback, and develop action plans [22]
5. Form CQI teams [23]
6. Provide training in CQI [24]
7. Test changes at the site level [25]
8. Provide coaching support [26]
9. Conduct CQI re-assessments [27]
10. Share learning [28]
11. Coordinate with stakeholders  [29]  
12. Sustain high-quality care  [30]

Click on the name of each stage or use the section tabs at right to read more about each stage. Some programs may move quickly through certain stages if VMMC quality standards already exist that are endorsed by stakeholders or if VMMC sites have had previous experience with quality improvement.

Ideally, CQI processes should be built into VMMC programs from their inception. But it is never too late to incorporate CQI into a program; CQI can be introduced at any stage of a VMMC program’s development or a VMMC site’s involvement in delivering VMMC services.

### 1. Engage stakeholders

CQI is rooted in evidence-based standards. National-level stakeholders for VMMC, led by the Ministry of Health, must first agree on the VMMC standards and tools which are supported through CQI. The process of stakeholder engagement may happen relatively quickly if a national VMMC technical working group already exists. Such a technical working group should include representation of key MOH departments, service providers, international technical agencies, and implementing partners.

**Why stakeholder engagement is important:** All relevant stakeholders need to come to agreement about how to measure the quality of VMMC services and understand the tools and processes for CQI roll-out so that they feel ownership for the results. Because not all stakeholders may be familiar with the CQI approach, the stakeholder engagement process may also need to include discussion of results from applying CQI to VMMC in other countries, how the CQI approach relates to other QA and QI methods that have been applied in the country, and the selection of sites where the CQI approach will be introduced.

### 2. Adapt standards and tools

The [WHO Male Circumcision Quality Assurance Guide](https://www.who.int/reproductivehealth/publications/immunization-circumcision-quality-assurance-guide/en/) defines 10 standards for male circumcision which have served as the basis for the development of national VMMC standards in many countries:

1. An effective management system is established to oversee the provision of male circumcision services.
2. A minimum package of male circumcision services is provided.
3. The facility has the necessary medicines, supplies, equipment and environment for providing safe male circumcision services of good quality.
4. Providers are qualified and competent.
5. Clients are provided with information and education on HIV prevention and male circumcision.
6. Assessments are performed to determine the condition of clients.
7. Male circumcision surgical care is delivered according to evidence-based guidelines.
8. Infection prevention and control measures are practiced.
9. Continuity of care is provided.
10. A system for monitoring and evaluation is established.

WHO also developed a [Male Circumcision Services Quality Assessment Tool](http://www.who.int/reproductivehealth/publications/immunization-circumcision-quality-assessment-tool/en/), with 36 verification criteria assessed through some 134 questions to measure a site’s compliance with the 10 standards. The WHO VMMC assessment tool has been the basis for the development of national VMMC assessment tools in many countries.
In Uganda, the Ministry of Health developed its own Safe Male Circumcision (SMC) Quality Standards tool, drawing on the WHO tool but adapting criteria to the context of Uganda. The MOH identified the need to adapt the WHO tool to national policies and standards. A small team led by the MOH and including USAID ASSIST and implementing partner staff reviewed the WHO tool, section by section, to harmonize it with existing national guidelines and adjust certain verification criteria to the Uganda context. Several meetings were convened by the MOH, involving service providers, MOH departments, and implementing partners, to gain feedback on the tool. The Uganda Quality Improvement Assessment Tool for SMC covers seven areas, encompassing 153 standards. The seven areas are:

- Area 1: Management Systems – 10 standards
- Area 2: Supplies, Equipment and Environment – 6 standards
- Area 3: Registration, Group Education and IEC – 4 standards
- Area 4: Individual Counseling and HIV Testing for MC Clients – 6 standards
- Area 5: Male Circumcision Surgical Procedure – 10 standards
- Area 6: Monitoring and Evaluation – 4 standards
- Area 7: Infection prevention – 11 standards

The adapted tool was piloted at five sites to verify usability and ensure that the tool when applied yielded the desired information.

When CQI activities for VMMC were initiated in South Africa in 2014, detailed national VMMC standards existed but there was not a nationally accepted CQI assessment tool. The WHO VMMC quality assessment tool and the Uganda VMMC CQI assessment tool were reviewed as examples, but an important aspect of VMMC program was deemed missing: leadership and planning. The South Africa CQI assessment tool added an eighth standard (Leadership and Planning) to address how well a VMMC site coordinated its activities with district and provincial Department of Health authorities. This adaptation was important to address a recognized weakness in how PEPFAR-funded VMMC programs had been functioning.

VMMC CQI assessment tools developed by the Ministries of Health in Tanzania and Malawi also drew on both the WHO VMMC quality assessment tool and the Uganda VMMC CQI assessment tool, as did the CQI assessment tool developed by ASSIST for use in Namibia.

**Why local adaptation is needed:** Local review, adaptation, and pilot testing of any assessment tool by national authorities and stakeholders is necessary to align it with national policies, ensure local ownership of the tool, and adapt it to the local VMMC program context. In Uganda, the tool adaptation process took approximately eight months to ensure that all stakeholders understood and felt comfortable with the tool. The participatory approach adopted proved useful during the later national roll-out of the tool, since all implementing partners had been involved in the initial application of the tool. In South Africa, a section was added to ensure that the CQI assessment tool addressed an area deemed important for successful VMMC program performance in the country.

### 3. Plan the CQI baseline assessment

This step involves planning the start-up of CQI and selection of sites to begin the CQI process. If resources allow, starting all sites in a CQI process at the same time is preferable to gradual spread across regions or implementing partners. In Uganda, CQI assessments were initially done in only 30 of the over 150 USAID-supported sites providing VMMC services, while in South Africa, baseline assessments were conducted in 127 out of 160 PEPFAR-supported sites over a four-month period.

Planning for CQI baseline assessments also involves scheduling the site visits, securing the availability of national and/or district MOH staff and implementing partner staff (if applicable) to...
participate in the baseline assessment, and training of assessors in the use of the CQI assessment tool. Such training might involve a practice visit to a VMMC site or simply a thorough review and group discussion of each section of the tool, to ensure that all assessors have the same understanding of the assessment criteria.

It is also helpful to gather basic information about each VMMC site that will be supported through CQI, such as a current volume of circumcisions, days when circumcisions are performed, and number of staff engaged in VMMC services. The PEPFAR EQA site characteristics tool provides a useful template for recording basic information about each site.

Finally, planning the CQI baseline assessment also involves setting up the system for supporting CQI—determining who will serve as coaches and mentors to site teams as they work on improving VMMC services. Experience has shown the regular visits from an improvement coach (who may be from the district health office or implementing partner) help to increase the pace of action and improvement.

**Why planning facilitates the baseline assessment**: Providing advance notice of the assessment to district health management teams, implementing partners, and VMMC sites is important to gain buy-in for and secure their active participation in the CQI process. Contrary to popular belief, CQI baseline assessments that are scheduled with notice yield more accurate data, since the gaps identified when sites know they are going to be assessed are more likely to represent persistent problems for the site.

Information on site characteristics, such as volume of circumcisions provided and days of operation, is also helpful for planning the baseline CQI assessment since sites with a larger number of providers may take longer to assess.

“In Malawi, one of the things we learned that we should have done from the start was engaging the implementing partners in performing assessments of their own sites. We thought at the beginning that it would not be a good idea, that it would lead to some bias, but, in reality what we found is that having the partners participate in the assessment process made them understand what gaps really existed in their sites. Not involving them led to them not understanding what the process is and what the scores mean. Later on when we involved the partner quality assurance managers in the assessments, we found a lot more receptivity to the findings and greater understanding of what the gaps were. I would definitely recommend that other countries build in the participation of implementing partners in the baseline assessments.” -- Tiwonge Moyo, ASSIST Chief of Party, Malawi

### 4. Conduct the assessment, give feedback, and develop an action plan

The CQI assessment tool is usually applied by a team of 3-4 individuals, including clinicians knowledgeable about surgical circumcision, and may take 2-3 hours to complete. The assessment team must include a staff member from the VMMC unit being assessed and ideally includes a representative of the implementing partner, a representative from the Ministry of Health, and the CQI partner.

In Uganda, ASSIST-led CQI assessments often use pairs of assessors working in parallel with paper copies of the MOH CQI assessment tool. After completing their observations, the pairs would copy the other team’s observations into their assessment tool in order to create two identical copies of the completed assessment, allowing for one copy to be left with the site. They also leave the site with an SMC MOH Standards Assessment Scorecard, which is a one page summary of the overall score for each of the seven VMMC standards used in Uganda, with comments written in about the main actions needed in each standards area. An action plan to address the weaknesses and issues identified in the assessment is usually developed during the CQI assessment visit.
In South Africa, CQI assessors input data into an electronic version of the CQI assessment tool and use a portable printer to print out the summary results for the assessed site.

An important part of the assessment is to provide immediate feedback to the site staff about the main strengths and weaknesses of the site with respect to compliance with national VMMC standards. Sometimes this feedback is given immediately after the procedure if it will benefit the next client. This feedback and the specific findings of the assessment are then discussed by the site team and implementing partner. Together they develop an action plan which identifies all actions to be taken, who is responsible, and by when.

In Uganda, the action plan is usually developed during the CQI assessment visit. In South Africa, a separate meeting is often scheduled a few days after the CQI assessment. In some instances, after providing feedback, all parties involved list identified gaps on the action plan matrix and then classify gaps as those needing internal resolution by the site team or external support by mentors/coaches to allow site to test changes within their control while awaiting CQI support.

**Why the CQI baseline and action plan are important:** The CQI baseline is the first assessment conducted at a site and serves as the starting point for improvement efforts. The same tool is used for baseline and subsequent re-assessments, providing an objective and consistent measure of improvement. The CQI baseline assessment is ideally conducted at a time when clients are being circumcised to allow the assessment to include client counseling and surgical procedure. Performing the CQI assessment when clients are not present limits the scope and value of the assessment.

It is helpful if the assessor team meets first with the entire VMMC unit staff to explain how the assessment will work and to reinforce that the findings of the CQI assessment will help the site understand where its quality gaps lie and will not be used in a punitive way. After the assessment, the assessor team needs to assemble the entire VMMC staff again for feedback on the findings.

The action plan developed after the assessment should summarize the key gaps, actions to be taken, and responsibilities of all involved parties to help bridge the gaps and lay out actions in a feasible time frame. Care should be taken to avoid very tight deadlines that are not realistic, but at the same time ensuring that each gap is addressed with the urgency it deserves, especially any gaps related to patient safety and emergency preparedness.

### 5. Form CQI teams

Having an improvement team at the health unit is vital to lead VMMC improvement work. Experience has shown that facilities which have functional CQI teams showed faster improvement compared to facilities that did not have teams to spearhead improvement.

The CQI team is made up of staff from the site who implement the action plan and assume responsibility for ongoing improvements to VMMC services, including collecting and analyzing data on the site’s performance. Team members of the CQI team should include all cadres of staff involved in the delivery of VMMC services, including clinicians, counselors, cleaners, assistants, and data managers. The site manager usually designates team members. In large facilities, CQI teams may include 5-10 members; more members than that can inhibit the team’s ability to perform its functions.

A team leader is helpful to ensure that the team functions effectively and that all members contribute. The CQI team leader should have good interpersonal skills and leadership qualities, such as organization, planning, and effective communication. The CQI team leader does not necessarily have to be the VMMC in-charge at the site. Often, the site manager appoints a staff member with the necessary organizational and communication skills to act as CQI team leader.

The main responsibilities of the CQI team are to identify and prioritize gaps in the quality of VMMC
services, implement changes to address the gaps, review performance data to determine if changes are resolving the gaps, and decide what to improve next. CQI teams need to meet regularly (such as every week) to plan changes, review results, and decide on next steps. Uganda’s National Quality Improvement Framework outlines roles and responsibilities for facility-based quality improvement teams.

If a site already has an active quality improvement team, it may make sense to involve that team in VMMC CQI, as long as the team can be expanded to include VMMC staff. If a new VMMC CQI team needs to be formed, the site’s existing quality team should provide internal CQI coaching support to the VMMC improvement team.

**Why CQI team composition is important:** Having representation on the CQI team of staff from all the processes that form part of VMMC service delivery is important to ensure that the people who are most familiar with each process participate in analyzing process problems and possible solutions. For example, staff who handle cleaning or waste management are best positioned to help figure out how the waste management process can be streamlined or made more reliable.

While the site manager does not necessarily have to be a member of the CQI team, the team should meet regularly with the site manager and/or district focal point to keep them informed of the team’s progress and to enlist their help in addressing issues that require decisions above the site level to resolve.

### 6. Provide training in CQI

Depending on the improvement experience and capacity of the VMMC CQI team, formal CQI training may be needed to build the team competence in quality improvement methodology. Key competencies needed by VMMC CQI teams include the following:

- Forming a functional improvement team
- Analyzing the current system of VMMC care
- Developing improvement aims based on the gaps identified
- Developing and testing changes to improve VMMC performance using the Plan-Do-Study-Act cycle
- Measuring, interpreting, and documenting results, including calculating VMMC quality indicators and plotting time series charts

Initial CQI training usually consists of a two- or three-day classroom training followed by onsite coaching to help learners apply their new knowledge and skills.

Existing eLearning courses on health care quality improvement can provide general orientation to CQI, including the Global Health eLearning Center course, “Improving health care quality” [32] and the ASSIST website course, “Improving health care.” [33] A VMMC Quality Assurance and Quality Improvement (QA/QI) module is in development for the VMMC Online Training Hub hosted by AIDSFree.

Short guides to help health workers and coaches understand key concepts and skills in learning improvement are also available on the ASSIST website: Tips and Tools for Learning Improvement.

**Why CQI training is helpful:** While the tools used in CQI are not complicated, frontline providers do need some orientation to quality improvement methods and principles to feel confident in their efforts to improve. While this orientation can be provided on site by the improvement coach, ASSIST has found it useful to provide formal CQI training to at least a few members of the site-level CQI team, followed up by on-site coaching.
7. Test changes at the site level

Site-level testing of changes to improve care is the heart of CQI. A useful framework for thinking about how to approach making changes in service delivery processes is the Model for Improvement, developed by Associates in Process Improvement [34]. The Model for Improvement is a simple series of steps for learning about a health care system or set of processes to identify gaps or weaknesses, develop measurable improvement aims, identify changes that can be introduced to improve the care processes, and then test those changes on a small scale using the Plan-Do-Study-Act (PDSA) cycle.

[Image: model_for_improvement.jpg]

The first step is to analyze the current performance of the system of VMMC care. The baseline CQI assessment is an important source of information about specific VMMC processes that have performance deficiencies.

Facility leadership and the CQI team should prioritize one problem or gap to begin with. The CQI team next develops its improvement aim for solving the problem, using SMART criteria [36]: Specific, Measurable, Achievable, Relevant, Time-bound. The improvement aim statement describes the numerical gains for improvement, the time period in which the improvement will be achieved, and gives some idea of how the aim will be achieved, to provide guidance for the development of change ideas to test in order to reach the aim. The aim statement also indicates how the CQI team will
evaluate the changes it tests by defining the numerical measure of improvement. The CQI team confirms what measure (indicator) will tell them whether they have made improvement. This will usually be a measure used in the assessment process.

Creating a process map or flowchart of how VMMC services are actually delivered can be another useful starting point to identify weak points or missing steps and places where the coordination or handoffs between health workers falter. Teams should note the clinical content which is provided and compare that to clinical guidelines to identify any missing or incorrect clinical practices. It is important that the flowchart reflect the reality of how care is delivered based on real circumstances to understand where barriers or problems are, not simply be a reiteration of how it is supposed to be delivered according to guidelines.

Once specific gaps and weak areas in the process are identified, it is often necessary to set priorities among them. Trying to solve too many problems at once can overwhelm a CQI team. A new team might try to first solve a simple problem to gain experience and confidence before tackling more complicated problems. Selecting the initial problem on which to focus improvement efforts can be done by voting, a decision matrix, or by using some objective criteria, such as a low CQI baseline assessment score.

Once the focus problem area is chosen, a variety of cause-and-effect analysis tools, like fishbone diagrams and 5-Whys analysis, are useful to identify the root causes of the problem. Understanding root causes helps the team identify possible solutions to address the underlying causes of performance gaps and understand what improvements should be possible.

The team then develops ideas to test to improve VMMC performance using the Plan-Do-Study-Act (PDSA) cycle. Brainstorming is frequently used by CQI teams to come up with change ideas. Benchmarking—looking at how others addressed the problem—is another strategy, such as visiting other VMMC sites that perform well in the site’s priority problem area to find out how they do it. The Change Ideas and Common Solutions section of this toolkit provides proven changes which can be benchmarked and adapted to a CQI team’s context. The CQI team should ask themselves, “Does this change address the root causes we uncovered?”

Once change ideas have been selected, the team can organize a test of each change. The PDSA cycle is a simple process to follow to test out and adapt a change to a particular setting. Plan involves deciding what needs to be done, who needs to do it, how and when they will do it, and what they predict will happen. In addition, the team needs to think through what information and data they will need to learn from this test—how they will know if the test worked? For example, will they use quantitative data (e.g., How many patients did this work for? How long did it take?) or qualitative information (e.g., team members’ observations about processes: What was successful? What wasn’t successful?), or both? It is important to note that the measures that reflect whether a small test worked may not be the same as the measure which tells the team whether they are meeting their aim.

To test the proposed solution (Do), a team needs to carry out the planned activities and record what happened. Many CQI teams use a team documentation journal to record its aim and tests of change, plotting results on a time series graph and annotating the line graph to show when each change was introduced. Team members need to document what worked and what did not work during the testing process.

Next, Study the results. During this step, the team will decide whether the solution they tested had the desired results. Here, the team needs to ask, What did we learn from this test? Was the change successful?

Finally, the team must Act: Based on what was learned from the test, the team decides what action to take. Did the change solve the problem? Should another change be tested? Not every solution that is tested is then adopted. Sometimes, a change needs to be modified and then tested again. If the test did not show improvement, the change idea is abandoned and a different change is tested.

Through repeated tests of change, all the while continuing to measure, interpret, and document its
results, a CQI team works through the identified problem areas.

**Moving on to tackle key VMMC care processes**

After a CQI team has made gains in the VMMC standards areas where baseline assessments showed weaknesses, the team may move on to address other key processes, such as HIV testing and counseling, STI assessment, management of adverse events, and post-procedure follow-up. Testing changes to improve these processes requires tracking patient-level indicators:

- Proportion of VMMC clients counseled and tested for HIV
- Proportion of VMMC clients assessed for sexually transmitted infections (STIs)
- Proportion of VMMC clients with signed consent
- Proportion of circumcised clients that experience moderate to severe adverse events
- Proportion of circumcised clients that return within 48 hours post-operation
- Proportion of circumcised clients that return within 7 days for follow-up
- Proportion of circumcised clients that return after 6 weeks

In Uganda, CQI teams use a data tool (downloadable below) to collect the information needed to calculate these patient-level indicators from VMMC registers. Teams use the Ministry of Health documentation journal for QI teams [41] to record changes tested and results for each indicator.

**Why site-level testing of changes is important:** Making change is the fundamental concept of improvement: in order to improve and get a better result, you must change something. If a system is not changed, it can only be expected to continue to achieve the same results it produces now.

Site-level testing, on a small scale, is important for two reasons: First, site staff are the best positioned to see what can be changed in their care system. Second, by testing out an idea with a quick test on a small scale (i.e., with one or a few patients or for a short time), a CQI team can determine whether the change made led to improvement and if there are any potential negative effects that need to be mitigated before making the change permanent. Testing out the change with staff involved in the process can help reduce resistance to new ways of doing things.

**8. Provide coaching support**

Coaching for quality improvement involves a range of activities to help CQI teams understand and apply quality improvement methodology. Coaching is done by a quality improvement expert with specialized skills who may be from the district management team, an implementing partner, another part of the facility, or from a different facility with more CQI experience. A quality improvement coach typically offers on-site technical assistance related to the practical application of quality improvement knowledge and tools.

Activities involved in coaching include:

- Building trust and understanding the context in which a facility/team operates
- Forming a CQI team and establishing a positive team climate
- Measuring performance using established standards and assessment tools
- Helping the team identify and analyze service gaps and challenges and prioritize them for improvement
- Supporting the development of action plans and identification of responsibilities for carrying out the plans
- Introducing and demonstrating tools for documenting changes tested and results from tested changes
- Sharing successful change ideas that other sites have identified
• Advocating for resolution of larger system issues, such as supply chain or waste disposal
• Transferring knowledge and skills for implementing and sustaining quality improvement

The ASSIST teams in Uganda and South Africa created general coaching guides for VMMC CQI coaches (downloadable below).

Training in CQI is also important for coaches, who need basic CQI training as well as additional training in the use of coaching and data analysis tools. The ASSIST website also offers several short training modules on approaches to supporting teams [42]. HEALTHQUAL International has also produced a useful guide for implementing coaching strategies to spread QI knowledge and skills [43] in low- and middle-income countries.

**Why coaching is important for CQI teams:** Coaching facilitates the acquisition of skills, equipping facilities/teams/individuals with knowledge to evaluate the performance of their processes and systems and to design and implement interventions to improve and sustain health service quality and patient safety.

### 9. Conduct CQI re-assessments

CQI is an ongoing process for assessing performance and applying measures to improve the quality of services. Quality services address a client's needs in an effective, responsive and respectful manner. In order to establish whether quality has improved, been sustained, or declined, the performance of VMMC services needs to be measured at different points in time to assess the effect of improvement efforts.

To ensure that re-assessment findings are comparable to baseline findings, the same evaluation criteria and assessment tool should be used for each re-assessment.

CQI re-assessment are conducted much like baseline assessments: the assessment is usually carried out by a team of 3-4 individuals, including clinicians knowledgeable about surgical circumcision. The assessment team should include a staff member from the VMMC unit being assessed and may also include a representative of the implementing partner, a representative from the Ministry of Health, and the CQI partner.

In Uganda, the MOH uses the color-coded dashboard shown below to display CQI assessment results by standards area for each assessed site. The sheet can be printed ahead of time, and the color column corresponding to the site’s score for each standard is marked with an X. The assessment team writes in comments and leaves the scorecard with the assessed site.

[ug_dashboard.png](#)
<table>
<thead>
<tr>
<th>Standards</th>
<th>3 (≥80%)</th>
<th>2 (80≤50%)</th>
<th>1 (&lt;50%)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies, Equipment and Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registration, Group Education and IEC</td>
<td></td>
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<tr>
<td>Individual Counselling and HIV Testing for MC Clients</td>
<td></td>
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<tr>
<td>Male Circumcision Surgical Procedure</td>
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<tr>
<td>Monitoring and Evaluation</td>
<td></td>
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</tr>
<tr>
<td>Infection Prevention</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

The color-coded dashboard can also be displayed for multiple sites and over time to provide a quick overview of the areas where sites are experiencing gaps. The image below shows the baseline assessment and two re-assessments for 30 sites in South Africa.

[sa_comparative_dashboard.jpg](#) [45]
CQI teams can also use the entire assessment tool or sections on individual standards areas for periodic self-assessment to check that quality has been maintained.

In Mozambique, Jhpiego has introduced a tablet-based assessment tool that mirrors the EQA tools. The data focal point in each Jhpiego-supported site is directed to fill out the tablet-based app and submit data weekly to a web-accessible database.

**Why CQI re-assessments are needed:** CQI assessments are conducted to identify performance gaps and inform quality improvement aims. Periodical re-assessments measure progress towards achieving improvement aims and performing to service standards.

## 10. Share learning

**Shared learning** [46] is a key principle for effective health care improvement. It is the practice of collectively exchanging insights and experiences gained in undertaking comparable tasks or addressing common problems. Sharing learning requires:

- Encouragement of multi-disciplinary approaches
- Establishment of an environment conducive to interaction
- Acknowledgement of all participants and their points of view
- Having the right people in the room—ensuring that the meeting brings together individuals with experience trying to improve services

Opportunities to share learning in VMMC CQI programs include:

- **CQI team meetings** - Health care facility staff who are members of the CQI team meet regularly to review performance data, analyze root causes of gaps, and plan interventions to
improve service quality. CQI teams need to discuss their improvement work as a team so that all team members are knowledgeable of changes tested and results and can share that knowledge with others outside the team.

- **Learning sessions** – Interactive meetings where representatives of VMMC CQI teams present on their experiences and outcomes (both positive and negative) introducing specific changes aimed at quality improvement
- **Coaching visits** – When CQI coaches and district management team representatives visit a site, they meet with the CQI team to review data and progress on action plans, and to discuss what steps the team can take next to continue to improve.
- **Quarterly stakeholder meetings** – Regular gatherings of Ministry of Health (national and district levels), donor agency, implementing partner, and CQI technical support partner representatives to collectively review how VMMC sites are performing across standards areas and discuss successes and challenges, has proven effective in multiple countries to address above-site issues and disseminate good practices.

Events to promote sharing and integration of insights across sites require good meeting facilitation and thoughtful design to allow those who have implemented improvements in care to talk with and answer the questions of those who can learn from them. Such sharing may involve verbal, visual, and/or written communication. Learning can be shared most effectively through small group conversation. Video clips, photographs, diagrams, and other visual aids can often convey key information more effectively than written documents. While written products may be the least effective method of sharing on their own, they can help to summarize key messages and points of learning.

In Uganda, VMMC CQI learning sessions have often taken place over two or three days to build in many opportunities for sharing and integration of insights between sites and even include a field trip to a VMMC site. (See a sample learning session agenda from Uganda in the Resources below.)

In South Africa, ASSIST has convened both national and provincial learning sessions to bring together representatives from the Department of Health, implementing partners, VMMC sites, and ASSIST staff to share challenges and solutions. (See the national lesson sharing workshop report from South Africa in the Resources below.)

**Why learning across CQI teams is important:** Lessons learned/experiences in implementing quality improvement interventions in one health care setting can be useful to teams facing similar challenges in another setting. Shared learning facilitates identification and replication of good practices and avoids teams “reinventing the wheel” by learning from others who have successfully addressed a gap. Hearing from other teams how they have improved VMMC care processes is often helpful to show that “improvement is possible” and can spur friendly competition among sites.

11. Coordinate with stakeholders

Stakeholder coordination is essential at many points along the way of incorporating CQI into a VMMC program and serves many purposes:

- Achieving consensus about VMMC quality standards and tools
- Ensuring all stakeholders understand how CQI supports VMMC and what support each stakeholder needs to support sites in improving VMMC quality
- Resolve misunderstandings about who does what to support sites in CQI
- Share good practices emerging from VMMC CQI teams

It is important to maintain the active engagement of all VMMC stakeholders in periodically meeting to review CQI results and experiences. Quality is a never-ending journey, and engagement of stakeholders helps to ensure that VMMC programs continue to improve and set new aims for
improvement once initial quality gaps are resolved.

In Uganda, quarterly VMMC stakeholder meetings are convened by the MOH under the leadership of the national VMMC Technical Working Group and Safety Team. In Tanzania, the national VMMC Technical Working Group convenes stakeholders under the leadership of the Ministry of Health. In South Africa, coordinating meetings are held nationally with the National Department of Health and at the provincial level, led by the Provincial Department of Health.

**Why stakeholder coordination is important:** Ongoing coordination with stakeholders provides a forum for implementing partners to share challenges and successes, as well as be recognized for efforts made to improve care. In Uganda, ASSIST found that regular coordination meetings among all stakeholders were helpful to align efforts and make sure all partners benefited from good practices. They also served to instill a sense of friendly competition among implementers which motivated them to encourage their sites, since each wanted to show how their supported sites were improving their performance.

### 12. Sustain high-quality care

As individual VMMC sites demonstrate gains in their CQI dashboards and in patient-level quality indicators, they may be recategorized as far as the level of external CQI support they receive. External CQI is usually focused on the poorer-performance sites. Once site performance reaches a minimum level, the site may move from “intensive support,” with biweekly or monthly coaching support, to “light support,” which might involve coaching visits every quarter.

The focus of external CQI support for every site should serve to help build the capacity of the site to apply CQI to VMMC services without external assistance. There are a number of steps that sites can take to sustain their quality gains:

- Conduct regular (at least once quarterly) checks using the CQI tool and process indicators to assess the level of performance and address any emerging gaps.
- Ensure a regular supply of VMMC commodities and equipment by including them in the health facility’s annual work plan, assigning a specific staff member to track the stock levels and ensure stock cards are kept updated, and incorporating VMMC supplies in the district procurement plan.
- Ensure that facility management and medical stores remain active members of the CQI team so that they take note of the issues requiring their attention.
- Schedule regular CQI team meetings; these could be biweekly or monthly meetings to discuss the data, changes made, and progress towards implementing action plans and to plan for actions and resources needed to continue the improvement work.
- Develop a list of roles and responsibilities for assuring quality of VMMC services and regularly review these with the entire VMMC team. Post roles and responsibilities for individual cadres in places where staff can regularly review them.
- Develop a process for orienting new staff to these roles and responsibilities for assuring VMMC quality and safety as part of their facility onboarding.
- Regularly reporting on VMMC quality and safety performance to facility and district management.

In addition to site-level actions, program-level action to sustain quality include:

- Coordinating demand generation and site-level improvement efforts to ensure that service quality improvements are aligned with demand generation activities.
- Examining measures of site productivity and efficiency and comparing those to site CQI performance to guide ongoing site investment.
• Sharing CQI performance data with VMMC training providers to ensure that problem areas are address in ongoing training activities.
• Facilitating regular sharing and coordination meetings among all stakeholders to maintain focus on quality and safety performance.
• Conducting yearly external quality assessments.

Finally, CQI efforts should also be informed by strategic directions set by national and international authorities, such as the Joint strategic action framework to accelerate the scale-up of voluntary medical male circumcision for HIV prevention in Eastern and Southern Africa [47] and the WHO policy brief: A framework for voluntary medical male circumcision - Effective HIV prevention and a gateway to improved adolescent boys’ & men’s health in eastern and southern Africa by 2021 [48], which encourage VMMC programs to focus on the physical and psychosocial needs of adolescent boys and men seeking VMMC services and the need for innovative approaches to overcome current barriers to services, increase acceptability, and address inequalities in access and coverage. PEPFAR Country Operational Plans are also useful for giving direction to VMMC CQI efforts.

Why it’s important to sustain the gains: Steps taken to ensure that quality performance does not recede once external assistance is withdrawn can have other benefits for the site and for stakeholders, since CQI methods can readily be applied to other program areas. Creating mechanisms for ongoing accountability for quality and safety help to sustain attention to CQI.

External Quality Assessment

External quality assessment (EQA) of VMMC programs involves site visits by US Government personnel, often accompanied by Ministry of Health and implementing partner staff, to review and observe how individual VMMC sites perform against pre-determined criteria, using standardized tools. EQA is an example of external quality assurance. The standards assessed include WHO, UNAIDS, PEPFAR, and national guidelines. The EQA process strongly complements WHO’s VMMC Quality Assurance Toolkit and service delivery sites’ self-assessments.

PEPFAR-sponsored VMMC EQAs generally are led by US Government staff and involve Ministry of Health staff and often implementing partner personnel who are external to the sites being assessed. PEPFAR recommends an annual EQA for each of the VMMC priority countries during which a number of VMMC sites are visited.

The objectives of a VMMC EQA are to:

• Ensure that PEPFAR VMMC for HIV prevention programs are conducted according to national guidelines, as well as WHO/UNAIDS and PEPFAR standards
• Provide feedback to site staff, MOH, and PEPFAR regarding the quality of VMMC service delivery
• Provide recommendations to improve service safety and quality
• Provide a basis for continuous quality improvement (CQI) and other interventions (when applicable)

The added value of EQA for VMMC programming is that external eyes are often better able to identify gaps than are those closely associated with the program. Host country governments are able to appreciate weaknesses and address them. Sites that have participated in EQA and that attend to recommendations often find they are able to improve quality and safety of services as well as increase demand for VMMC services and improve the efficiency of site operations. Finally, EQA provides an opportunity for dialogue among all stakeholders about areas that need improvement and establishes the basis and justification for CQI activities to address gaps found.
This section of the toolkit explains the methodology [49] used to conduct a VMMC EQA and the individual tools [50] used.

**EQA Methodology**

EQAs are led by U.S. Government (USG) personnel. The optimal number of people on the EQA team is a function of the number of VMMC sites that will be visited. Each site visit should be performed by not fewer than four members and should include individuals with relevant skills and experience (e.g., team lead, clinician, demand generation & counseling expert, M&E practitioner, other clinical/non-clinical staff). Note that the EQA team usually includes staff from various organizations, including USG/OGAC/DOD/PEPFAR, World Health Organization, National Department of Health/Ministry of Health, and local implementing partners. At each assessed site, the EQA team performs:

- Document and chart reviews
- Observations of facilities and VMMC procedures
- Observation of equipment and clients
- Discussions with key personnel

During the EQA visit, data are collected on:

- Number of circumcisions performed in the past 12 months
- HIV status
- Adverse events
- Client record completion
- Drug and supplies storage
- Readiness for emergency procedures
- Availability of standard operating procedures, policies and job aids

The EQA team also observes in-person communication, group and individual counseling, VMMC procedures, and follow-up reviews.

EQAs generate both quantitative findings in the form of scores from each tool for each site and qualitative findings in the form of violations of PEPFAR policy, weaknesses, strengths, and best practices. These latter findings are determined based on explicit criteria:

- **Violations of PEPFAR policy:**
  - Require immediate remediation
  - Not appropriate for site to continue services before this is addressed
- **Weaknesses:**
  - Areas of performance not meeting minimally acceptable levels
  - Performance below 70% (where a score is applicable)
  - Require remediation
- **Strengths:**
  - Areas of performance that meet all standards and demonstrate full compliance with quality standards
- **Best practices:**
  - Superior performance that represents a benchmark exceeding relevant quality standards or expectations

Examples of policy violations found in VMMC EQAs include:

- No sedation or general anaesthesia use
Commonly identified weaknesses in VMMC programs detected in EQA visits include:

- Lack of emergency supplies, equipment and/or trained staff
- Clients not provided with written instructions on post-procedure wound care

EQA findings are summarized in country-level and site-level reports. As part of the EQA site visit, the assessment team provides a verbal debrief with the site-level VMMC team. As part of the overall country EQA visit, the EQA assessment team presents and discusses the EQA findings with all relevant stakeholders, including Ministry of Health/Department of Health officials, implementing partners, and USG staff.

Guidance on team composition, approximate timeline of major activities encompassed in the EQA, and outputs of the EQA are found in the resource [51] below.

**VMMC EQA Mobile Application: VMMC QUAL**

To facilitate VMMC EQAs, USAID funded ASSIST to develop, pilot test, and deploy a VMMC EQA mobile application: VMMC QUAL. Developed in 2015, VMMC QUAL:

- Uses dashboard to compare sites, countries or different years of EQAs performed
- Enables multiple inputs simultaneously
- Has offline and online capabilities

VMMC QUAL can be downloaded to a tablet or android phone. For more information, contact assist-info@urc-chs.com [52].

The mobile app offers a number of advantage over the use of paper-based tools alone. The use of the app makes it easier to provide quantitative results immediately at the assessed site and complete all reporting of results within 2-3 weeks. The VMMC QUAL app allows for real-time collection and analysis of data and delivers more specific feedback to sites for action planning. Another advantage of the mobile app is that it incorporates VMMC Site Improvement through Monitoring System (SIMS) assessment within the EQA, allowing US Government staff to accomplish a SIMS site visit at the same time as conducting the EQA.
EQA Tools

PEPFAR-led VMMC EQAs currently use 10 tools that were developed by the OGAC VMMC Technical Working Group. These tools are largely based on WHO and UNAIDS normative standards for VMMC. Because PEPFAR places additional emphasis on program efficiency and productivity, PEPFAR-led EQAs for VMMC also include tools that examine program efficiency and productivity and ability to meet targets as well as communication and promotional activities. PEPFAR VMMC EQA tools also incorporate questions related to PEPFAR's Site Improvement through Monitoring System (SIMS), in order to allow USG staff to conduct SIMS data collection at the same time as the EQA.

Click on the links below (and at right) to read more about how each tool is applied and to download a PDF of the current version of the tool:

- Site Characteristics Tool [54]
- Tool A: Availability of standard operating procedures (SOPs), guidelines, policies and job aids [55]
- Tool B: Facilities, supplies and equipment [56]
- Tool C: Clinic record review [57]
- Tool D: Emergency management [58]
- Tool E: Adequacy of staffing [59]
- Tool F: Surgical equipment and procedures [60]
- Tool G: Communication with clients [61]
- Tool H: PrePex procedures [62]
- Tool I: Site capacity and utilization analysis [63]

A complete PDF of the Site Characteristics Tool and Tools A-I is found in the Resources below. Tool I is currently being developed as an online tool by Project SOAR and will be available in the near future.
Tool A: SOPs, Guidelines, Policies and Job Aids

Tool A aims to verify the availability at the site of the most recent standard operating procedures (SOPs), guidelines, policies, and registers relevant to VMMC services. The following documents and registers should be examined to complete Tool A:

- Patient Rights
- Informed consent process
- HIV testing guidelines
- Infection prevention and control protocol
- VMMC surgical manual
- Post-operative follow-up protocol
- Surgical register
- Minutes from quality improvement team meetings

All documents listed in Tool A should be examined. Documents that are available but out of date need a comment in the notes section of the tool. It is a good practice to record in the notes section of the tool, the date or version number of each document inspected.

Tool B: Facilities, Supplies, and Equipment

Tool B assesses the adequacy/appropriateness of infrastructure, supplies, and equipment as well as waste management:

- Facility: Space to allow for easy flow of patients through all processes; cleanliness; temperature, lighting, space and privacy of examination room(s); privacy of HIV counseling and testing room(s); temperature, lighting, space, scrubbing facilities and number of beds in operating theater(s); temperature, lighting and space of recovery room(s)
- Medicines: Storage, availability, stock-outs, and dispensing register
- Supplies & equipment: Storage, availability, stock-outs, monitoring and functionality; condom promotion; access and control of safe blood
- Waste management: Segregation, color-coded containers, treatment, storage and disposal, safe disinfectant treatment of blood spills, and safe disinfection of equipment

Infrastructure is assessed through direct observation. Adequacy of supplies and equipment is determined through observation and inventory/log review. If the response to any question is "No", provide a comment in the notes section of the tool. If stock-outs are noted, ask site staff to explain reasons. The assessor should also examine documentation of annual staff safety training and check for recording of volume of local anesthesia dispensed (SIMS).

Tool C: Client Record Review

Tool C examines the maintenance of clinical records and documentation of key VMMC care elements, including:

- Client record storage (on-site, secure, logically organized)
- Client record forms (indicate if site has changed format in past 3 months)
- Client details: Age, HIV status, informed consent, medical history and physical examination,
date of surgery, name of surgeon, surgical method, anesthetic dosing, intra- and post-operative adverse events, follow-up visit

- Additional details for PrePex: Method, device size and batch, dates of placement and removal, name of PrePex provider, adverse events at placement/removal/post-removal
- SIMS: Check if client record form or VMMC register collects written documentation about post-operative follow-up visits

The process of applying Tool C includes the following:

- Review and observe client records (sample of 25)
- If the site is implementing PrePex, review an additional 15 records specific to PrePex VMMC
- Some of the SIMS questions require reviewing 10 of these client records
- Interview staff responsible for records/data management

Systematic sampling is the preferred sampling method, especially if the site uses sequential numbering for client records. Use client record numbers rather than physical records for choosing records to review to provide an opportunity to determine whether any records are missing. If a record number determined by the sample is missing, write "MISSING" in the cell for that client record. To make a systematic sample, determine the number of male circumcisions (MCs) that have been performed at the site since the beginning of the VMMC program or since the last EQA visit to the site. The cut-off period for the sample is at least 3 weeks prior to the date of the site visit. Divide the number of MCs performed by 25 to calculate the sampling interval, N. Request that staff pull every Nth client record for review. If the site has changed its record forms longer than 3 months ago, restrict sampling to records filled since the change.

Provide comments for any missing/blank content. Also verify the age for consent to VMMC in the country to verify that legal consent was given.

For the SIMS questions, pull 10 charts for review from the 25. From the 10 records, calculate:

- % of client records that include a consent form signed by the adult client or by the client's guardian if the client is a minor
- % of client records that include documentation of at least one post-operative follow-up visit within 14 days of the VMMC procedure

Among the clients without documentation of at least one post-operative follow-up visit within 14 days of the VMMC procedure, calculate the % of client records with documentation that active follow-up (by phone call or visit to the client's home, school or other off-site location) was attempted.

Pull 10 charts of HIV-positive clients referred for HIV care and treatment:

- Calculate the % of clients that were successfully tracked (that is, the site knows the client was successfully linked to HIV care and treatment services)

**Tool D: Emergency Management**

Tool D looks at adequacy of guidelines, procedures, supplies, equipment, medicines, and training for managing both blood-borne pathogen exposure and medical emergencies post-exposure prophylaxis (PEP). It examines:

- Staff knowledge on procedure and reporting of emergencies
Tool D requires physical examination/verification of the availability of medical supplies, equipment, medicines, and materials for emergency management; questioning senior staff about training; and examining the contents of the emergency bag/tray/trolley/cupboard. A good practice is to identify the person responsible at the site for maintaining emergency supplies and complete Tool D together with that person. When reviewing items on the emergency trolley, check for expiry dates of each item and cross-check with the emergency supply log. Where items are out-of-stock, look for evidence that this has been reported and whether any remedial actions have been taken, as part the SOP.

Tool E: Adequacy of Staffing

Tool E examines the adequacy of staff to provide VMMC as part of a comprehensive HIV prevention program. The tool looks at:

- Type of site (fixed/mobile/outreach) and service (regular/campaign)
- Staff roles and number of each cadre
- Comments on client flow—are there sufficient staff for fluid client flow?
- Notes on service interruption (past 6 months) due

During on-site EQA:

- Interview administrators and supervisory staff
- Review relevant documents
- Observe facility and client flow to determine staff availability

Tool F: Surgical Equipment and Procedures

Tool F assesses the adequacy of resources and activities related to screening and preparation of patients for surgery, surgery, post-operative care, management of complications, and prevention of infection, including:

- Medical history taking
- Physical examination
- Surgical preparation (aseptic technique, retraction and marking, anesthetic dosage and administration)
- Pain management
- Surgical technique and time (method appropriate procedure, hemostasis)
- Suture technique and time
- Dressing material and application
- Disinfection
- Infection prevention and control
Assessor must be familiar with the three recommended surgical procedures, refrain from instructing and/or correcting providers, and ask questions for clarity only. During the on-site EQA, the assessor must observe medical history taking, physical examination, preparation, and surgical procedure as well as observe other concurrent activities, e.g., infection prevention and control, interaction with the client, provision of information, privacy, and post-op care. The assessor using Tool F should wear appropriate attire (i.e., surgical gown) and obtain permission from clinical staff as well as verbal consent from the client to conduct the observation.

**Tool G: Communication with Clients**

Tool G looks comprehensively at the adequacy of communication and counseling throughout VMMC process, with attention to accuracy, comprehensiveness, clarity, suitability, and accessibility of information, including verbal (education & counseling) and written materials (signage, posters, brochures, post-op instructions). Tool G also addresses HIV counseling, test administration, and counselor knowledge, conduct, and sensitivity.

During the on-site EQA, Tool G is applied across seven VMMC care processes:

1. Registration and waiting
2. Group education
3. Individual HIV testing and counseling
4. Clinical screening
5. VMMC surgery
6. Immediate post-operative care
7. Post-operative follow-up care

Tips for applying Tool G: If the assessor does not speak the language used in VMMC counseling, identify an interpreter to accompany the observation. Review all written informational and educational materials. Obtain verbal consent from counselors and clients prior to the observation.

**Tool H: PrePex Procedures**

Tool H examines the adequacy of resources and activities related to screening and preparation of patients for PrePex, PrePex procedures, surgical back-up, and prevention of infection, focusing on:

- Medical history taking
- Physical examination
- Disinfection
- Availability and details of surgical back-up
- PrePex training, including recognition of potential complications
- Pre-placement, placement, and removal
- Adverse event assessment and documentation
- Infection prevention and control

As with surgical VMMC, the assessor must observe interaction with the client, noting instructions provided; refrain from instructing and/or correcting providers; and ask questions for clarification only. The assessor should obtain permission from clinical staff as well as verbal consent from client prior to the observation. The assessor should note the condition of the client, whether providers are easily able to determine the correct size of the device to be used, adequately address any issues (e.g., pain, discomfort), listen to and note any post-placement instructions given to clients, and
follow the client to the post-placement care area.

### Tool I: Site Capacity and Utilization

Tool I examines site productivity as a function of its characteristics, volume (low/medium/high), investment (community mobilization/counselling/clinical), performance (VMMC volume indicators disaggregated by age group and device), task sharing (yes/no), and use of model for optimization of volume and efficiency (MOVE). The tool uses data obtained prior to the EQA from implementing partners and data from the Site Characteristics Tool.

Project SOAR is currently developing an online Site Capacity/Site Utilization Tool which will replace the Excel version currently used.

### Addressing Key VMMC Quality Issues

Experience with improving VMMC services led to the identification of several critical patient safety issues and other program issues that especially lend themselves to CQI. This section of the toolkit describes these issues, the quality challenges associated with them, and specific resources to help address them.

#### Critical patient safety issues:

- Client follow-up [64]
- Adverse events [65]
- Linkages to other services [66]
- Tetanus risk mitigation [67]

#### Other issues in VMMC programming:

- Client communication [68]
- Gender integration [69]
- Demand creation [70]
- Site capacity and utilization [71]
- Early infant male circumcision [72]

### Client follow-up

VMMC clients are advised to return to a health care facility for post-circumcision follow-up visits to track progress on wound healing and to identify and manage possible adverse events. Many countries recommend three VMMC follow-up visits: at 48 hours, at seven days, and at six weeks relative to surgery.

Client follow-up requires facilities offering VMMC services to develop and maintain mechanisms encouraging all clients circumcised to return for follow-up. Facilities are expected to collect follow-up data, analyze and interpret results, and based on findings, make informed decisions to continuously improve follow-up rates.
VMMC post-procedure follow-up is important for assessing progress on wound healing and identifying and treating potential adverse events. Follow-up visits further provide the opportunity to reinforce messages on wound care, HIV prevention, and risk reduction measures.

In Uganda, ASSIST has worked with facilities to encourage female involvement in VMMC and found that clients who attend a group education session with their female partner are more likely to return for the 48-hour and seven-day follow-up visits.

Quality issues:

- Difficult to track clients due to poor data capturing and recording of client information.
- Clients lost to follow-up due to tracking mechanisms that are not in place.
- Assuring proper communication and referral systems between facilities and surrounding referral centers in cases where clients receive follow-up care at facilities other than the VMMC site where they were circumcised.
- Insufficient and/or inconsistent messaging to clients regarding the importance of follow-up.
- Challenges related to distance, transport and costs incurred to travel to a facility for follow-up services.

Adverse events

Adverse events (AEs) related to male circumcision are defined as any injuries, harm, or undesired outcomes occurring during or following male circumcision that would not have occurred if the client had not undergone the procedure. AEs can be classified by severity, timing, and type. AE reporting provides data required for monitoring of service delivery and patient safety.

Rapid scale-up of VMMC has resulted in concerns regarding the management of AEs, especially during peak circumcision seasons. When short-staffed facilities face large influxes of VMMC clients, attention to detail regarding client safety might be compromised. Inconsistencies in identifying, recording, monitoring, handling, and reporting of AEs have been frequently been documented as areas needing improvement across sites.

Strategies for reducing AEs focus on increasing client follow-up rates; in-service training for VMMC staff on AE identification, classification, and management (including treatment and referral); and empowering clients with adequate information related to wound healing, wound care, importance of sexual abstinence for six weeks, signs of complications, and the importance of follow-up at 48 hours, seven days and six weeks after the procedure.

Regardless of provider experience, AEs can occur at any time during or after circumcision. It is important for facilities offering VMMC services to be able to identify, document, and report AEs to inform decision making. Proper management of AEs at the site level plays a crucial role in the successful implementation of VMMC programs.

Quality issues:

- Poor surveillance and documentation of AEs
- Poor pre-procedure physical examination and client history taking
- Inadequate health worker training and/or clinical experience
- Low capacity to manage VMMC follow-ups and identify AEs
- Insufficient infection prevention measures
Inconsistent provision of information to clients regarding possible signs of AEs and post-operative wound care
Poor client knowledge on AEs, wound care, and VMMC follow-up

Linkage to other services

Clients presenting for VMMC undergo a full physical examination – including measurement of vital signs and screening for diseases and penile abnormalities to confirm viability for the procedure. In addition to a physical examination, VMMC provides an opportunity for HIV counseling and testing. As part of comprehensive health care and strengthening of HIV prevention efforts, VMMC provides a gateway for linking clients to other health services, such as sexual and reproductive health, non-communicable disease screening, and HIV treatment. Because of diverse barriers and social constructs, many men do not frequently access health services. Presenting for VMMC might be their first interaction with formal health care. For this reason, it is crucial to optimize the package of services offered to men during VMMC. Although HIV counseling and testing is not a prerequisite for circumcision, it is highly recommended and should be offered to all VMMC clients. Clients needing further services outside of VMMC should be referred to relevant points of care and steps taken to assure that successful linkage is made.

Quality issues:

- Assuring that VMMC clients found to be HIV-positive or having a sexually transmitted infection are effectively linked to care and treatment
- Documenting effective referral and linkage to care of VMMC clients
- Assuring that VMMC services are consistently integrated into the general primary health care
- Gaps in training to support understanding and appreciation of service integration
- Poor communication and sharing of data between VMMC unit and MOH staff
- Lack of implementation guidelines at facility level, affecting staff knowledge and capability to fully integrate services

Resources:

- Medical male circumcision offers a gateway to HIV testing and medical check-ups [73]
- WHO/UNAIDS Guidance on provider-initiated HIV testing and counselling in health facilities [74]

Tetanus risk mitigation

While the risk of tetanus infection following VMMC is a rare adverse event, 12 cases of tetanus (eight of which resulted in death) reported through VMMC programs in four East and Southern African countries between 2014 and May 2016 signified the need for tetanus risk mitigation within VMMC programs, especially in countries with low DPT3 (series of immunizations preventing diphtheria, pertussis, and tetanus) coverage among adolescent and young males. In July 2016, a World Health Organization report concluded that there was a higher risk of tetanus following circumcision with the elastic collar compression device. WHO recommends that VMMC programs:
1. Apply circumcision with a device method only if the client is adequately protected against tetanus by immunization with tetanus-toxoid-containing vaccine (TTCV).
2. For surgical circumcision, provide at least one shot of tetanus vaccination at the time of circumcision.
3. For device circumcision, provide two shots 4-8 weeks apart, with the second shot given at least two weeks prior to device placement.
4. Follow a clean care approach for all circumcision methods: educate the client about personal cleanliness, follow standard surgical protocols on skin preparation of the genital area; and enhance individual and community education on clean wound care after circumcision.

The Ministry of Health of Uganda has been a leader in applying CQI to reduce the risk of tetanus within VMMC services by requiring that all VMMC sites incorporate tetanus vaccination within their service package, either through mass vaccination campaigns as part of demand creation and mobilization and administration of tetanus toxoid vaccine to all men without documentation of tetanus immunization. The MOH and implementing partners have developed several resources to support integration of tetanus risk mitigation in VMMC services, including a site readiness assessment tool and provider and client information materials.

**Quality issues:**

- Integrating tetanus immunization in VMMC sites, including cold chain management and availability of vaccination equipment and supplies.
- Assuring that pre-operation counseling and education accurately explains the risks and benefits of TTCV.
- Assuring that post-operative counseling wound care instructions delivered include information on tetanus prevention (personal hygiene and avoiding harmful wound-care practices) and pain mitigation for vaccinated clients.
- Assuring high return rates for circumcision among clients who receive the first TTCV dose prior to circumcision.
- Assuring that IEC materials address risk of tetanus and benefits of tetanus vaccination.
- Assuring that demand creation activities include community sensitization about tetanus and VMMC.
- Assuring staff are trained in tetanus prevention, vaccination administration, and client education.
- Assuring that sites have data capture systems and tools in place for documenting tetanus vaccination.

**Client communication**

Evidence from clinical trials conducted in Kenya, South Africa and Uganda confirms that medical male circumcision (MMC) significantly reduces, but does not eliminate, the risk of males contracting HIV from female partners through penile-vaginal sex. Client communication around VMMC should include basic facts about HIV transmission, risk reduction methods, and the partial protection afforded by circumcision.

Clients should also receive clear information about the benefits of VMMC. As more males are circumcised, female partners are less likely to be sexually exposed to HIV. Since 2007, the World Health Organization (WHO) and the Joint United Nations Program on HIV/AIDS (UNAIDS) have recommended voluntary medical male circumcision (VMMC) as an important strategy for HIV prevention [75], particularly in settings with high HIV prevalence and low levels of male circumcision. In addition to the HIV prevention, VMMC also reduces men’s risk of:

- Penile cancer
Acquiring certain sexually transmitted infections (STIs), including chancroid, herpes and syphilis

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.

Quality issues:

- Inconsistent messaging regarding HIV & AIDS facts (e.g., modes of transmission, risk reduction, VMMC partial protection for circumcised men, benefits for partners).
- Recruiters and counselors not trained to efficiently and consistently communicate the health benefits of VMMC, partial protection, and need for other measures of risk reduction.

Gender integration

Gender integration in VMMC means involving female partners and family members in the decision-making surrounding VMMC services, counseling and education, and post-procedure wound care.

Female partners and caregivers play an important role in VMMC decisions and post-operative care. One study in Zambia showed that discussing circumcision with a female sexual partner was the greatest predictor of readiness to undergo VMMC. Female partners and caregivers can encourage uptake of VMMC, appropriate post-operative care, and adherence to the abstinence period; but female partners and caregivers can also discourage VMMC and hinder good VMMC client outcomes if they are not informed and propagate misconceptions. There are also harmful gender-related myths that should be addressed in client counseling and education to promote good outcomes (e.g., sex with a virgin or multiple partners other than spouse following VMMC to promote healing or spiritual protection).

It is also important that VMMC counseling does not leave clients with the belief that women are the primary transmitters of HIV.

Quality issues:

- Assuring that demand creation and mobilization activities discuss the advantages of female involvement, as sexual partners, mothers, sisters, caregivers, etc.
- Making couples’ VMMC counseling available and attractive (e.g., offering services targeting female partners at outreach sites)
- Assuring that client counseling and education:
  - Makes clear that VMMC does not afford HIV prevention protection for the female partner but does reduce the risk of other STIs, including HPV (which can lead to cervical cancer)
  - Does not blame women for HIV or imply women are primarily responsible for HIV (since VMMC reduces the likelihood of female-to-male transmission of HIV through penile-vaginal sex)
  - Emphasizes the importance of condom use for HIV prevention
  - Discusses the value of VMMC post-operative care with female partners
- Poor adherence to six-week abstinence
- Assuring that partner HIV testing is encouraged in client counseling and education
- Assuring availability of educational materials targeting female partners
Demand creation

Demand creation for VMMC comprises outreach and communication activities spreading information on the benefits of VMMC and availability of VMMC services. Demand creation for VMMC is aimed at increasing general awareness and uptake of VMMC among target populations. Platforms employed for VMMC demand generation include advocacy (e.g., with community leaders, school teachers); communication with target audiences through different communication channels (e.g., television, radio, print media, interpersonal communication, road shows, social media, SMS reminders, household visits); and community engagement and mobilization.

Effective demand creation addresses barriers to VMMC uptake in contextually relevant ways, informed by research and situational analyses. Among other factors, barriers to VMMC uptake include fear of pain, fear of complications, reluctance to abstain from sex during the healing period and inaccessibility of services.

UNAIDS and PEPFAR have estimated that achieving 80% circumcision coverage among 15-49 year-olds in 14 priority countries in Eastern and Southern Africa by 2016 and maintaining it through 2025, could avert 3.4 million HIV infections.

Between 2008 and 2015, 11.7 million circumcisions were performed among the target population cumulatively in the priority countries. This demonstrates significant progress, but likely inability to meet the target of 20.3 million circumcisions by the end of 2016. Demand generation remains pivotal for aligning VMMC demand with service delivery.

Quality issues:

- Lack of coordination between service delivery and outreach/communication teams
- Inadequate involvement of traditional leaders and community role models
- Failure of targeting women (sexual partners, mothers, caregivers) as key influencers of the targeted male audience
- Failure to take into account gender norms of what it means to be a “real man” or a “good man”
- Failure to take into account cultural norms regarding traditional circumcision practices
- Perception that circumcision wounds heal quicker during winter compared to the other seasons
- Limited access to health services in rural areas due to economic and structural barriers
- Attitude of health care workers providing the services
- Communication not consistently addressing critical VMMC barriers and motivators (e.g., pain)
- Lack of standardization in mobilizer training and job aids for ensuring complete and consistent messages
- Low mobilizer morale because of poor compensation and lack of recognition
- Lack of site usage data and analysis of site capacity that should be used to inform site operations
- Disconnect between HIV counseling and testing sites and VMMC sites; HCT sites could serve as referral points to encourage HIV-negative men to get circumcised
- Lack of age-specific communication and waiting areas; for example older men might be grouped with adolescent boys for counseling sessions. This is inappropriate for both age groups, as they might not feel comfortable asking questions.

Site capacity and utilization

Site capacity and utilization analysis helps VMMC sites understand the capacity, performance and productivity of service delivery and take actions to improve site utilization rate.
The site capacity and utilization analysis uses data on site characteristics, targets, inputs (i.e., number of beds, circumcisers, counselors, etc.), performance to determine achievement vs target, utilization rate, productivity index.

Despite large PEPFAR and country investment in VMMC programs, targets in many areas are still not being met. Improving the efficiency of VMMC service delivery can help countries achieve more with available resources, identify potential circumcision saturation in the catchment population, and make informed decisions about demand generation and staffing.

**Quality issues:**

- Many sites are operating below capacity, which signals potential inefficient use of scarce resources; root cause analysis can determine whether inefficiencies are due to inefficient service delivery processes, shortage of staff, lack of demand creation, or saturation of the catchment area.
- Sites operating above capacity may be at risk of safety issues due to overworked providers and counselors burdened with too many clients to perform effectively.

**Early infant male circumcision**

Early infant male circumcision (EIMC) is medical male circumcision performed on healthy male newborns from 12 to 24 hours after birth and on young infants up to 60 days of age. Circumcision is simpler, costs less, and has faster wound healing and less risk of complications in infants than in older males. For these reasons, integrating EIMC services into routine services for newborns and infants is a long-term sustainability strategy for countries or regions with high HIV and STI prevalence and high coverage of VMMC among 15-29 year-old males.

In Tanzania, ASSIST has worked with the Ministry of Health and AIDSFree to apply CQI to the integration of EIMC in Reproductive and Child Health services, creating an EIMC CQI assessment tool and supporting sites in two regions to apply CQI to overcome operational challenges in integrating EIMC into routine care for eligible male infants.

**Quality issues:**

- Assuring maternal and child health (MCH) service areas have infrastructure support for surgical procedures, appropriate space, appropriate supply chain management, and adverse events management capacity
- Assuring that EIMC is delivered as part of a package of essential neonatal care (ENC) services, with linkages to other ENC services
- Assuring eligibility requirements for EIMC are consistently followed in client screening (i.e., no EIMC of pre-term or low birth weight infants, no medical contraindications)
- Assuring staff are trained in EIMC procedures
- Assuring that accurate information on the protective effects, risks, and benefits associated with EIMC is provided to parents and caregivers to determine if EIMC is in the best interest of the individual infant to allow for informed consent
- Assuring high post-operative (2-day, 7-day) follow-up of EIMC clients
- Assuring the antenatal care services promote the risks and benefits of EIMC where EIMC services are available
- Assuring that demand creation activities inform families and community of the benefits and risks of EIMC
Tools

This toolkit comprises a collection of resources aimed at supporting the integration of quality improvement into voluntary medical male circumcision (VMMC) programs at health facility/site level. The tools, standards, and learning materials referred to throughout this toolkit are categorized and accessible from the links below for easy access:

- Adult VMMC assessment tools and scoring sheets [76]
- Early infant male circumcision assessment tools and resources [77]
- Action planning matrices [78]
- QI team documentation tools [79]
- Coaching tools [80]

Adult VMMC assessment tools and scoring sheets

The resources below include VMMC CQI assessment tools that have been developed at the country level, often based on the WHO Quality Assessment Toolkit.

EIMC assessment tools and resources

This section offers tools developed in Tanzania by ASSIST, AIDSFree, and the Ministry of Health, Community Development, Gender, Elderly and Children to integrate CQI in the delivery of early infant male circumcision within Reproductive and Child Health services as well as other technical resource materials on EIMC.

Action planning matrices

After a CQI assessment or as part of an improvement team's regular meetings, an action plan should be developed that summarizes gaps identified, actions to be taken, and the responsibilities of each involved party to help bridge the gap. This section provides examples of VMMC CQI action planning matrices used in different countries.

QI team documentation journals

Improvement teams need to have a record of what they have tried, both successfully and unsuccessfully, to test change ideas to improve care. In its simplest form, this documentation may be notations on a time series chart. Team notes are another simple way of keeping track of what has been tried. Documentation tools also help improvement teams communicate their results to others, including coaches, site managers, and other improvement teams. This section provides examples of documentation tools for site-level improvement teams.
Coaching tools

CQI teams need support to function effectively. District and facility leaders can create the enabling environment for improvement through policies, resources, and training, in addition to openness for local teams to test ways to best improve care and sometimes fail. The most sustainable coaching for improvement is built into existing government systems. This can take the form of coaches external to the VMMC site, such as a district health officer, or from within the local site, such as an enthusiastic manager or provider who has been involved in previous improvement work. Whoever the coach is, they should always approach the improvement team with an attitude of supportive problem solving rather than critical evaluation.

Coaches need competency in both basic improvement skills and in facilitation of improvement teams. This section offers tools to support coaches in helping CQI teams.

Change Ideas and Common Solutions

Site-level improvement teams in Uganda, South Africa, Malawi, Tanzania, and elsewhere have gained valuable experience making changes in their care processes and systems to meet VMMC quality standards. This section draws on the experience of over a hundred QI teams to offer tested change ideas for common problems encountered in meeting VMMC quality standards. This section is organized by the following standards areas:

1. Leadership and Planning [81]
2. Management Systems [82]
3. Supplies, Equipment, and Environment [83]
4. Registration, Group Education, and Client Communication [84]
5. Counseling and HIV Testing [85]
6. Surgical Procedure [86]
7. Monitoring and Evaluation [87]
8. Infection Prevention [88]

Each section identifies common challenges faced by improvement teams and solutions that proved successful.

1. Leadership and Planning

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Actions CQI Teams Took to Address the Challenge</th>
</tr>
</thead>
</table>
| Insufficient knowledge of, involvement in, and support for quality assurance and quality improvement | • Arrange for QA/QI/CQI sensitization training for managers  
• Brief facility management and board on “return on investment”, i.e. improved patient outcomes and staff fulfilment |
| Inadequate involvement of facility leadership in day-to-day operations | • Engage facility management from the start of the improvement effort  
• Encourage involvement of facility leadership in QI meetings and discussions |

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## Challenge: Operations and Quality of Services

### Actions CQI Teams Took to Address the Challenge
- Share assessment findings with leadership and inspire buy-in through involving them in action planning to address gaps/needs
- Ensure continuous communication with facility leadership regarding CQI integration
- Conduct regular meetings between VMMC stakeholders and management

## Challenge: Lack of Ownership and Accountability

### Actions CQI Teams Took to Address the Challenge
- Create a culture for CQI by linking it to the facility’s mission and strategic objectives
- Include VMMC CQI as a standing agenda item for clinic committee/hospital board meetings

## Challenge: Lack of Mechanisms to Plan and Prioritize Tasks

### Actions CQI Teams Took to Address the Challenge
- Support the development of operational plans, budgets where applicable, for service delivery, staffing, commodities, quality improvement, community involvement, and M&E
- Document plans and adopt tools for prioritizing tasks and monitoring impact

## Challenge: Insufficient Knowledge of Catchment Population and Profile

### Actions CQI Teams Took to Address the Challenge
- Obtain demographics for the catchment area
- Analyze data and set targets
- Develop a monitoring plan to track progress

## Challenge: Lack of Support for Female Involvement in VMMC

### Actions CQI Teams Took to Address the Challenge
- Training on how females are relevant to VMMC as sexual partners, mothers, sisters, and caregivers

## 2. Management Systems

### Challenge: Missing Policy Documents

#### Actions CQI Teams Took to Address the Challenge
- Identify the missing documents using the assessment checklist and share the list with the facility in-charge to cross-check their availability in other parts of the health unit
- Obtained missing documents and kept them in a secure, but easily accessible place for the team
- Request the missing documents from the District Health Office or implementing partner
- Held a Continuous Medical Education (CME) session to discuss important policy documents
- Oriented staff on the relevant VMMC documents

### Challenge: No Written VMMC Plan in Place

#### Actions CQI Teams Took to Address the Challenge
- Develop activities in line with the district priorities and SMC targets for the year
- Budget for the various activities and identify the responsible person per activity
- Share the plan with all key stakeholders to have a common plan

### Challenge: No Written Staff Roles and Responsibilities

#### Actions CQI Teams Took to Address the Challenge
- Hold a team meeting to discuss and understand everyone’s roles and responsibilities
- Write these roles down and display them

### Challenge: Few Staff Trained in VMMC Procedures

#### Actions CQI Teams Took to Address the Challenge
- Approach the supporting IP to train staff
- Identify training needs and jointly develop a training plan
<table>
<thead>
<tr>
<th>Issue</th>
<th>Recommended Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>No client flow chart</td>
<td>- Hold a team meeting to discuss how clients move from one process to another&lt;br&gt;- Draw the client flow and display it in a visible area to both clients and staff</td>
</tr>
<tr>
<td>Poor documentation of linkage to other services</td>
<td>- Get a notebook to register clients referred for VMMC education or add a column in the client register to indicate clients referred for other services&lt;br&gt;- Started recording clients linked to other services (STI treatment, HIV chronic care) in a referral register&lt;br&gt;- Place phone calls to sites/stations that referred clients for other services to ensure complete documentation</td>
</tr>
<tr>
<td>No quality improvement team</td>
<td>- Request the district health office and IP to train staff in QI if they are not already trained&lt;br&gt;- Select members to form the QI team ensuring that all sections of the VMMC services (like registration, infection prevention, surgical procedure, and management) are represented&lt;br&gt;- Identify a QI team leader&lt;br&gt;- Develop a schedule for QI team meetings</td>
</tr>
<tr>
<td>No written minutes of QI team meetings</td>
<td>- Appoint a meeting coordinator and set meeting dates&lt;br&gt;- Remind team members about the meeting a day prior to the meeting to ensure they attend&lt;br&gt;- Rotate responsibilities for taking written minutes of each meeting&lt;br&gt;- Post QI team meeting minutes in a visible place in the VMMC unit</td>
</tr>
<tr>
<td>No system for client feedback</td>
<td>- Use VMMC champions to obtain client feedback&lt;br&gt;- Created a client feedback corner at the health unit where feedback is received&lt;br&gt;- Identify key areas on which feedback is desired and develop a questionnaire to administer</td>
</tr>
<tr>
<td>No system for investigating moderate or severe adverse events</td>
<td>- Conduct CME on adverse events grading and management&lt;br&gt;- QI team reviews and investigates adverse events&lt;br&gt;- Obtain the grading scale (where possible laminate) and display it in the procedure and examination rooms</td>
</tr>
<tr>
<td>Poor client follow-up</td>
<td>- Ask clients to come back for removal of dressing and review&lt;br&gt;- Give clients a clear message on the importance of follow-up&lt;br&gt;- Use a checklist to ensure that all staff give the same message to clients&lt;br&gt;- Discus the importance of client follow-up during counselling and testing for HIV and group education sessions and postoperative education&lt;br&gt;- Assign a staff member the task of attending to clients who return for follow-up and indicate this on the duty roster</td>
</tr>
<tr>
<td>No supply management in place</td>
<td>- Select members who should take control of the stock cards by updating them and making timely orders of medicines and supplies</td>
</tr>
</tbody>
</table>
Selected team members support the store keeper who is able to get stock cards and also manages them. Where the supply management system is electronic, VMMC commodities should be included.

VMMC supplies not included in orders to the National Medical Stores

- Develop a list of required items and estimate amounts required - in-charge of the drug store should be involved in the process
- Add these items to the health unit’s order to National Medical Stores so that they are delivered through the system.

### 3. Supplies, Equipment, and Environment

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Actions CQI Teams Took to Address the Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical facilities inappropriate for SMC service provision/ lack of adequate space</td>
<td>• Obtain partitioning screens for privacy&lt;br&gt;• Improvise space for pre-operative assessment&lt;br&gt;• Lobby IP to renovate VMMC theatre&lt;br&gt;• Request the IP to avail a tent for group education</td>
</tr>
<tr>
<td>Pre-operative assessment done on the operating table</td>
<td>• Meet with the in-charge of the health unit to discuss availability of space and need for an examination couch&lt;br&gt;• Identify space for preoperative assessment</td>
</tr>
<tr>
<td>Lack of running water in the theatre</td>
<td>• Use a portable hand washing health unit&lt;br&gt;• Improvise with buckets that have been fitted with taps</td>
</tr>
<tr>
<td>Insufficient VMMC kits for the surgical procedure</td>
<td>• Ask the IP to provide adequate quantity of disposable kits for SMC based on the client target for the site</td>
</tr>
<tr>
<td>No VMMC commodities like Bupivacaine, Acyclovir, Cefixime</td>
<td>• Requisition for VMMC commodities from National Medical Stores (NMS) and IP&lt;br&gt;• Generate a list of needed supplies and share it with the health unit in-charge for inclusion in the order list to NMS</td>
</tr>
<tr>
<td>No protective materials (shoes, eye wear, gowns) for staff</td>
<td>• Generate requests for missing protective materials and submit it to the hospital management and implementing partner</td>
</tr>
<tr>
<td>Lack of client gowns</td>
<td>• Request for linen from NMS and work with health unit management to make client gowns&lt;br&gt;• Approach the IP for support in availing the client gowns</td>
</tr>
<tr>
<td>No petroleum-impregnated gauze</td>
<td>• Request for the petroleum gauze from NMS and also approach the IP to support the procurement of the gauze&lt;br&gt;• Get ordinary gauze and cut it into the required size. Put the gauze in a tin of petroleum jelly then autoclave using steam</td>
</tr>
<tr>
<td>Issue</td>
<td>Solution</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>No color-coded bin liners</td>
<td>• Request bin liners from other health units within the district, NMS, and IP</td>
</tr>
<tr>
<td>No mackintosh on theatre beds</td>
<td>• Make requests for the protective covering of the operating tables to the IP and NMS</td>
</tr>
</tbody>
</table>
| Inadequate testing kits/stock-out of STI drugs                       | • Establish minimum stock level of all key supplies and assign a staff member to track them and make order within the prescribed NMS timelines  
• Request for supplies that are at a minimum stock level before they run out of stock  
• Keep the district health office aware through regular reports on performance and stock levels of essential items like HIV test kits, condoms and drugs for STI management  
• Ask clients to buy the drugs  
• Approach the IP with required quantities and request them to supply |
| Lack of condoms                                                      | • Establish minimum stock levels and regularly track the stock level  
• Request for more condoms before they run out of stock |
| No emergency resuscitation system/ equipment                         | • Identify the required drugs based on the checklist in the assessment tool  
• Determine the missing drugs after consultations with stores  
• Place request to NMS and also request the IP to support if possible |
| Inadequate emergency resuscitation protocols in place in the procedure rooms | • Discuss the management of emergencies and develop protocols as a team  
• Display emergency resuscitation protocols in the procedure rooms  
• Request the anesthetist to give a talk to team members and help in development of protocols |
| Having expired emergency drugs on the emergency trolley              | • Use a checklist to track the expiry dates before each day of surgery  
• Assign a team member the responsibility of ensuring that drugs are available and are not expired by routinely using the checklist prior to surgery |
| Staff lack skills and knowledge on handling adverse events           | • Ask experienced hospital anesthetist to prepare and share a presentation on adverse events  
• Conduct a CME on the basics of managing adverse events and the importance of documenting them  
• Organize a session in which staff who are trained in management of adverse events pass on information to the rest of the team, through a debriefing meeting  
• Orient/re-orient all VMMC team members on the adverse events grading scale and how to identify, classify, grade, and manage adverse events |
| Staff not trained on standard techniques for VMMC procedures         | • Request IP to train staff in VMMC procedures  
• Provide ongoing mentorship support on the dorsal slit method of circumcision with |
| Poor communication with circumcised clients on self-care and adverse events | • Ask counsellors to spend a little more time to deliver health education sessions and use standard IEC materials to demonstrate self-management to clients.  
• Design a health education checklist with information on signs and symptoms of adverse events to look out for and importance of returning for follow-up. This can be used by health educators.  
• Lobby the IP to provide a telephone line on which clients can call the health unit and report adverse events  
• Maintain a log of all the clients that call in to report adverse events using a counter book |
| Guardians and parents of minors not attending education sessions | • Ask parents/guardians to come with their children during mobilization  
• Emphasize the importance of having guardians and parents bring their children to the health unit  
• Tailor education sessions that target guardians and parents on their role in preventing adverse events |
| Tight-fitting underpants not used | • Use the community health workers (CHWs) and mobilizers to remind clients to bring tight-fitting underpants  
• Orient the CHWs and mobilizers on what messages to pass on before they do mobilization; including asking clients to come with tight-fitting underpants |
| Poor documentation of adverse events at the facility | • Put an adverse events log book at OPD to capture any clients who return with adverse events but are not captured in the VMMC register because the VMMC register is not accessible at certain times |
| Lack of adverse events grading scale | • Request the IP to provide a copy of the adverse events grading scale for each consultation room  
• Print out and make copies, laminate these copies and pin them up at all important points (procedure room examination rooms and OPD) |
| Clients getting hematomas after surgery | • Obtain adhesive tape and provide them to clients who do not have tight-fitting underpants  
• VMMC assistant finds out if the client has tight underpants and if they do not, strap the penis to the abdomen using adhesive tape.  
• Inform the client about the need to keep the bandage clean to prevent infections  
• Ask team members if they are willing to contribute towards the purchase of underpants for some few prisoners who may not have.  
• Request the IP to supply the underpants |
| Soiling of the dressing during bathing and passing | • Request the IP to provide polythene paper |
4. Registration, Group Education, and Client Communication

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Actions CQI Teams Took to Address the Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients’ data incomplete and inaccurate</td>
<td>• Hold a team meeting and orient all staff on</td>
</tr>
<tr>
<td></td>
<td>documentation of client details, including</td>
</tr>
<tr>
<td></td>
<td>client data in the register and giving the client</td>
</tr>
<tr>
<td></td>
<td>identification number</td>
</tr>
<tr>
<td>No register/record for group education</td>
<td>• Improvise with a counter book to introduce a</td>
</tr>
<tr>
<td></td>
<td>register to capture all clients who come for VMMC</td>
</tr>
<tr>
<td></td>
<td>services. In this book record the client’s names,</td>
</tr>
<tr>
<td></td>
<td>age, and other details as required by the team.</td>
</tr>
<tr>
<td></td>
<td>• Leave a column for comments/remarks.</td>
</tr>
<tr>
<td>No client VMMC forms</td>
<td>• Contact the IP and district for the missing forms</td>
</tr>
<tr>
<td></td>
<td>• Keep track of the available stock of forms for</td>
</tr>
<tr>
<td></td>
<td>more before running out of stock</td>
</tr>
<tr>
<td>Clients not registered and client forms not completed before</td>
<td>• Identify a person from the VMMC team to carry out</td>
</tr>
<tr>
<td>clients enter the procedure room</td>
<td>client registrations.</td>
</tr>
<tr>
<td></td>
<td>• Identify a registration point and include a</td>
</tr>
<tr>
<td></td>
<td>flowchart.</td>
</tr>
<tr>
<td>Lack of take-home information, education, and communication (IEC) materials</td>
<td>• Identify all the IEC materials required for clients</td>
</tr>
<tr>
<td>for clients</td>
<td>and their partners.</td>
</tr>
<tr>
<td></td>
<td>• Determine amounts required per month and order</td>
</tr>
<tr>
<td></td>
<td>them from the district health office.</td>
</tr>
<tr>
<td>Group education not being done</td>
<td>• Generate a list of talking points for group</td>
</tr>
<tr>
<td></td>
<td>education.</td>
</tr>
<tr>
<td></td>
<td>• Acquire all the job aids required for the session</td>
</tr>
<tr>
<td></td>
<td>• Identify a specific person(s) to conduct the</td>
</tr>
<tr>
<td></td>
<td>session.</td>
</tr>
<tr>
<td></td>
<td>• Have a plan for clients who arrive after the main</td>
</tr>
<tr>
<td></td>
<td>session has ended/started to ensure they receive</td>
</tr>
<tr>
<td></td>
<td>the same information as individuals who attended the</td>
</tr>
<tr>
<td></td>
<td>session.</td>
</tr>
<tr>
<td>Inadequate information given to clients during group education</td>
<td>• Convene a meeting for all service providers.</td>
</tr>
<tr>
<td></td>
<td>• Get an experienced counsellor or health educator</td>
</tr>
<tr>
<td></td>
<td>• Seek support from the IP and district.</td>
</tr>
<tr>
<td></td>
<td>• Review the guidance given in the assessment tool</td>
</tr>
<tr>
<td></td>
<td>• Have a common understanding.</td>
</tr>
<tr>
<td></td>
<td>• Ensure support from the IP and district.</td>
</tr>
<tr>
<td>No separation of clients according to age groups</td>
<td>• At registration, separate clients according to age</td>
</tr>
<tr>
<td></td>
<td>• Ensure there is a competent counsellor providing</td>
</tr>
<tr>
<td></td>
<td>information to the adults and to the mothers.</td>
</tr>
<tr>
<td>Not using appropriate group education techniques</td>
<td>• Convene a meeting for all service providers.</td>
</tr>
<tr>
<td></td>
<td>• Get an experienced counsellor or health educator</td>
</tr>
<tr>
<td></td>
<td>• Seek support from the IP and district.</td>
</tr>
<tr>
<td></td>
<td>• Review the guidance given in the assessment tool</td>
</tr>
<tr>
<td></td>
<td>• Have a common understanding.</td>
</tr>
<tr>
<td></td>
<td>• Ensure support from the IP and district.</td>
</tr>
<tr>
<td>Clients not encouraged or allowed to bring female partners or mothers</td>
<td>• Ensure staff and clients are aware if for mothers,</td>
</tr>
<tr>
<td>to group education sessions</td>
<td>caregivers are welcome at all group education</td>
</tr>
<tr>
<td></td>
<td>sessions or not.</td>
</tr>
<tr>
<td></td>
<td>• Ensure female involvement is discussed.</td>
</tr>
</tbody>
</table>
## 5. Counseling and HIV Testing

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Actions CQI Teams Took to Address the Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>No privacy during HIV counseling and testing (HCT)</td>
<td>• Work with the health unit administration to identify a room that can be used for counseling. If this is not available, work with the IP to procure a tent that can be portioned and used for many services including counseling.</td>
</tr>
<tr>
<td>No HCT register</td>
<td>• Identify the missing registers and make requests for them from the District Health Office and IP.</td>
</tr>
<tr>
<td>No individual and couple counseling &amp; testing for HIV during VMMC</td>
<td>• Orient counselors on the importance of individual and couple HIV counseling and testing during VMMC.</td>
</tr>
<tr>
<td></td>
<td>• Identify the required resources such as the space, and other supplies needed for counseling.</td>
</tr>
<tr>
<td></td>
<td>• Include HIV counseling and testing in the client flowchart.</td>
</tr>
<tr>
<td>Elements of VMMC not discussed during individual counseling and testing for HIV</td>
<td>• Develop a list of key talking points for guidance in the assessment tools and go through them with the entire team to have a common understanding of the counseling points.</td>
</tr>
<tr>
<td>No HIV test kits</td>
<td>• Assign a staff member to track stock levels of HIV test kits and monitor them using a stock card.</td>
</tr>
<tr>
<td></td>
<td>• Request for more supplies when stock reaches the minimum stock levels.</td>
</tr>
<tr>
<td>Poor referrals and linkage systems for HIV-positive clients</td>
<td>• Sensitize staff on the importance of linkage with other HIV prevention, treatment and care services.</td>
</tr>
<tr>
<td></td>
<td>• Develop a system to document and track linkage with other treatment centers.</td>
</tr>
<tr>
<td></td>
<td>• Physically escort referred clients to other service points in the health facility.</td>
</tr>
<tr>
<td>Clients do not understand the content of group education and counseling sessions</td>
<td>• Crosscheck the client’s understanding of the information given to them.</td>
</tr>
<tr>
<td></td>
<td>• Ask the client to repeat the information.</td>
</tr>
<tr>
<td>Lack of condoms or condoms not offered to clients; no demonstration of condom use</td>
<td>• Assign staff member to track stock levels of condoms.</td>
</tr>
<tr>
<td></td>
<td>• Orient staff on the importance of condoms in HIV prevention.</td>
</tr>
<tr>
<td></td>
<td>• Conduct refresher training on proper use of condoms.</td>
</tr>
<tr>
<td></td>
<td>• Add use of condoms to the counseling checklist for the sexually active.</td>
</tr>
<tr>
<td></td>
<td>• Distribute condom at each visit (including follow-up visits).</td>
</tr>
<tr>
<td>Informed consent not obtained</td>
<td>• Hold a staff meeting to reinforce the importance of obtaining informed consent prior to circumcision.</td>
</tr>
<tr>
<td></td>
<td>• Develop a standard operating procedure for obtaining consent; the SOP should include discussion on benefits and risks of circumcision and crosschecking the understanding of the information given to the clients.</td>
</tr>
<tr>
<td>Challenge</td>
<td>Actions CQI Teams Took to Address the Challenge</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>No couples counseling and testing offered for couples who want it</td>
<td>• Work with staff to make sure quality counseling and testing is available for couples who want it</td>
</tr>
<tr>
<td>Some guardians do not come with their children for VMMC</td>
<td>• Have community health workers and VMMC mobilizers inform clients in the community on the guardians/parents coming to health units to provide informed consent</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>6. Surgical Procedure</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Actions CQI Teams Took to Address the Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incomplete or no history taking and physical examination</td>
<td>• Project the number of expected clients to ensure that there are enough staff to meet the needs of the clients</td>
</tr>
<tr>
<td></td>
<td>• Source for additional staff from nearby districts during camp activities to ensure there are enough staff to carry out the work</td>
</tr>
<tr>
<td></td>
<td>• Identify an appropriate and available room and convert it into a physical examination room; assign a staff member to conduct physical assessments</td>
</tr>
<tr>
<td></td>
<td>• Evaluate client flow and develop a flow chart to map out the various steps in VMMC service assessment</td>
</tr>
<tr>
<td></td>
<td>• Conduct a CME and provide manuals on STI diagnosis and treatment (this can be supported by IP)</td>
</tr>
<tr>
<td></td>
<td>• Mentor staff on the importance of STI assessment and documentation by the in-charge</td>
</tr>
<tr>
<td></td>
<td>• Have staff at various service points verify that STI assessment was done for each client</td>
</tr>
<tr>
<td></td>
<td>• Post reminders on the wall in the examination rooms</td>
</tr>
<tr>
<td>Providers do not document clients diagnosed with sexually transmitted infections (STIs)</td>
<td>• Use the column for comments/remarks in the education register to document the diseases and for following the treatment of clients diagnosed with STIs</td>
</tr>
<tr>
<td></td>
<td>• Have the duty nurse document the treatment outcome at follow-up visits</td>
</tr>
<tr>
<td>No head-to-toe medical examination of clients pre-operatively</td>
<td>• Convene a meeting with the circumcisors to discuss the process of carrying out general medical examination of clients pre-operatively</td>
</tr>
<tr>
<td>No verification of client consent pre-operatively</td>
<td>• Place reminders in the theatre for circumcisors to cross check if consent has been obtained prior to surgery</td>
</tr>
<tr>
<td>Protective clothing (aprons, gowns) not used by surgical team during the surgical procedure</td>
<td>• Orient staff on the importance of infection prevention</td>
</tr>
<tr>
<td></td>
<td>• Avail personal protective gear to staff</td>
</tr>
<tr>
<td></td>
<td>• Assign staff member to spearhead infection prevention</td>
</tr>
<tr>
<td>Lack of forceps for checking for whether anesthesia has been achieved</td>
<td>• Cross check all reusable surgical kit to ensure it is complete</td>
</tr>
<tr>
<td></td>
<td>• Identify any missing instruments and report to the health unit administration and IP to avail replacement equipment</td>
</tr>
<tr>
<td>Infiltration of local anesthesia not done at the right position</td>
<td>• Convene a meeting with the surgical team to review the entire surgical procedure to ensure providers are performing the acceptable technique</td>
</tr>
<tr>
<td>Issue</td>
<td>Solution(s)</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Inability to appropriately respond to emergencies</td>
<td>• Work with the IP to organize training on emergency response and management</td>
</tr>
<tr>
<td></td>
<td>• If this is not possible, work with the health unit anesthetist to go through the management of emergencies</td>
</tr>
<tr>
<td>No strapping of the penis to the lower abdomen</td>
<td>• Introduce regular mentorship and peer review to ensure that all providers strap the client's penis to the lower abdomen</td>
</tr>
<tr>
<td>No observation of vital signs post-operatively. Clients are not checked for oozing from the site of the operation post-operatively because there is no privacy to do it.</td>
<td>• Identify the missing equipment and request it from NMS or approach the IP to provide it</td>
</tr>
<tr>
<td></td>
<td>• Place reminders for staff to give post-operative instructions in the post-operative care</td>
</tr>
<tr>
<td></td>
<td>• Allocate a staff member on the duty roster to oversee post-operative sessions</td>
</tr>
<tr>
<td></td>
<td>• Provide an area with privacy to ensure that the clients can be checked for oozing</td>
</tr>
<tr>
<td></td>
<td>• Include this step on the checklist for post-operative care</td>
</tr>
<tr>
<td>Post-operative instructions not discussed with clients</td>
<td>• Develop a list of post-operative instructions to ensure that clients are given the instructions as given in the assessment tool</td>
</tr>
<tr>
<td></td>
<td>• Develop and use a post-operative checklist that includes all instructions as given in the assessment tool</td>
</tr>
<tr>
<td>Incomplete client records</td>
<td>• All circumcisers to complete the client forms immediately after surgery</td>
</tr>
<tr>
<td></td>
<td>• Complete client records after each procedure as opposed to completing the records after the end of the day</td>
</tr>
<tr>
<td></td>
<td>• Each section completed on the form should be checked for completeness at the next stage</td>
</tr>
<tr>
<td>No follow-up of clients post-operatively</td>
<td>• Develop talking points and clear messages to ensure that each team member gives the same clear and consistent message</td>
</tr>
<tr>
<td></td>
<td>• Engage the surgeon or assistant in giving clients information on the importance of follow-up at 48 hours and 7 days during the meeting</td>
</tr>
<tr>
<td></td>
<td>• Acquire client cards from the district health office or IP and use them to indicate actual return dates</td>
</tr>
<tr>
<td></td>
<td>• Provide a counter book to lower-level facilities to document clients who go for follow-up</td>
</tr>
<tr>
<td></td>
<td>• Mentor staff at lower-level facilities on giving clients information about follow-up and the importance of follow-up, including documentation of adverse events</td>
</tr>
<tr>
<td></td>
<td>• Approach the IP to provide a telephone number to give clients reminder calls about follow-up (Don’t use the phone to conduct follow-up)</td>
</tr>
<tr>
<td></td>
<td>• Identify community health workers attached to the health units and sensitize them on the importance of clients coming back for follow-up; regularly give them lists of clients who are due for follow-up so that they can remind them to come back for follow-up</td>
</tr>
</tbody>
</table>
### 7. Monitoring and Evaluation

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Actions CQI Teams Took to Address the Challenge</th>
</tr>
</thead>
</table>
| Lack of relevant VMMC data tools (client cards, forms, adverse events grading scale, VMMC register, HCT register) | • Estimate the consumption rate of the tools and request for them through the IP or district health office  
• Keep track of the available stock and ensure it is enough at all the time  
• Get copies of the required tools  
• Estimate the amounts required for each tool and request the health unit management to make copies |
| No designated person for transferring data to the registers from the client forms | • Bring the health unit records personnel on board  
• Identify a member of the team to work closely with the records team to ensure that VMMC data are correctly captured, summarized, and reported timely |
| Registers and client forms not completely filled (missing weights, blood pressure) due to lack of weighing scale, blood pressure cuff, and pulse oximeter | • Introduce a data quality assessment system within the client flow  
• As the client moves through the various service points, staff at these points cross check the completeness and correctness of data captured at the previous points  
• Decide not to circumcise any client whose form is incomplete  
• Include a records officer on the team and assign specific roles including crosschecking for completeness of the register  
• Identify the missing equipment and request the IP to provide them  
• Develop a list of roles and responsibilities and assign the counselor the role of obtaining and documenting the client’s demographics and the circumciser the role of verifying the completeness of the forms |
| VMMC client forms not well kept; data not correctly summarized, reported, and filed | • Get copies of monthly summary forms  
• Acquire box files/folders to keep the client forms according to follow-up or referral (for example, create a folder for clients who are diagnosed with STIs)  
• Fill out the monthly summary form at the end of each month  
• Submit a copy to higher levels  
• Identify the stationery requirements and request the IP or district health office to provide them |

### 8. Infection Prevention

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Actions CQI Teams Took to Address the Challenge</th>
</tr>
</thead>
</table>
| Preparation of chlorine solution (disinfectant) not being done correctly; instruments kept in containers that have chlorine solution | • Develop an SOP for preparing chlorine solutions and orient all staffs on the SOP  
• Ensure all staff involved in cleaning are familiar with the mixing of chlorine solutions  
• Orient staff on the use of antiseptics and storage of instruments |

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<table>
<thead>
<tr>
<th>Issue</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not easy to clean the work environment</td>
<td>• If the floor of theatre is not easy to clean, work with health unit management, IP and district to renovate the floor or change to another room using the floor.</td>
</tr>
<tr>
<td>Preparation of disinfectant solution is not done correctly; very concentrated or over diluted solutions were being used</td>
<td>• Develop a guide with instructions on how to prepare proper disinfectant solutions based on the concentrations used. Share this guide in a staff meeting and display it on the walls in the room where the solutions are prepared.</td>
</tr>
<tr>
<td>Cleaning equipment not decontaminated before storage--only cleaned with water and detergent and then stored</td>
<td>• Coach the teams on the standard procedure of decontamination and cleaning of the cleaning equipment before storage or reuse. Inform the in-charge to request the staff who do cleaning to join the CQI team.</td>
</tr>
<tr>
<td>Used instruments are kept in the chlorine solution for decontamination for hours before they are cleaned and some instruments are not completely submerged in the solution</td>
<td>• Organize a site team meeting to train the staff on the standard procedure of decontamination. Make requisitions from the stores for timers which are used to time the decontamination stage.</td>
</tr>
<tr>
<td>Instruments kept with antiseptics</td>
<td>• Orientation of staff on instrument management (cheatle forceps handling and sterilization).</td>
</tr>
<tr>
<td>No wrapping of instruments before sterilization</td>
<td>• Request wrappers for instruments from the IP or administration.</td>
</tr>
<tr>
<td>No expiry dates on the sterilized packs of instruments</td>
<td>• Develop an inventory system for sterilized equipment. Put a label on each sterilized set using and a pen to indicate the dates when it was sterilized. Use the first sterilized/first out rule for distribution.</td>
</tr>
<tr>
<td>Instruments for sterilization packed in closed position</td>
<td>• Go through the process of sterilization with an expert. Work with the IP and district health office to identify an expert. The expert should orient all the staff on the sterilization process.</td>
</tr>
<tr>
<td>No sterilization tape</td>
<td>• Place requests for sterilization tape from NMS. If not available work with the IP to avail the tape.</td>
</tr>
<tr>
<td>Poor storage of sterile sets of instruments</td>
<td>• Identify a specific place for storage of equipment. Preferably get a lockable cupboard in the theatre away from dust and off the floor.</td>
</tr>
<tr>
<td>No waste segregation</td>
<td>• Work with the IP to get a technical person on waste management and segregation. Request for all the required items including appropriate waste bins and their liners.</td>
</tr>
<tr>
<td>Sharps containers are overfilled</td>
<td>• Obtain adequate number of safety containers from the hospital stores and NMS. Place the safety boxes close to the area of operation. Dispose of them when they are ¾ full.</td>
</tr>
<tr>
<td>No disposal of metallic waste</td>
<td>• Decontaminate all the metallic waste following the standard procedure and safely store them in a secure place. When the waste has accumulated inform the IP to organize for disposal.</td>
</tr>
<tr>
<td>No utility gloves</td>
<td>• Identify the amounts required and place an order to NMS. Involve the IP and district health office to ensure availability.</td>
</tr>
<tr>
<td>Problem</td>
<td>Solution</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>No color-coded bin liners</td>
<td>Requisition for bin liners from the health unit administration</td>
</tr>
<tr>
<td></td>
<td>Requisition for bin liners from NMS and IP</td>
</tr>
<tr>
<td></td>
<td>If necessary, improvise with labeled bins and other colors for waste segregation</td>
</tr>
<tr>
<td>Lack of personal protective gear like shoes, masks, and eye shields</td>
<td>Identify the amounts of personal protective gear required and place an order to NMS</td>
</tr>
<tr>
<td></td>
<td>Involve the IP and district health office</td>
</tr>
<tr>
<td></td>
<td>Put in place an inventory system to track stock and maintain minimum stock levels</td>
</tr>
<tr>
<td>There is no interim storage of waste / interim storage area not appropriate</td>
<td>Inform the IP about the need for interim storage bins</td>
</tr>
<tr>
<td></td>
<td>Identify a room within the health unit for interim storage of waste with the help of the health unit administration</td>
</tr>
<tr>
<td>Open pit disposal of waste; use of burning for disposal of waste</td>
<td>Inform all the stakeholders (health unit administration, IP, and district health office) about the final waste disposal and together develop a plan to solve the problems</td>
</tr>
</tbody>
</table>

**Case Studies, Articles & Reports**

This section of the toolkit contains case studies, links to peer-reviewed articles, and other technical reports describing applications of CQI to VMMC services.

**Case Studies**

This section of the toolkit features case studies of how VMMC sites improved specific aspects of care.

**Articles**

This section provides links to journal articles on CQI applied to VMMC. A peer-reviewed journal collection on lessons from scaling up CQI for VMMC programs is currently in development.

**Technical reports**

This section includes links to technical reports and briefs related to improving quality of VMMC.
Multimedia

This section of the toolkit comprises webinar recordings, short films about improving VMMC services, and conference presentations and posters focusing on continuous quality improvement of voluntary medical male circumcision services. These are categorized by webinars, short films, and oral and poster presentations from national and international scientific conferences.

Webinars

These webinars, varying in length from 60 minutes to two hours, include presentations and panel discussions about applying CQI to VMMC services.

Short films

This section provides links to documentaries and short video clips about improving the quality of VMMC services.

Conference presentations

This section contains PowerPoint presentations and posters from recent international and national scientific conferences that describe applications of CQI and EQA in VMMC programs.

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Links