

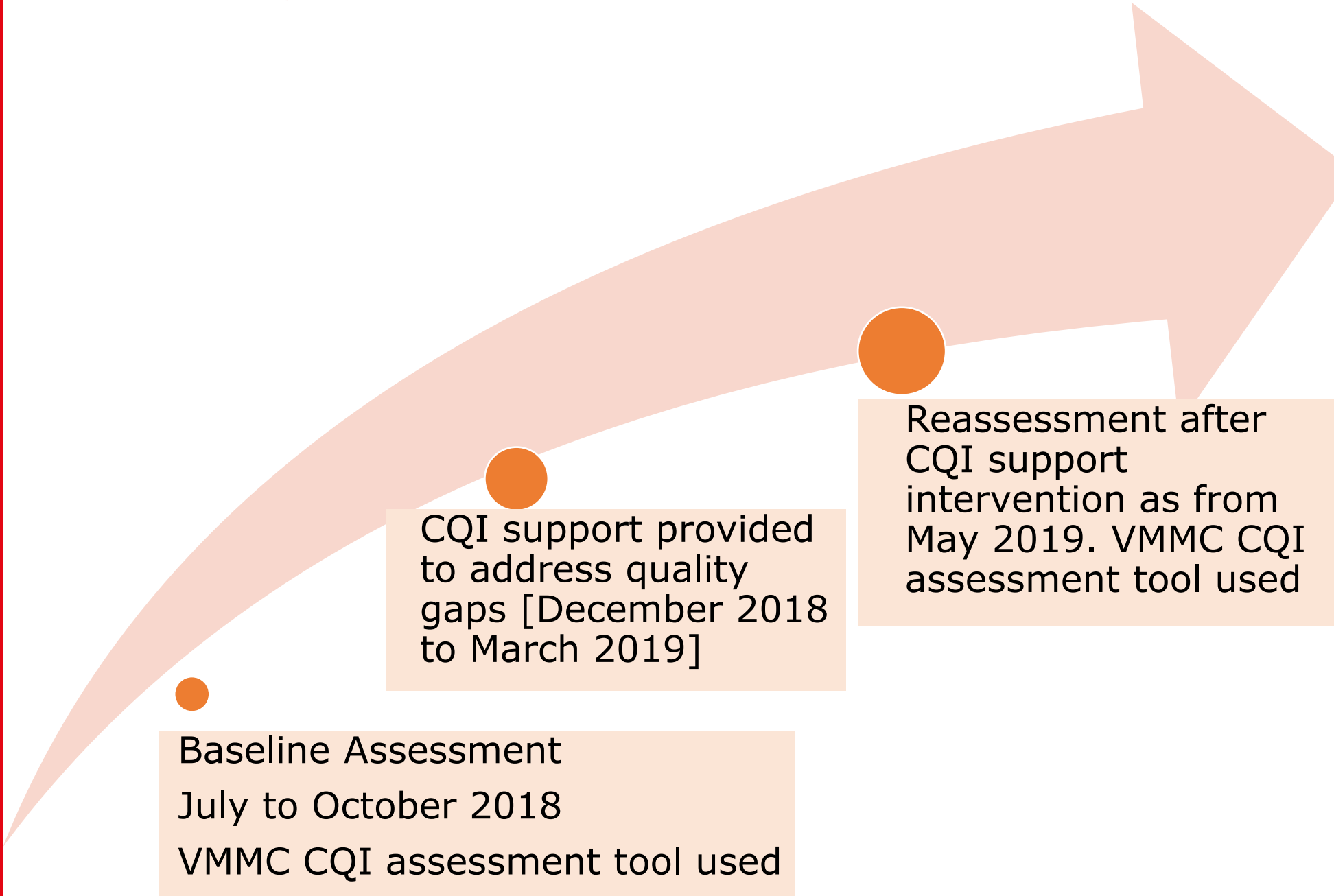
Background

Voluntary Male Medical Circumcision (VMMC) as an HIV prevention strategy, has been widely adopted in several countries over the years, and its expansion has brought about quality gaps requiring urgent interventions. A key intervention strategy has been the implementation of continuous quality improvement (CQI). However, less has been focused on the changes in quality of services across all quality standards after implementation of quality improvement support. Therefore, this study sought to evaluate the impact of CQI on the quality of service in VMMC programmes across Right to Care (RTC) supported sites in the North West, Mpumalanga, Eastern Cape and Free State provinces in South Africa.

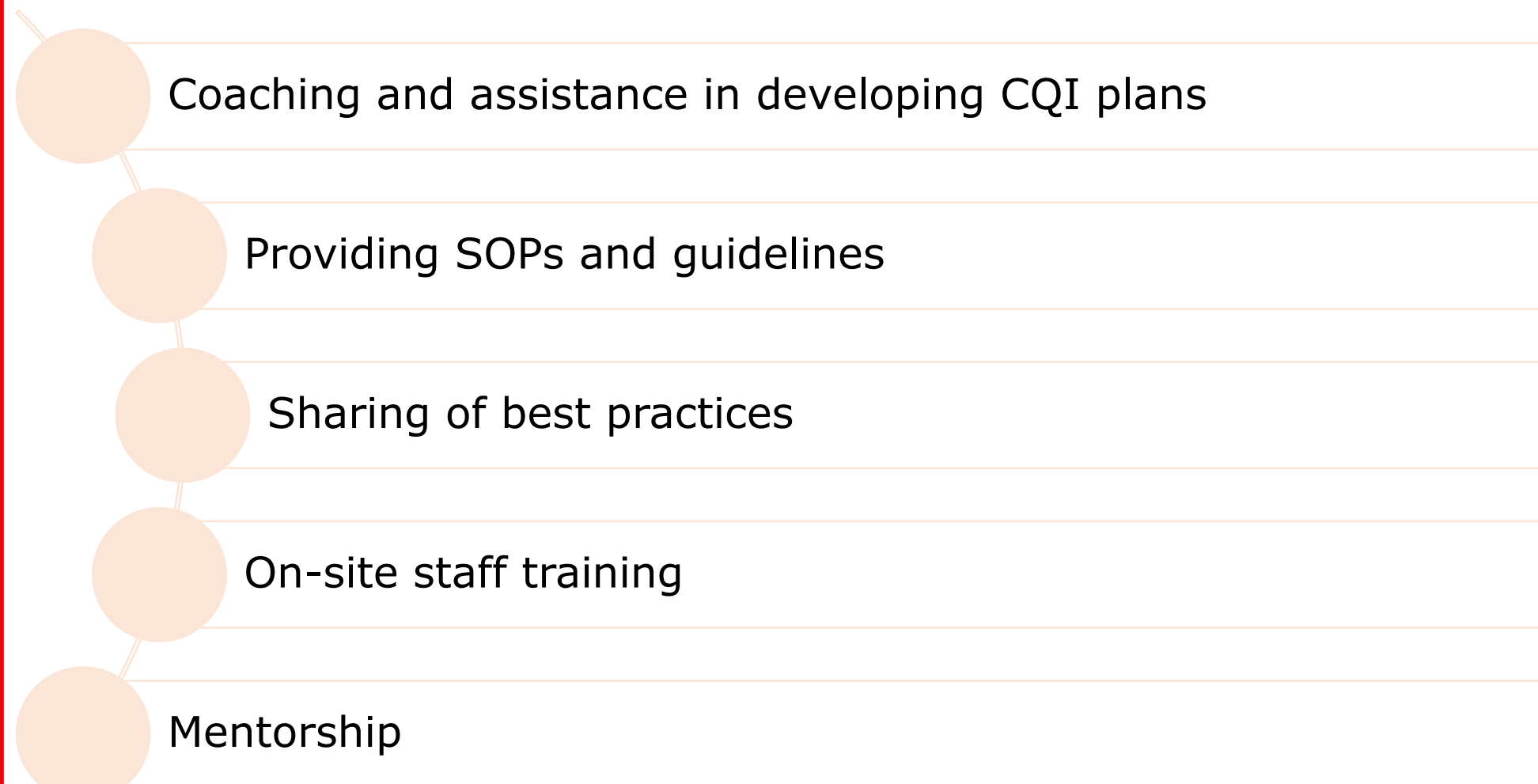
Method

- Pre-post design intervention study on RTC supported VMMC sites from July 2018 to October 2019.
- All RTC-supported sites that were assessed at baseline and post-intervention were included in the study.
- Data for baseline and post-test assessments collected using a standardized National Department of Health (NDoH) VMMC CQI assessment tool
- Quality improvement support provided through coaching, provision of SOPs and guidelines, mentoring and on-site in-service training on quality improvement planning and implementation.
- Outcome measure was quality of service.
- A paired sample t-test used to compare the difference in mean quality of service scores before and after CQI implementation by quality standard.

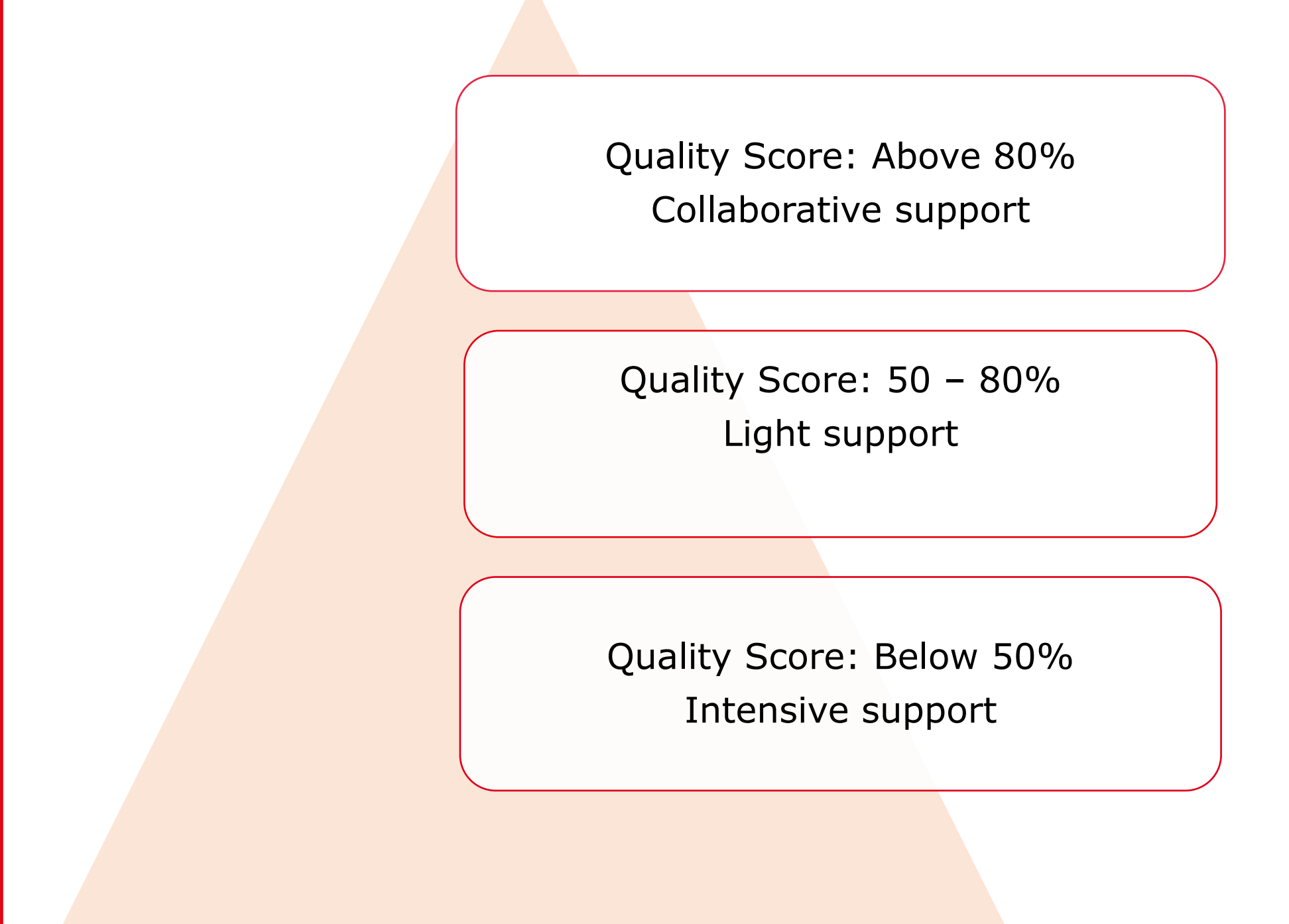
Study design for VMMC sites assessment



CQI support provided



Level of CQI support



Results

A total of 40 health facilities were assessed at both baseline and after CQI support visits. The overall quality of service performance across provinces increased by 18% (95%CI: 14.24-21.34; p<0.001).

Paired samples t-test (2-tailed) comparing the change in quality of service mean scores before and after CQI support intervention by province.

| Quality Standard | North West | | Mpumalanga | | Free State | |
|---|------------|---------|------------|---------|------------|---------|
| | Δ | p-value | Δ | p-value | Δ | p-value |
| Leadership and planning | 34.43 | *** | 11.00 | ** | 33.67 | * |
| Management systems | 28.24 | *** | 30.62 | *** | 25.83 | * |
| Monitoring and Evaluation | 43.67 | *** | 24.00 | *** | 29.00 | ** |
| Group counselling, registration and communication | 12.00 | *** | 2.00 | 0.20 | 10.50 | 0.34 |
| Individual counselling and HIV testing | 11.42 | ** | 15.00 | * | 17.50 | 0.16 |
| Supplies, equipment, environment and emergency | 2.90 | 0.291 | 8.85 | * | 9.00 | 0.25 |
| Male circumcision surgical procedure | 10.81 | * | 3.08 | 0.45 | 10.67 | * |
| Infection prevention | 12.14 | *** | 15.00 | *** | 5.50 | 0.53 |
| Overall performance | 19.38 | *** | 14.61 | *** | 17.25 | * |

Paired samples t-test for overall changes in quality of service mean scores after CQI support intervention by quality standard across provinces.

| Quality Standard indicator | T0 | T1 | Δ | p-value |
|--|-------|-------|-------|---------|
| Leadership and planning | 34.98 | 61.58 | 26.60 | *** |
| Management systems | 50.10 | 78.75 | 28.65 | *** |
| Monitoring and Evaluation | 43.65 | 78.73 | 35.08 | *** |
| Group counseling, registration and communication | 79.50 | 88.00 | 8.50 | *** |
| Individual counselling and HIV testing | 68.23 | 81.78 | 13.57 | *** |
| Supplies, equipment, environment and emergency | 78.80 | 83.90 | 5.10 | ** |
| Male circumcision surgical procedure | 76.80 | 85.08 | 8.28 | ** |
| Infection prevention | 65.85 | 77.73 | 11.88 | *** |
| Overall performance | 61.17 | 78.96 | 17.79 | *** |

T0=Baseline assessment, T1=Reassessment after CQI support intervention
*significant, p<0.05; **significant, p<0.01; ***significant, p<0.001
Δ = T1 - T0, Change in quality-of-service score, all values are as %

Limitations

- The study did not include the following factors:
 - Experience and level of education of the VMMC health care personnel
 - Effect of volume of weekly medical circumcisions
 - Number of CQI support visits done per facility assessed
- In pre-post study designs, there is a potential for other factors not part of the intervention to affect the outcome
- Absence of a control group implies threat to internal validity
- Although pre and post design is not free from limitations, it is a valid, efficient, and cost-effective way to assess program outcomes and impacts

Conclusion

Irrespective of the limitations of the study, the results showed an overall increase in the quality-of-service performance across all provinces after CQI support intervention program. Collaborative support is recommended to maintain good quality of service for sites in the satisfactory category. Regular visits and intensive CQI support are required for sites that will be performing below standards. CQI support can be provided through on-site staff training, mentorship, coaching, providing standard operating procedures and guidelines, and assistance in developing quality improvement plans.

Recommendations

In this study, there were no significant changes in the North West and the Free State provinces for supplies, equipment, environment and emergency. Findings from previous studies have showed evidence, that the use of mobile technology and logistics management information system (LMIS) help to improve quality of service for the supply chain management system. They enable uninterrupted availability of material resources, medicines and equipment requirements at sites. Hence, these technologies can also be incorporated in the action plans for continuous quality improvement at VMMC sites. In addition to the PDSA cycle and SIMS, the CQI program can also employ other quality improvement initiatives at VMMC sites such as MBQA, six-sigma and the lean approach. These are strategies that have been demonstrated to improve efficiency. On the other hand, the effect of volume of weekly medical circumcisions per site, staff designation and age on the change in quality of service after CQI support intervention were not evaluated in this study. Further studies can be designed focusing on the effect of these factors.

Acknowledgments

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