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*Applying Science to Strengthen
and Improve Systems*

CASE STUDY

The Impact of Continuous Quality Improvement on Voluntary Medical Male Circumcision Services Offered in a Public Health Facility in Gauteng Province, South Africa

Summary

The City of Johannesburg has a high burden of HIV and is a priority VMMC scale-up district for the US President's Emergency Plan for AIDS Relief (PEPFAR). Zola Community Health Center (CHC) has been offering PEPFAR-funded VMMC services since November 2010 and began receiving technical assistance from the USAID ASSIST Project in 2014, to establish a quality improvement (QI) team, as well as periodic continuous quality improvement (CQI) assessments and on-site coaching to apply CQI methodology to identify quality gaps and design, implement, and monitor interventions to address them. In August 2014, ASSIST conducted a CQI baseline assessment to gauge Zola CHC's compliance with Department of Health (DoH) and World Health Organization (WHO) VMMC quality standards and to identify strengths and areas requiring improvement in VMMC service provision. The baseline assessment revealed challenges relating mainly to leadership and planning, VMMC surgical procedure, and infection prevention and control. At baseline, the average score across service quality standards was 67%. Since the establishment of a QI team and the adoption of CQI, adverse events were still observed at Zola CHC, but robust adverse events management and client follow-up systems have been put into place, which have ensured improved documentation, communication with clients, and better management of complications and emergencies. By the fourth reassessment conducted in February 2017, the average score across service quality standards had improved from 67% to 96%.

Background

Since October 2013, the USAID ASSIST Project has been providing continuous quality improvement technical assistance to voluntary medical male circumcision sites in South Africa to improve service quality and client safety. At its core, quality improvement at health facility level is a team-driven process, as no single individual in an organization can realistically acknowledge and effectively address all dimensions of a challenge. Team members can work in partnership to identify quality gaps and design, implement, and monitor interventions.

Zola Community Health Center is a provincial primary health care facility located in the City of Johannesburg in Gauteng Province, South Africa. The center is a referral point for clinics in the area and provides comprehensive health care services including:

- HIV testing services
- HIV and TB-related treatment, care, and support
- Nutrition
- Maternal and child health
- Voluntary medical male circumcision

The City of Johannesburg has a high burden of HIV (with an HIV prevalence of 11.1% in 2012) and is a priority VMMC scale-up district for PEPFAR. Zola CHC has been offering PEPFAR-funded VMMC services since November 2010 and started receiving CQI technical assistance, on-site coaching, and

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periodic assessments from the USAID ASSIST Project in 2014. The primary goals of CQI support were to enhance client safety and ensure service quality.

Assessment of quality of VMMC services

In August 2014, ASSIST conducted a CQI baseline assessment to gauge Zola CHC's compliance with Department of Health and World Health Organization VMMC quality standards, and to identify strengths and areas requiring improvement in VMMC service provision. The baseline assessment revealed challenges relating mainly to leadership and planning, VMMC surgical procedure; and infection prevention and control (IPC). Following the baseline assessment, the facility received regular CQI mentoring and coaching support to address gaps in service quality through developing and implementing quality improvement activities. At baseline, the average score across service quality standards was 67%; by the fourth reassessment conducted in February 2017, the average score had improved to 96%.



The application of functional and proactive quality improvement teams can enable facilities to prevent and manage medical complications and improve patient-centered outcomes. Zola CHC has been very receptive of CQI, allocating team members to actively serve on its VMMC quality improvement team. The quality improvement team applied CQI methodology to identify quality gaps and design, implement and monitor interventions on an ongoing basis.

Strengths and Challenges

Strengths identified during the CQI baseline assessment conducted at Zola CHC included:

- The facility had a catchment area map available, and staff had good knowledge of the population size
- Staff roles and responsibilities were clearly defined
- Although a patient flow algorithm was not available, good patient flow was observed
- Clients received printed materials relating to VMMC facts and wound care in local languages
- The facility had adequate records of informed client consent for undergoing VMMC
- Waste management was adequate

In addition to these strengths, the facility's VMMC Unit Manager welcomed the CQI assessment and engaged with assessment findings with the goal of improving service quality.

Challenges identified during the CQI baseline assessment included:

- Limited familiarity with VMMC strategy and unavailability of copies of some VMMC service delivery guidelines
- Incomplete physical examinations conducted pre-procedure, post-procedure, and at follow-up
- Emergency trolley lacked critical equipment, e.g., defibrillator, pulse oximeter
- Incorrect storage and limited stock of some required medications and personal protective equipment
- Inconsistent implementation of IPC policies and varying knowledge of IPC techniques among VMMC team members

- Failure to reinforce wound care, personal hygiene, and consistent condom use in post-procedure follow-up with clients

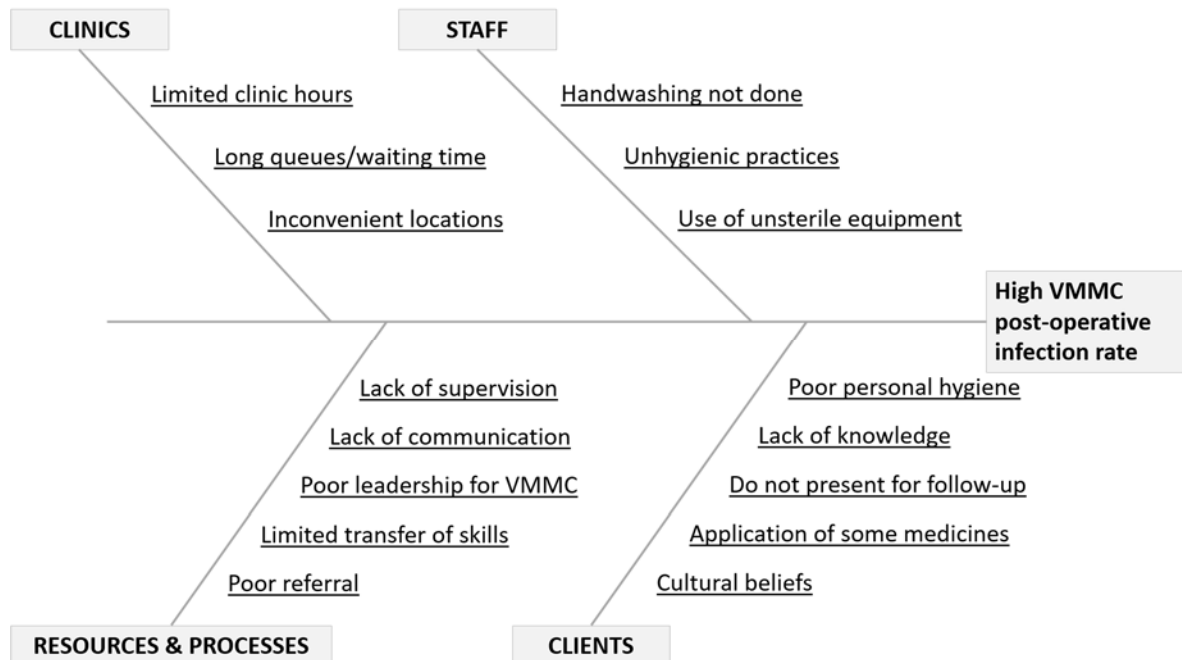
In addition to the service quality standards assessed, the need was identified for reducing VMMC adverse event rates and increasing the percentage of clients presenting for post-procedure follow-up review. Following the baseline assessment, the ASSIST advisor who coached Zola CHC helped the facility staff to develop an action plan matrix to identify and prioritize actions aimed at addressing quality gaps.

Implementation of quality improvement

A quality improvement team comprising Zola CHC VMMC unit staff was established to collectively develop and implement change ideas and track progress on improvement aims. The team held regular meetings to plan and review interventions and assign responsibilities. Facility management showed commitment to improvement efforts by attending quality improvement meetings and engaging with QI team members to monitor progress and potential challenges.

The quality improvement team employed various CQI methods and tools to analyze problems and plan interventions. **Figure 1** shows an example of a fishbone diagram they used to identify potential causes of post-operative infection.

Figure 1. Zola CHC’s fishbone diagram used to identify possible causes of a problem



Through mentorship and coaching, USAID ASSIST supported Zola CHC’s quality improvement team to design changes to test to reduce adverse events and increase client follow-up rates. Zola CHC adopted the use of HIV treatment referral, VMMC follow-up, and adverse event registers. Changes tested included:

- Introduction of standard operating procedures (SOPs) for managing adverse events
- Introduction of SOPs for IPC, e.g., monthly theater scrub down; thorough disinfection of surgical beds between procedures
- Placing phone calls to clients to remind them of their follow-up reviews
- Issuing clients with appointment cards for follow-up and reinforcing reasons for return
- Reinforcing personal hygiene and wound care messages (including demonstration of washing techniques)
- In-service training for VMMC staff on adverse events and IPC

The improvement team also set aims to periodically review VMMC data to monitor progress and inform decisions.

Results

Since the establishment of a quality improvement team and the adoption of CQI, adverse events were still observed at Zola CHC, but robust adverse events management and client follow-up systems have been put into place, which have ensured improved documentation, communication with clients and better management of complications and emergencies. **Figure 2** below shows the 48-hour follow-up rate at Zola CHC; **Figure 3** shows the 7-day follow-up rate at Zola CHC.

Figure 2. 48-hour follow-up rate at Zola CHC, Oct 2015 to Jan 2017

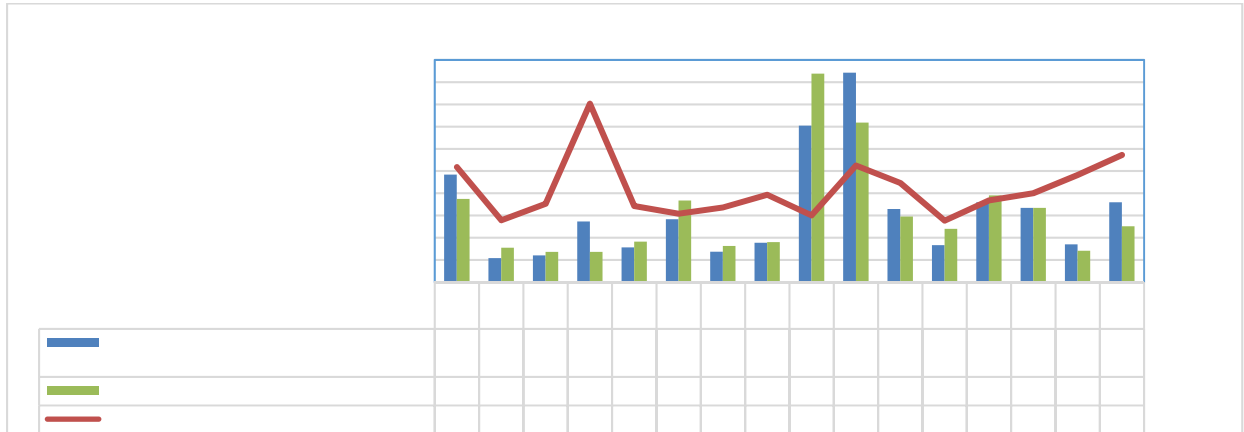
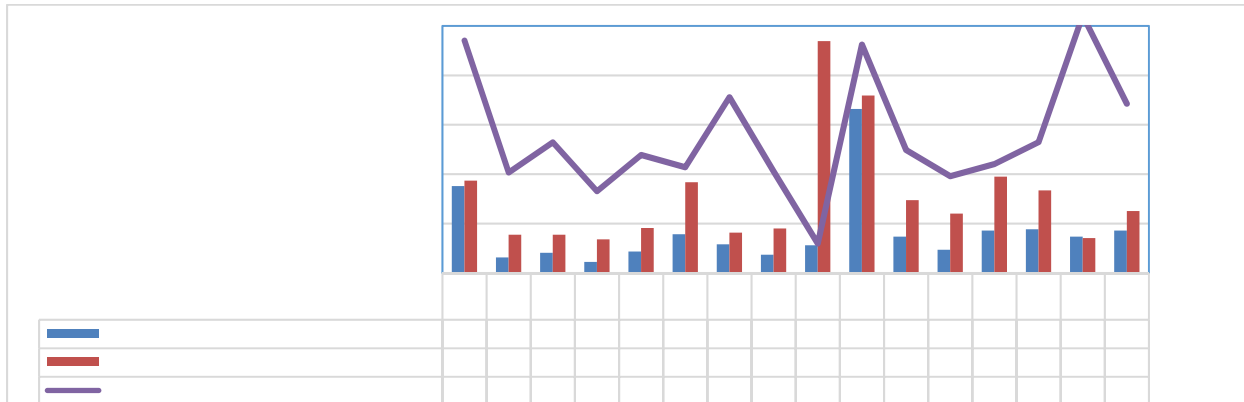


Figure 3. 7-day follow-up rate at Zola CHC, Oct 2015 to Jan 2017



Functional CQI teams are invaluable in ensuring a holistic approach to problem solving and can achieve:

- Continuous buy-in of all VMMC team members and the rest of the unit staff
- A more complete working knowledge of the processes involved in patient-centered care
- Greater acceptance and higher implementation rate of interventions aimed at improving service quality
- Better clinical outcomes