This change package for improving management of adverse events following voluntary medical male circumcision in Uganda was prepared by University Research Co., LLC (URC) for review by the United States Agency for International Development (USAID) and authored by Anna Lawino, Albert Twinomugisha, John Byabagambi, and Esther Karamagi of URC. It was developed as part of the Voluntary Medical Male Circumcision work in Uganda funded by the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) and carried out under the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project, which is made possible by the generous support of the American people through USAID.
CHANGE PACKAGE

Improving Management of Adverse Events Following Voluntary Medical Male Circumcision in Uganda

JULY 2018

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DISCLAIMER
The contents of this report are the sole responsibility of University Research Co., LLC (URC) and do not necessarily reflect the views of the United States Agency for International Development or the United States Government.
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For more information on the work of the USAID ASSIST Project, please visit www.usaidassist.org or write assist-info@urc-chs.com.

Recommended citation

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Acronyms

ASSIST  USAID Applying Science to Strengthen and Improve Systems Project
CQI    Continuous quality improvement
DoD    United States Department of Defense
HC     Health Center
HIWA   HIV Health Initiatives in Workplace Activities
IP     Implementing Partner
MOH    Ministry of Health
MUWRP  Makerere University Walter Reed Project
PEPFAR U.S. President’s Emergency Plan for AIDS Relief
RHITES EC Regional Health Integration to Enhance Services – Eastern Central
RHITES SW Regional Health Integration to Enhance Services – South Western
RTI    Research Triangle Institute
SMC    Safe Male Circumcision
STAR E Strengthening TB and HIV&AIDS Responses in Eastern Uganda
SUSTAIN Strengthening Uganda’s Systems for Treating AIDS Nationally
UPDF   Uganda Peoples’ Defense Forces
UPHS   Uganda Private Health Support Program
URC    University Research Co., LLC
USAID  United States Agency for International Development
VHT    Village Health Team
VMMC   Voluntary Medical Male Circumcision

Glossary of Terms

Adverse event: Any injury, harm, or undesired outcome that occurred during or following a clinical procedure, such as the male circumcision procedure, that would not have occurred if the client had not undergone the procedure at that time.

Change concept: A category of change ideas or interventions that are similar and have a common underlying pattern.

Change idea: A specific intervention which a health facility quality improvement team tests with a hypothesis that it will improve the process or provision of care.

Change package: An organized summary of strategies and interventions (change concepts and change ideas) that have been tested and proven to improve the provision of care in a specific context. For example, the interventions outlined in this document have been tested and proven to result in the reduction of adverse events following VMMC.

Continuous quality improvement (CQI): An approach to quality management which builds upon traditional quality assurance methods by emphasizing a systems approach: it focuses on “process” rather than individual; it recognizes both internal and external “customers”; it promotes the need for objective data to analyze and improve processes.

Voluntary Medical Male Circumcision: Surgical removal of the foreskin of the penis.
I. INTRODUCTION

The USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project in Uganda has been working collaboratively with 10 implementing partners (IPs) to carry out voluntary medical male circumcision (VMMC) for HIV prevention programs since 2013. ASSIST’s objective was to build capacity of IP, district and health facility staff to improve the quality and safety of voluntary medical male circumcision services in Uganda. One of the priorities was to improve the management of adverse events following circumcision. Initially, 30 health facilities were involved and progressively the activity was scaled up to additional health facilities. There were 19 health facilities in the first wave and 33 in the second.

Table 1 provides a list of the health facilities and the IP supporting them who participated in improving the identification and management of adverse events following VMMC and who contributed to the change package.

### Table 1. Health facilities and their supporting IP participating in improving VMMC adverse events and contributing to the development of the change package

<table>
<thead>
<tr>
<th>Sites</th>
<th>Supporting implementing partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulu Regional Referral Hospital, Fort Portal Regional Referral Hospital, Moroto Regional Referral Hospital, Kabale Regional Referral Hospital</td>
<td>Strengthening Uganda’s Systems for Treating AIDS Nationally (SUSTAIN)</td>
</tr>
<tr>
<td>Apac Hospital, Anaka Hospital, Kitgum Hospital</td>
<td>SUSTAIN</td>
</tr>
<tr>
<td>Mukono HC IV, Kayunga Hospital, Kojja HC IV</td>
<td>Makerere University Walter Reed Project (MUWRP)</td>
</tr>
<tr>
<td>Kisoro Hospital, Bugangari HC IV</td>
<td>Regional Health Integration to Enhance Services – South Western (RHITES SW)</td>
</tr>
<tr>
<td>Moroto Army Military Hospital</td>
<td>Uganda Peoples’ Defense Forces (UPDF) HIV Project</td>
</tr>
<tr>
<td>Buyinja HC IV, Bugiri Hospital, Dabani Hospital</td>
<td>Regional Health Integration to Enhance Services – East Central (RHITES EC)</td>
</tr>
<tr>
<td>Kibuku HC IV, Busolwe HC IV,</td>
<td>Strengthening TB and HIV&amp;AIDS Responses in Eastern Uganda (STAR E)</td>
</tr>
<tr>
<td>Kibuli Police Training School Clinic, Masaka Police HC III</td>
<td>HIV Health Initiatives in Workplace Activities (HIWA)</td>
</tr>
<tr>
<td>Span Medical Center, St. Apollo HC IV, Mengo Hospital, Ishaka Adventist Hospital, Kiwoko Hospital, Kuluva Hospital, Iganga Islamic Hospital, Holy Cross Hospital Namugoona, Mehta Hospital</td>
<td>Uganda Private Health Support Program (UPHS)</td>
</tr>
</tbody>
</table>

A. Adverse events following voluntary medical male circumcision services in Uganda

Uganda rolled out the implementation of VMMC in 2010 and since then made progress in scaling up the intervention, with more than two million men circumcised by December 2014 (Kripke, Vazzano et al. 2017). As a surgical intervention, it’s critical that VMMC services are safe for clients and that adverse events or complications are minimized. There is limited information on adverse events following VMMC for Uganda; however, various studies have shown the rate of adverse events to be in the range of 2.1% (Galukande, Sekavuga et al. 2012) to 3.6% (Gray, Kigozi et al. 2007). Adverse events rates as high as 7.5% have been reported among clients actively followed up after circumcision in Kenya (Herman-Roloff,
Bailey et al. 2012). Even with a skilled surgical team, adverse events occur and when they do, it is essential that they are quickly identified and properly managed.

The Ministry of Health (MOH) in Uganda has developed a scale to guide male circumcision surgical teams in grading the severity of various types of adverse events. The MOH has also developed data capture tools in which to record adverse events.

Management of adverse events requires knowledge of classification. Classification of adverse events has been described in detail in the adverse events action guide for voluntary medical male circumcision by surgery or device which can be accessed at: https://www.malecircumcision.org/resource/adverse-event-action-guide-voluntary-medical-male-circumcision-surgery-or-device-2nd. Adverse events may be classified according to type, timing of their occurrence since male circumcision surgery and severity. According to severity, adverse events may be classified into three categories including:

- Mild - minimal or no intervention is required beyond reassurance and observation;
- Moderate - neither mild nor severe, require intervention, and usually managed on-site; and
- Severe - requires extensive intervention with referral or specialist input.

In addition, adverse events are classified based on the timing of their occurrence including: intra-operative, within 48 hours of circumcision, within 7 days, and beyond 7 days after circumcision. The adverse events may be managed locally on site of the VMMC service delivery or referred to a higher level health facility or to a specialist for further management for adverse events related to partial or complete amputation of the glans or shaft; resulting in permanent disability; and resulting in permanent anatomic deformity. The challenges to improved management of adverse events following VMMC are shown in Figure 1.

**Figure 1: Challenges to improved management of adverse events following VMMC**

[Diagram of challenges]

USAID ASSIST’s aims were to:

- Build skills of health providers in prevention, identification and treatment of adverse events
- Improve the use of tools to capture and monitor adverse events following VMMC
• Improve follow up of clients after VMMC
• Improve referral of moderate and severe adverse events (as appropriate) following VMMC
• Improve wound care practices among circumcised clients and ability to recognize danger signs early.

II. APPROACH AND IMPLEMENTATION

ASSIST introduced a continuous quality improvement (CQI) approach using the Plan-Do-Study and Act (PDSA) cycle to participating facilities beginning in 2013 with 30 health facilities, then subsequently spread to other additional health facilities in waves. The first, second, and third waves involved 19, 33, and 14 health facilities, respectively. Selected providers from health facility teams were trained in quality improvement (QI) by ASSIST and then supported to form QI teams for VMMC. The teams were composed of different providers who support VMMC care, as shown in Box 1. QI teams were supported through monthly coaching to identify gaps in the management of adverse events, prioritize areas for improvement, develop, test and implement change ideas for improvement. Coaching visits were conducted jointly by staff from ASSIST, VMMC IP in the region, and the district health management team (DHMT). Peer-to-peer learning sessions for VMMC improvement teams were organized on a quarterly basis to allow VMMC improvement teams to share experiences and challenges in implementing improvement work.

III. DEVELOPMENT OF THE CHANGE PACKAGE

This change package focuses on reducing adverse events following voluntary medical male circumcision. A harvest meeting was convened in December 2016 (36 months after ASSIST CQI support began) to systematically harvest and document the experiences of providers in using CQI to improve VMMC care. Representatives from 30 health units were invited, including providers from the initial 30 facilities and all other waves. In small groups with support from facilitators, the teams discussed the changes tested to identify what changes worked or did not work, and how the changes correlated to the impact they had on reducing adverse events. The changes were further discussed in a plenary to ensure experiences from all the sites were captured. The teams then evaluated and scored the changes based on evidence from facility level results, relative importance, simplicity, and ease of scaling those changes.

The interventions to improve management of adverse events following VMMC implemented by the quality improvement teams were grouped in five aims shown in Figure 2 below. The change package describes the changes tested and implemented by the VMMC improvement teams to achieve the aims. It details the change ideas, the logic for their implementation and the steps taken to carry them out.
A. Intended use of change package

The purpose of this change package is to provide guidelines on improving management of adverse events following voluntary medical male circumcision to service providers offering circumcision services. Health workers should adapt the tested changes to the specific contexts in their health facilities and the resources available. The changes described in this document can also be useful for IPs, MOH officials and district health management teams which supervise health facilities working on VMMC.

This change package contains synthesis of learning from ASSIST’s experience in improving management of adverse events following VMMC in Uganda. The change package provides a detailed description of what changes led to improvement for each of the four improvement aims. Each section outlines the problem being addressed, the change ideas tested, steps followed in introducing each change idea, and the evidence that it led to improvement.

B. Evidence for changes

There was an initial increase in the percentage of client’s experiencing moderate to severe adverse events from 0.3% November 2012 to 2.3% May 2013 at the 49 health facilities (Figure 3), due to improvements in the identification of adverse events, data capture, and reporting of adverse events. Subsequently, there was a reduction in adverse events experienced from 2.3% May 2013 to below 0.5% August 2017 due to the changes made and improvement in treatment, referral and follow up of adverse events. Figure 3 shows the inverse relationship observed between reduction of adverse events and increase in post-operative follow-up with the implementation of the improvement work.
Tables 2-6 summarize the main change ideas recommended by teams in Uganda to improve management of adverse events following VMMC organized by the aims that guided the teams.

### IV. CHANGE PACKAGE

#### A. Aim 1 – Build skills of health providers in prevention, identification and treatment of adverse events

**Table 2. Change package for building skills of health providers in the prevention, identification and treatment of adverse events**

<table>
<thead>
<tr>
<th>Change idea</th>
<th>Logic for change</th>
<th>How to implement the change</th>
</tr>
</thead>
</table>
| **Assign a general surgeon to work with VMMC providers to build their skills in identification and treatment/management of adverse events** | During some VMMC activities, especially outreaches and camps, numerous providers from other health facilities are engaged in the activities and some lack adequate skills in prevention, identification and treatment/management of adverse events. | • VMMC team leader requests the IP to identify a surgeon/s from same health facility, another facility within the district, or neighboring district to work with the VMMC team.  
• Assigned surgeon/s supervises VMMC providers (circumcisers and assistant circumcisers) on scheduled days of VMMC activity.  
• Provides hands on training on how to prevent, identify and treat/manage adverse events. This involves a practicum organized for VMMC providers by an assigned surgeon on different case scenarios of adverse events e.g. provision of basic life support in case of anaesthetic related events. |
### Improving management of adverse events following VMMC in Uganda

**On-the-job mentorship of staff on the use of VMMC adverse events grading scale (see Annex) to identify and classify adverse events**

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| Some health providers lacked skills to identify and classify adverse events following VMMC. As a result, there was misclassification of adverse events leading to under- and over-reporting of adverse events. (Only moderate and severe adverse events are to be reported). | • VMMC QI team leader makes requests for adverse events grading scale from IP.  
• VMMC QI team leader organizes a meeting to train staff on how to use the grading scale (type of adverse event, determination of grade or classification based on severity).  
• At other facilities, the improvement coaches provide on-job mentorship on grading of adverse events using adverse events grading scale.  
• QI team leader displays the adverse events grading scale at various work stations (operating and post-op rooms) and provide all clinicians with copies of the scale for reference. |

4 health facilities tested and implemented this change.

**Lobby IP to organize additional training of VMMC providers on common adverse events in VMMC and their management**

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| New VMMC providers were not confident of their skills in identification and management of common adverse events. | • Team leader writes to IP supporting VMMC at the site to request additional training for staff on common adverse events in VMMC and their management.  
• Training is organized at the facility and is facilitated by specialists (general surgeons and anesthesiologists) supported by IP.  
• The training curriculum is focused on common adverse events and how to manage them, including a demonstration of how to manage the adverse events (e.g. emergency resuscitation in case of anaesthetic related complications).  
• Organize training every 12 months. |

6 health facility tested and implemented this change.

**Continuous medical education (CME) of staff on guidelines of treatment/management of common adverse events following VMMC and how to maintain aseptic technique during VMMC**

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</table>
| Some providers lacked skills on how to treat/manage common adverse events following VMMC and how to maintain aseptic technique during VMMC surgical procedures. | • VMMC team leader organizes monthly meeting with staff to review the guidelines on how to treat/manage common adverse events and to review standard operating procedures on how to maintain aseptic technique during VMMC surgical procedures.  
• Team leader uses the standard guidelines on treatment/management of adverse events and WHO manual of procedure as references for the meetings ((WHO 2008, Rech, Samkange et al. 2015).  
• Team leader assign staff member to observe and monitor the VMMC surgical procedures on certain clinic days and provide feedback during the meetings on staff performance. |

8 health facilities implemented this change.
### B. Aim 2 – Improve the use of tools to capture and monitor adverse events following VMMC

#### Table 3. Change package on improving the use of tools and monitoring of adverse events

<table>
<thead>
<tr>
<th>Change idea</th>
<th>Logic for change</th>
<th>How to implement the change</th>
<th>Facilities tested and implemented this change</th>
</tr>
</thead>
</table>
| Assign staff to update the VMMC data tools with data on adverse events | Most sites had inconsistent data on adverse events captured in data tools, when they occurred. At others health facilities, the data on adverse events was only captured in the client forms and not transferred to the VMMC register or vice versa. This led to inconsistent reporting of data on adverse events. | • Team leader organizes a meeting to identify a staff member to responsible for capturing data or updating data tools with data on adverse events.  
• Assigned staff reviews all client forms for the day/week and transfers the information to VMMC registers (including information on adverse events).  
• During team meeting, QI team leader checks/verifies the client forms and register to cross check the consistency of data on adverse events in all tools. | 6 health facilities tested and implemented this change. |
| Orient VMMC providers on importance of and how to correctly capture data on adverse events in data tools | Data tools were incomplete, and providers did not record adverse events in data tools due to “fear among health providers that capture of adverse events in data tools would mean they were not doing a good job”.  
Other health providers were using the wrong | • VMMC team leader holds a meeting to train staff on the capture of data on adverse events in the VMMC client forms and register.  
• Team focuses on data capture on adverse events during surgery and after surgery and on capturing data on clients without any adverse events as well.  
• Team leader encourages health providers during meeting to always capture data on adverse events and not to ‘fear to capture them’.  
• Stresses that adverse events can be used |
codes for the adverse events in the VMMC registers and client forms which led to misclassification of the type of adverse event.  as learning opportunities as well as for improvement.

3 health facilities tested and implemented this change.

Conduct monthly meetings to review adverse events experienced during VMMC

Most teams were not using their data on adverse events that occurred following VMMC.

- VMMC team agrees to hold monthly meeting to review adverse events that occur following VMMC.
- VMMC CQI team leader organizes the monthly meeting and invites staff from all sections of the VMMC clinic.
- Team discusses adverse events which occurred during the period under review, focusing on the type of adverse event, when it occurred, how it was managed, the outcome of the management and possible causes.

5 health facilities tested and implemented this change.

Use a file/folder for storage/filing of adverse events management forms of clients who experienced adverse events

Some staff had difficulty in retrieving client adverse events management forms which made it difficult for them to have data during review of adverse events.

- VMMC team leader makes requests for a file from the health facility stores/implementing partner.
- Staff use the file to store adverse events management form for each client who experience’s an adverse event.
- During QI team meeting to review adverse events, the client adverse events management forms can be easily retrieved from the file.

8 health facilities implemented this change.

C. Aim 3 – Improve follow-up of clients after VMMC

Table 4. Change package on improving follow-up of clients after VMMC

<table>
<thead>
<tr>
<th>Change idea</th>
<th>Logic for change</th>
<th>How to implement the change</th>
</tr>
</thead>
</table>
| Repackage the information offered to clients during circumcision on post-op follow up to include the importance/ reason for follow-up including: (i) Return for bandage removal at health facilities within 48 hours of circumcision (ii) Return for check of healing of wound at 7 days and beyond 7 days | The message provided to clients during VMMC lacked information on the importance and reason for returning for post-op follow-up. Some health providers informed clients to return for post-op follow up only in case of complications. | - VMMC/QI team leader invites staff for a meeting to discuss the content of information to provide clients on post-operative follow up.
- The team agrees to provide information on the importance and reasons for post-op follow up at the various scheduled times (within 48 hours, 7 days and beyond 7 days).
- The team decides to have counsellors provide this information to all clients during VMMC service provision. |

30 health facilities implemented this change.
Identify and mentor staff from lower level health facilities to provide post-operative care for clients circumcised during VMMC outreaches

The long distance between health facilities and communities where safe male circumcision outreaches are conducted limited clients from getting to the facility for post-op follow-up services.

- VMMC team leader holds discussions with leadership of lower level health facilities before VMMC community outreaches to identify staff to be involved in VMMC outreaches.
- Team leader assigns identified staff to work with the experienced VMMC providers from the health facility who are conducting the outreach to provide post-operative care to clients during VMMC outreaches.
- Mentored staff from lower level facility continue to provide post-operative care to circumcised clients after VMMC outreaches.
- He/she documents the clients reviewed during the post-op follow visits.
- VMMC team, who conducted the outreach, sends a staff member to collect data on clients reviewed after circumcision at lower level health facility.

10 health facilities tested and implemented this change.

Make reminder telephone calls to clients about their appointments for post-operative follow up visits at the health facility

VMMC clients who have forgotten their appointment dates for post-operative follow up are reminded to return.

- VMMC leader writes to implementing partner/health facility administrator requesting for a phone and airtime.
- Assigns a staff member to make telephone calls to circumcised clients before their appointment dates and to those who miss their appointments to remind them of follow-up appointments.
- During VMMC, health providers capture telephone contacts of clients or for their next of kin in the VMMC client forms.
- Assigned staff makes calls to clients and writes the calls made on the client forms/call log for clients/remarks section of VMMC register.

14 health facilities tested and implemented this change.

Note: More information on improving follow-up of clients after VMMC (aim 3) is described in the change package for improving post-operative following among circumcised men in Uganda.

D. Aim 4 – Improve referral of adverse events following VMMC

Table 5. Change package on improving the referral of patients with adverse events

<table>
<thead>
<tr>
<th>Change idea</th>
<th>Logic for change</th>
<th>How to implement the change</th>
</tr>
</thead>
</table>
| Identify health facilities with specialists capable of handling adverse events for referral (e.g., excessive skin removal, urethral injury, excessive) | VMMC teams were referring clients for management of adverse events to facilities without specialists capable of providing adequate care | - VMMC team leader writes to IP and district health office to obtain information on health facilities with specialists capable of management of adverse events for referral at higher level facilities.  
- Shares the list of health facilities for |
<table>
<thead>
<tr>
<th>Action Description</th>
<th>Details</th>
<th>Health Facilities Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Orient staff on the adverse events which require referral to specialists or to other health facilities for management</strong></td>
<td>There were delays at some health facilities in referral of some adverse events for specialist review or to higher level facilities for management.</td>
<td>3 health facilities</td>
</tr>
<tr>
<td><strong>Use referral forms for clients referred for management at other health facilities and update records with details of referrals</strong></td>
<td>Referrals of clients with adverse events to specialists or higher level health facilities were not captured at the referral site.</td>
<td>2 health facilities</td>
</tr>
<tr>
<td><strong>Provide clients during the circumcision with contact information for the VMMC clinic/clinicians to contact in case of any issues/complications arising after VMMC</strong></td>
<td>Some VMMC clinics did not have any contact information which clients could use to make consultations after VMMC. Therefore, some clients who had issues during post-operative period did not know whom to contact. This was especially the case for clients from VMMC outreaches.</td>
<td>4 health facilities</td>
</tr>
</tbody>
</table>
### E. Aim 5 - Improve wound care practices among circumcised clients and ability to recognize danger signs early

Table 6. Change package on improving wound care practices among circumcised clients and recognition of danger signs

<table>
<thead>
<tr>
<th>Change idea</th>
<th>Logic for change</th>
<th>How to guide for implementation of the change</th>
</tr>
</thead>
</table>
| Avail/provide polythene bags to clients after circumcision for covering the wound when taking a bath | Some clients were having difficulty keeping the circumcision wound dry after VMMC especially when taking a bath. This often posed a risk of infections. | • VMMC team leader procures polythene bags as part of the VMMC sundries and has the polythene bags made available at the post-operative place/area.  
• VMMC counsellors provide client education and demonstrate how to use the polythene bags to cover the wound when taking a bath during the 7 days following circumcision.  
• Post-operative nurse/health provider distributes the polythene bags to circumcised clients. |
| Encourage clients to come for VMMC with tight fitting underwear/pants | Following VMMC, some clients were leaving the penis unsupported which posed risk of developing haematoma at the circumcision site due to posturing of the penis. | • VMMC Mobilizers inform clients during mobilization for VMMC to come with tight-fitting underwear/pants for circumcision.  
• Counsellors re-emphasize the information on wearing tight-fitting underwear after VMMC within the 7-day interval following the procedure during group education.  
• Circumcised clients wear tight-fitting underwear/pants after circumcision and position the penis in an upright position. |
| Use crepe bandage and strap to hold the penis in an upward position after VMMC | Following VMMC, some clients were leaving the penis unsupported which posed risk of developing haematoma at the circumcision site due to posturing of the penis. | • QI team leader organizes a meeting to discuss with circumcisers and assistants the use of crepe bandage and strapping to hold the penis in an upward position after circumcision.  
• Circumciser and assistants prepare strapping and crepe bandage to use during VMMC.  
• After VMMC, clinicians apply crepe bandage and strapping to the abdomen, keeping the penis in upward position as clients are discharged home. |
| Provide comprehensive information to clients during counseling on wound care, danger signs, and possible adverse events following | Some clients lacked information on how to appropriately care for their circumcision wounds and others were putting unwanted substances on | • Counsellors develop a checklist on wound care to use during counseling.  
• They provide information on wound care during health education and post-op care to clients.  
• They also provide information on danger |
At some facilities, there were delays in seeking care by some clients due to lack of awareness on whether the adverse event required medical attention.

VMMC counsellors and mobilizers provide information to clients during VMMC mobilization and ground education of clients in the community.

- They inform minors to attend VMMC with their parents/guardians.
- During VMMC services, counsellors offer education on post-operative instructions to the clients together with their parents/guardians.

2 health facilities tested and implemented this change.

<table>
<thead>
<tr>
<th>VMMC</th>
<th>their wounds.</th>
<th>signs after VMMC and on the possible adverse events.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At some facilities, there were delays in seeking care by some clients due to lack of awareness on whether the adverse event required medical attention.</td>
<td>• Staff use pictures from adverse events guide to describe to clients.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 health facilities tested and implemented this change.</td>
</tr>
</tbody>
</table>

**V. RECOMMENDATIONS AND LESSONS LEARNED**

- Adverse events following VMMC can occur with any VMMC team regardless of the level of skill or level of health facility. Hence, all VMMC sites should be expectant of adverse events to occur following VMMC. However, all providers should have skills on how to identify, treat, refer, follow up and report adverse events following VMMC.

- It is more advantageous to identify and provide management of adverse events in their mild forms since it often prevents progression to moderate and severe forms.

- Improving client follow-up post circumcision is critical to reduction of adverse events following VMMC since the VMMC team can identify the adverse event in its lesser severe form and provide treatment.

- The availability of a clear grading system for adverse events and data tools enables systematic evaluation and standardized identification of adverse events following VMMC.

- Understanding the type of adverse event is also important for prevention of the adverse event.

Encourage minors to attend VMMC counseling and education with their parents/guardians

At some VMMC sites, a large number of minors were experiencing adverse events after VMMC. The main reason was inappropriate wound care after VMMC. Most minors were unable to comprehend or remember post-operative care instructions on appropriate wound care after VMMC.

- VMMC counsellors and mobilizers provide information to clients during VMMC mobilization and ground education of clients in the community.
- They inform minors to attend VMMC with their parents/guardians.
- During VMMC services, counsellors offer education on post-operative instructions to the clients together with their parents/guardians.

2 health facilities tested and implemented this change.
VI. REFERENCES


## ANNEX

### Adverse events grading scale for safe male circumcision

<table>
<thead>
<tr>
<th>CODE</th>
<th>EVENT Description</th>
<th>Severity of Adverse Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pain 0-5 Scale: 0 or 1 on pain scale</td>
<td>Mild</td>
</tr>
<tr>
<td>2</td>
<td>Pain 0-5 Scale: 2 or 3 on pain scale</td>
<td>Moderate</td>
</tr>
<tr>
<td>3</td>
<td>Pain 0-5 Scale: 4 or 5 on pain scale</td>
<td>Severe</td>
</tr>
<tr>
<td>4</td>
<td>Excessive bleeding: More bleeding than usual, but easily controlled</td>
<td>Mild</td>
</tr>
<tr>
<td>5</td>
<td>Excessive bleeding: Bleeding that requires pressure dressing to control</td>
<td>Moderate</td>
</tr>
<tr>
<td>6</td>
<td>Excessive bleeding: Blood transfusion or transfer to another facility required</td>
<td>Severe</td>
</tr>
<tr>
<td>7</td>
<td>Swelling/ Haematoma: More swelling than usual, but no significant Discomfort</td>
<td>Mild</td>
</tr>
<tr>
<td>8</td>
<td>Swelling/ Haematoma: Significant tenderness and discomfort, but surgical re-exploration not required</td>
<td>Moderate</td>
</tr>
<tr>
<td>9</td>
<td>Swelling/ Haematoma: Surgical re-exploration required</td>
<td>Severe</td>
</tr>
<tr>
<td>10</td>
<td>Anaesthetic related Event: Palpitations, vaso-vagal reaction or emesis</td>
<td>Mild</td>
</tr>
<tr>
<td>11</td>
<td>Anaesthetic related Event: Reaction to anaesthetic requiring medical treatment in clinic, but not transfer to another facility</td>
<td>Moderate</td>
</tr>
<tr>
<td>12</td>
<td>Anaesthetic related Event: Anaphylaxis or other reaction requiring transfer to another facility</td>
<td>Severe</td>
</tr>
<tr>
<td>13</td>
<td>Excessive skin Removed: Adds time or material needs to the procedure, but does not result in any discernible adverse condition</td>
<td>Mild</td>
</tr>
<tr>
<td>14</td>
<td>Excessive skin Removed: Skin is tight, but additional operative work not necessary</td>
<td>Moderate</td>
</tr>
<tr>
<td>15</td>
<td>Excessive skin Removed: Requires re-operation or transfer to another facility to correct the problem</td>
<td>Severe</td>
</tr>
<tr>
<td>16</td>
<td>Infection: Erythema more than 1 cm beyond incision line</td>
<td>Mild</td>
</tr>
<tr>
<td>17</td>
<td>Infection: Purulent discharge from the wound</td>
<td>Moderate</td>
</tr>
<tr>
<td>18</td>
<td>Infection: Cellulitis or wound necrosis</td>
<td>Severe</td>
</tr>
<tr>
<td>19</td>
<td>Damage to the Penis: Mild bruising or abrasion, not requiring treatment</td>
<td>Mild</td>
</tr>
<tr>
<td>20</td>
<td>Damage to the Penis: Bruising or abrasion of the glans or shaft of the penis requiring pressure dressing or additional surgery to control</td>
<td>Moderate</td>
</tr>
<tr>
<td>21</td>
<td>Damage to the Penis: Part or all of the glans or shaft of the penis severed</td>
<td>Severe</td>
</tr>
<tr>
<td>22</td>
<td>Death: Death following SMC surgery</td>
<td>Severe</td>
</tr>
</tbody>
</table>

Pain shall be categorised using the palliative care model of 0 – 5 AS SHOWN BELOW
SAFE MALE CIRCUMCISION PROCEDURE FOR ADVERSE EVENTS GRADING SCALE

Note: reporting is required for moderate to severe adverse events only
USAID APPLYING SCIENCE TO STRENGTHEN AND IMPROVE SYSTEMS PROJECT

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