

# Facility managers' views on contraceptive data management in primary healthcare facilities in the Tshwane District, South Africa

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## ARTICLE INFO

**Received:** 30 October 2025

**Accepted:** 21 February 2026

**Published:** 30 April 2026

### Keywords:

Contraceptive data, data quality, facility managers, use of information

**Peer-Review:** Externally peer-reviewed

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### To cite:

Moloko, S. M., & Mogale, N. M. (2026).

Facility managers' views on contraceptive data management in primary healthcare facilities in the Tshwane District, South Africa. *Orapuh Journal*, 7(3), e1424.

<https://dx.doi.org/10.4314/orapj.v7i3.24>

ISSN: 2644-3740

Published by **Orapuh, Inc.**, F. Gaye Res., Sukuta-Jamisa, Greater Banjul, The Gambia.

**Editor-in-Chief:** Prof. V. E. Adamu

[editor@orapuh.org](mailto:editor@orapuh.org)

## ABSTRACT

### Introduction

Contraceptive data are critical for determining the proportion of women of childbearing age who are protected from unintended pregnancies. These data must be of high quality to assess the performance of, and guide improvements in, family planning programmes.

### Purpose

This study explored facility managers' views on the management of contraceptive data in the Tshwane District, South Africa.

### Methods

The study was conducted in 11 primary healthcare facilities in the Tshwane District, South Africa, using a qualitative exploratory design. The sample consisted of 11 purposively selected facility managers. Data were collected through semi-structured interviews using an interview guide developed by the researchers. Data were analysed using thematic analysis.

### Results

Three themes were generated. *Theme 1* showed that facility managers provided leadership in contraceptive data management by ensuring availability of resources and capacitating healthcare providers. Managers supervised and monitored data collection processes to strengthen data quality assurance. *Theme 2* reflected mixed perceptions of supportive supervision from health information officers, with some managers reporting satisfaction while others reported gaps in consistency and responsiveness. *Theme 3* showed that most managers considered contraceptive data to be of acceptable quality and accuracy, largely due to verification practices at facility level. The data were mainly used for monitoring family planning programme performance and for contraceptive supply management.

### Conclusion

The study demonstrates that facility managers play an active role in strengthening contraceptive data quality through leadership, supervision, and verification. However, their efforts are constrained by behavioural challenges among healthcare providers and inconsistent organisational support from district structures. Improving data quality requires strengthened collaboration between facility managers, health information officers, and district management, supported by structured supervision, continuous training, and adequate staffing for data management.

## INTRODUCTION

Contraceptive data are critical for establishing the proportion of women of childbearing age who are protected from unintended pregnancies. Preventing unintended pregnancies is key to reducing maternal mortality associated with pregnancy-related risks (Moloko & Ramukumba, 2024). In South Africa, contraceptive data are generated through the Demographic and Health Surveys (DHS), conducted at 10-year intervals, and through routine facility-based reporting using the District Health Information System (DHIS) (Ndlovu & Padarath, 2024). The DHIS is used to manage health data in more than 60 countries worldwide (Kanfe et al., 2021). It integrates data collection, processing, reporting, and use to monitor the performance of contraceptive health programmes, with the aim of enhancing the effectiveness and efficiency of services (Moloko & Ramukumba, 2022).

The routine contraceptive data management process begins at healthcare facilities, where services are recorded in paper-based registers (Leon et al., 2020; National Department of Health, 2016). These data are subsequently captured into the electronic District Health Information System (DHIS2), typically by designated data capturers due to resource and infrastructure constraints (Moloko & Ramukumba, 2022). Although DHIS2 is designed as a real-time, web-based platform for data entry, in practice many facilities rely on delayed or batch entry of data because of staff shortages and limited access to point-of-care electronic systems. Monthly aggregated reports are then submitted to the district level for review and feedback, with further reporting to provincial and national levels (Lemma et al., 2020; National Department of Health, 2016). The primary goal of this data management process is to generate high-quality information that enables facilities and other stakeholders to make evidence-based decisions for planning, managing, and improving health services and programme performance (Ayele et al., 2024). High-quality health information is essential for effective health system functioning, as it enables policymakers to evaluate the effects of interventions on population health status (Lemma et al., 2020).

For several years, the performance of the couple-year protection rate (CYPR)—a DHIS indicator measuring the

protection of women aged 15–49 years from unintended pregnancies through contraceptive use—has remained below target (Massyn et al., 2019, 2020; Ndlovu & Padarath, 2024). Among other contributing factors, this underperformance has been attributed to suboptimal data quality at facility level, which may not accurately reflect actual service performance (Afe et al., 2018; Moloko & Ramukumba, 2022). High-quality data are data that are accurate, complete, timely, and reliable for decision-making. Such data must also be fit for use within the relevant context (Getachew et al., 2022).

Several studies have identified factors influencing data quality, including technical, organisational, and behavioural factors. Technical factors include the usability of data collection tools and the use of standard reporting indicators. Organisational factors include training, supportive supervision, feedback mechanisms, performance review meetings, and the availability of resources for data management, including human and technical resources. Behavioural factors include healthcare providers' attitudes, motivation, and skills related to data management (Adane et al., 2021; Muhoza et al., 2022; Shama et al., 2021). Although numerous studies have reported on the quality of routine health data, there is limited evidence on facility managers' perspectives at the primary healthcare level. According to the South African National Department of Health, facility managers serve as data managers, and their responsibilities include ensuring the generation of high-quality data for informed decision-making (National Department of Health, 2016). Therefore, this study explored facility managers' views on contraceptive data management.

### *Theoretical Framework*

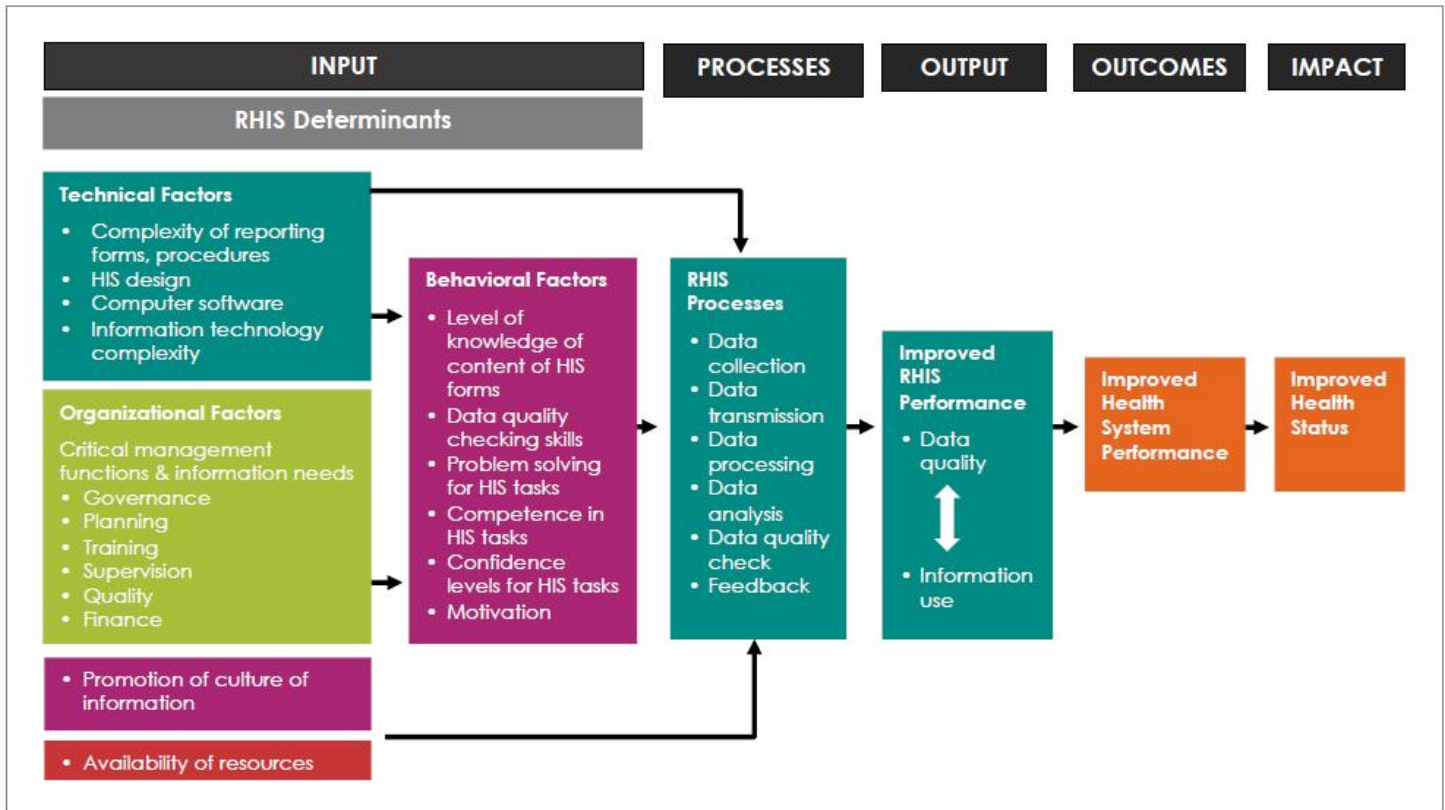
This study was grounded in the Performance of Routine Information System Management (PRISM) framework, which explains how technical, organisational, and behavioural determinants influence routine health information system performance. In this study, the framework was applied specifically to explore facility managers' perspectives on inputs (organisational support, tools, and staff capacity), processes (data collection, verification, and reporting), and outputs (data quality and information use) (MEASURE Evaluation, 2019). The analysis was intentionally limited to these three

components, and did not extend to outcomes or long-term health system impact, which fall outside the scope of the present study (see Figure 1).

With regard to inputs, the framework enabled exploration of managers' views on organisational factors influencing contraceptive data management, including the availability of data collection tools, training, and supervision. Behavioural factors included healthcare providers' skills

and attitudes towards data management, while the technical factor related to adherence to data collection procedures. The processes included data collection, quality checks, and feedback mechanisms. Outputs included the quality of data produced and the use of contraceptive information for decision-making.

Figure 1: Performance of Routine Information System Management (MEASURE Evaluation, 2019)



**METHODS**

*Setting*

The study was conducted in 11 primary healthcare (PHC) facilities located in the Tshwane District of Gauteng Province, South Africa. These facilities provide a comprehensive PHC service package, including health promotion, acute and chronic disease management, and maternal, child, and women's health services. The facilities operate for eight hours per day and are mandated to collect routine data on all services provided, including contraceptive services.

*Study Design, Population, and Sampling*

A qualitative exploratory design was applied to gain insight into contraceptive data management practices at facility level. The study population comprised facility managers working in PHC facilities. A total of 11 facility managers were purposively selected and interviewed due to their responsibility for data management within their facilities. The sample size was also determined by data saturation, defined as the point at which no new information emerged. The sample size aligns with the principles of qualitative descriptive research and thematic analysis, which prioritise depth and richness of

information over statistical representation (Braun & Clarke, 2006).

#### *Data Collection*

Facility managers were recruited through telephone communication, during which the purpose and methodology of the study were explained. Data collection appointments were scheduled with managers who agreed to participate. On the day of data collection, each participant was informed about the study purpose and procedures. Written informed consent was obtained for participation and audio-recording. Data were collected in managers' offices through semi-structured interviews using an interview guide. Interviews lasted between 30 and 45 minutes.

#### *Data Collection Tool*

The interview guide was developed by the researchers and included questions aimed at exploring facility managers' roles and views regarding contraceptive data management in PHC facilities. The guide was informed by the PRISM framework and explored organisational support for data management, as well as behavioural and technical factors influencing data management. Managers' views on data management outputs, including data quality and the use of information, were also explored. The guide was piloted with facility managers from other facilities in the district that were not included in the main study.

#### *Data Analysis*

Audio recordings were transcribed verbatim by the researchers. The interview transcripts were analysed using thematic analysis, following the six-phase approach outlined by Braun and Clarke (2006). *Phase 1* involved active and iterative reading of the transcripts to achieve familiarity with the data. In *Phase 2*, initial codes were generated through systematic identification and labelling of meaningful features across the dataset. In *Phase 3*, codes were organised and clustered into candidate themes and subthemes. In *Phase 4*, themes were reviewed against the coded extracts to ensure adequate supporting evidence and to confirm that themes were coherent, distinct, and non-overlapping. *Phase 5* involved refining, defining, and naming themes and subthemes, ensuring that each clearly contributed to understanding the data. In *Phase 6*, an

analytic report was produced that presented a coherent account of the analysis and situated the findings within relevant literature.

#### *Measures to Ensure Trustworthiness*

Trustworthiness was ensured by enhancing credibility through member checking, whereby participants were provided with a summary of the interview to confirm that their views had been accurately captured before leaving the data collection setting. The researcher further discussed the findings with the study supervisor to confirm interpretations (peer debriefing). To enhance transferability, a detailed description of the participants, study context, and data collection procedures was provided to allow readers to determine the applicability of findings to other settings. Detailed records of study activities, including audio recordings, were maintained to support an audit trail, thereby strengthening dependability and confirmability.

#### *Ethical Considerations*

Informed consent was obtained from all participants. Facility managers were informed of their right to decline participation (autonomy) and to withdraw from the study at any time without penalty. Confidentiality, privacy, and anonymity were ensured by not using participants' real names during interviews. Interviews were conducted in private offices, and access was restricted during data collection. Ethical approval and permission to conduct the study were obtained from the University of South Africa Research Ethics Committee (HSHDC/719/2017) and the Tshwane District Research Committee.

## RESULTS

#### *Demographic Characteristics*

**Table 1** presents the demographic characteristics of the participants. Ten female facility managers and one male facility manager participated in the study. Participants ranged in age from 35 to 62 years, with a mean age of 49 years. All participants had at least a diploma qualification and more than two years of experience in a management position, except for one participant who had been in the position for only three months.

**Table 1**  
Demographic Characteristics of Participants (N = 11)

| Participant ID | Sex    | Age (years) | Management experience | Highest qualification                         |
|----------------|--------|-------------|-----------------------|---|
| P1             | Female | 35          | 13 months             | Degree in Nursing Science and Art             |
| P2             | Female | 59          | 15 years              | Master's degree in Public Health              |
| P3             | Female | 52          | 8 years               | Degree in Nursing Management and Education    |
| P4             | Female | 44          | 5 years               | Degree in Nursing Management and Education    |
| P5             | Female | 46          | 3 years               | Advanced diploma in Health Service Management |
| P6             | Male   | 45          | 4 years               | Diploma in Nursing Science                    |
| P7             | Female | 44          | 3 years               | Degree in Nursing Management and Education    |
| P8             | Female | 57          | 23 years              | B Honours in Nursing                          |
| P9             | Female | 41          | 3 months              | Diploma in Nursing Science                    |
| P10            | Female | 53          | 14 years              | Degree in Nursing Management                  |
| P11            | Female | 62          | 7 years               | Honours degree in Community Nursing Science   |

Note: PHC = primary healthcare.

### Themes and Subthemes

#### **Theme 1:**

##### *Data Management Leadership Practices*

The study showed that facility managers provided data management leadership through the management of resources required for contraceptive data management. Their role began with supporting data collection by ensuring that facilities had data collection registers (PHC registers).

*"It is imperative that [we] ensure that the PHC register is available for data collection." (P5)*

Managers enhanced staff competencies in data management through the induction of new staff and the provision of in-service training. They provided up-to-date information on health information systems and reproductive healthcare, focusing on data elements, indicators, standard operating procedures (SOPs), policies, registers, and data handling.

*"Upon the arrival of new nurses, we conduct an induction focused on data management, data elements, indicators, standard operating procedures (SOPs), and policy." (P4)*

*"We do in-service training monthly for various programmes, and there is a day in the programme designated for data management." (P9)*

As part of the data management process, managers supervised paper-based data collection and the capturing of data into the electronic system.

*"I ensure that clinicians record data on contraceptives administered to patients on the paper-based PHC register and check if the data is transmitted to an electronic register." (P2)*

To ensure good-quality data, managers verified data weekly by randomly selecting file numbers from the PHC register, retrieving patient files, and comparing activities documented in the files with register entries. Data were considered accurate when both records matched.

*"We verify data prior to submission. In instances where eight IUCDs are said to be inserted, we do random file checks to validate the records." (P1)*

*"I verify by requesting the patient's file and checking if the information on the register corresponds with the one on the file. If they correspond, then data are accurate." (P4)*

Managers also emphasised the importance of validating data electronically before incorporation into monthly reports.

*"As I generate the monthly report, the electronic register has validation functions that can reflect if any information has been inaccurately recorded." (P6)*

*"When the data is captured, I validate and compile a report and send [it] to the district." (P9)*

#### **Theme 2:**

##### *Health Information Officers' Support for Data Management*

Facility managers had differing perceptions of support from health information officers (HIOs). Some managers appreciated the support provided, including onsite visits

to assess data quality and verification of the availability of policies and guidelines in facilities.

*"They conduct quarterly support visits and are always available when we need them." (P2)*

*"During their visits, they verify data by comparing the data in the register and that in the patients' files. They also check for the availability [of] policies, standard operating procedures, and report[s]." (P6)*

Managers also reported that HIOs provided monthly feedback and conducted quarterly meetings at district offices. These meetings allowed facility managers to compare performance and exchange best practices to enhance overall district performance.

*"They give us feedback monthly, and we also meet with them at a central location quarterly to assess the performance of each facility in the region." (P5)*

*"We can compare performance from different facilities. Underperforming facilities are urged to benchmark with good-performing ones to improve overall district performance." (P7)*

However, some managers were concerned that HIOs only visited facilities when there were data management challenges, such as data errors. They also felt that district-level meetings were not sufficiently supportive, since only managers attended while other facility staff remained unsupported.

*"The support visit is initiated by the problems we are facing. They only come when they see that our data is not right. If we do not have problems, they do not come." (P8)*

*"They call managers to a single location to oversee many facilities simultaneously. This leaves the facility staff without support, as we cannot close the clinic to participate in the meeting." (P1)*

To improve support, managers recommended consistent quarterly facility visits by HIOs to address challenges at facility level.

*"If there can be consistency in the facility visits that the health information officers are doing, at least once in a quarter." (P4)*

*"We need them to come to the facility and assess data from the source. They need to pull the data source and check the registers to see where we are having challenges." (P10)*

### **Theme 3:**

#### *Managers' Views on Contraceptive Data Quality and Information Use*

Managers expressed a degree of satisfaction with the quality of contraceptive data. They viewed contraceptive data as accurate and of good quality due to verification processes. Some also highlighted that the presence of a dedicated employee for contraceptive services, who was proficient in data management, improved accuracy.

*"I believe that we generate high-quality data by verifying the correlation between the records at the collection site." (P6)*

*"I consider the data reliable, as they are mostly produced by one staff [member] who gains efficiency by working full-time in family planning." (P3)*

Most participants indicated that monthly reports were complete. However, some expressed concern about data completeness at the point of collection due to omissions by healthcare providers, which could negatively affect data accuracy. These omissions were perceived to be linked to negative staff attitudes towards data management.

*"My monthly report is always complete. I capture data for all contraceptive data elements." (P2)*

*"I can't guarantee full accuracy, as I'm not the one recording in the consultation rooms. Some nurses still neglect to document certain activities." (P3)*

*"Some nurses have negative attitudes towards data management, seeing it as the manager's and data capturer's duty." (P8)*

Most managers submitted data on time to the district. However, some facilities reported delays due to staff shortages and the multitasking responsibilities of data capturers.

*"We are performing satisfactorily and adhere to the established submission dates, which is the 6th of each month." (P11)*

*"Data capturers, in addition to data capturing, are responsible for archiving, leading to unfinished work and potential delays in reporting if someone is absent." (P8)*

Managers suggested that the district should recruit additional data capturers to ensure daily capturing and timely submission of complete reports.

*"The district should hire data capturers to capture data every day and submit complete reports on time for the district." (P10)*

Managers recognised the negative impact of inaccurate and incomplete data on decision-making. They indicated that inaccurate data could result in poor planning for contraceptive supplies and services, while incomplete data could misrepresent facility performance and lead to flawed planning.

*"If the data are inaccurate, you may believe that women prefer certain contraceptive methods and subsequently increase the quantity when ordering, only to discover that it is not true, resulting in the expiration of some methods." (P5)*

*"Incomplete data does not give a true picture about the services we are offering. It misinforms us and the district. We end up developing plans that are not addressing our situation." (P10)*

Even though some managers acknowledged challenges related to data quality, they emphasised the importance of good-quality data for decision-making.

*"Good quality data facilitate decision-making at the facility, district and national levels, ultimately impacting the lives of clients who use our contraception services." (P8)*

Managers also described how they used contraceptive data for decision-making at facility level, including monitoring programme performance, developing action plans to improve performance, and managing contraceptive supplies.

*"The data shows our performance and progress towards targets. At the end of each month, we compare numbers from various contraceptive methods we have issued with our targets." (P6)*

*"This allows us to increase the uptake of the methods that are underutilised, in our case [Implanon] and IUCD. We are educating and motivating clients to use these methods." (P6)*

*"If we insert more implants, I'll check the stock levels with Pharmacy and coordinate with the area pharmacist to ensure the availability of the method." (P4)*

## DISCUSSION

This study explored the views of primary healthcare facility managers in the Tshwane District, South Africa, regarding the management of contraceptive data. The findings demonstrate an interaction between leadership in routine health data management, routine practices, organisational support, and data quality within the routine health information system (RHIS). By focusing on this crucial but understudied cadre of managers, the study contributes to an improved understanding of facility-level contraceptive data management. This discussion addresses the role of facility managers in maintaining contraceptive data quality, describes practices that mitigate risks associated with poor-quality data, outlines the importance of data quality for programme monitoring and supply management, and explores contextual implications for strengthening data management processes and strategic direction.

Facility managers in the South African public health system function as designated data managers responsible for ensuring the accuracy, completeness, and timely submission of routine health information. Their role includes supervising data collection processes, ensuring adherence to standard operating procedures, and

supporting healthcare workers in maintaining data quality standards.

#### *The Fundamental Role of Facility Managers in Maintaining Contraceptive Data Quality*

The findings indicate that facility managers view themselves as leaders and custodians of contraceptive data quality. They reported responsibility for training and mobilising staff, acquiring resources, and overseeing data management processes, including data verification. These managers appeared to comply with facility-level standard operating procedures (SOPs), which require facility managers to ensure the availability of data management resources (including data collection tools), mobilise staff as required, and capacitate healthcare providers in data management (National Department of Health, 2016).

This finding addresses a gap in existing research, which has largely focused on technical, organisational, and behavioural factors influencing RHIS performance (Adane et al., 2021; Muhoza et al., 2022; Shama et al., 2021), while providing limited insight into facility managers' views and their specific roles in contraceptive data management. Managers reported that they ensured healthcare providers acquired data management knowledge and skills through orientation upon recruitment and through in-service training. Nicol et al. (2019) highlight that in-service training is necessary to improve healthcare workers' competencies in data management. Evidence from a systematic review and meta-analysis further indicates that healthcare workers' knowledge of data management is critical for ensuring data quality and effective information use (Mekonnen & Gebeyehu, 2021). Similarly, in Ethiopia, onsite training combined with mentoring improved report accuracy, completeness, and timeliness (Gobena et al., 2024). Other studies have also reported associations between good data quality and trained staff (Mekonnen & Gebeyehu, 2021; Shama et al., 2021).

In contrast, the lack of in-service training has been reported in Uganda, where it negatively affected the accuracy and completeness of routine data due to inadequate provider skills and competencies (Miuro et al., 2022). This finding is consistent with evidence from South Africa indicating that limited training contributes to poor-quality routine health data (Moloko & Ramukumba, 2022).

Overall, the findings highlight the importance of training as a key strategy for improving contraceptive data quality and strengthening the use of information to improve programme performance.

#### *Practices and Risk Factors Influencing Contraceptive Data Quality*

Facility managers reported supervising the collection and capturing of contraceptive data and verifying data quality before submitting reports to the next reporting level. These practices demonstrate compliance with facility-level SOPs, which assign facility managers responsibility for supervising and mentoring the data management process. Verification involves onsite checks to assess consistency between paper-based registers and captured electronic data (National Department of Health, 2016). The practice of source data verification is widely recognised as an effective approach to improving accuracy. In addition, the emphasis on staff training supports evidence that healthcare workers' knowledge is a fundamental prerequisite for producing good-quality data (Mekonnen & Gebeyehu, 2021).

Some managers expressed satisfaction with supportive supervision visits conducted by health information officers (HIOs) to assess data quality. Supportive supervision is crucial for fostering effective data management. For example, supervised healthcare providers in Ethiopia produced higher-quality data compared to those who were not supervised (Getachew et al., 2022). Supportive visits also assist in addressing challenges that compromise data quality (Tilahun et al., 2021; Wude et al., 2020). Furthermore, supportive supervision has been found to motivate healthcare providers to use information for planning and programme monitoring, while fostering accountability (Kawakyu et al., 2024; Wude et al., 2020). Improved supervision is therefore essential for strengthening data quality (Harrison et al., 2020).

The findings also demonstrate the importance of quarterly district-level meetings in providing performance feedback and sharing best practices. Similar evidence from Mozambique indicates that such meetings provide peer-learning platforms for facility managers and encourage improved data quality and information use to strengthen

performance (Kawakyu et al., 2024). In Ethiopia, feedback has also been associated with improved data quality (Shama et al., 2021). Nguefack-Tsague et al. (2020) similarly emphasise that supervision and regular feedback are critical in maintaining good performance.

However, some managers reported significant challenges related to inconsistent and reactive support from district-level HIOs. This contrasts with the literature, which advocates proactive and regular supportive supervision as a key driver of data quality and staff motivation (Getachew et al., 2022; Kawakyu et al., 2024). Reactive supervision may be less effective, as it fosters corrective rather than developmental support. Such inconsistencies may be attributed to shortages of HIOs. These findings highlight the need to strengthen supportive supervision through consistent onsite visits to all facilities, including visits tailored to facility-specific needs (Tilahun et al., 2022). Onsite visits provide immediate feedback and opportunities for on-the-spot training, which is critical for improving data quality (Harrison et al., 2020; Kawakyu et al., 2024).

Managers also identified healthcare providers' negative attitudes towards data management and shortages of data capturers as key barriers. Negative staff attitudes may contribute to reduced commitment to accurate data recording. Similar findings were reported in Ethiopia, where healthcare providers perceived data management as burdensome and therefore did not prioritise it (Kebede et al., 2020). Providers in that study also viewed data management as the responsibility of facility managers and data capturers. This reflects inadequate understanding of the importance of health data for service improvement and family planning programme management. Conversely, studies conducted in Uganda and Ethiopia found that healthcare providers were enthusiastic about optimal data management because they understood the value of data in improving healthcare delivery (Miuro et al., 2022). Such enthusiasm was influenced by training, supervision, feedback, and a culture of information use (Ayele et al., 2024).

Shortages of data capturers also negatively affected timely submission of reports to the district. This challenge is prevalent in South Africa and other African countries,

such as Kenya, despite the implementation of DHIS2 (Hagel et al., 2020; Jinabhai et al., 2021). DHIS2 is a free, open-source, web-based platform used for collecting, managing, analysing, and visualising health data, enabling real-time access across health system levels (Dehnavieh et al., 2019). However, persistent reliance on paper-based data collection tools and limited computer access means that data cannot be entered directly at the point of care. Instead, it must be captured later by data capturers, often at the end of the day or week. These challenges threaten the availability and accessibility of data, thereby limiting information use at facility and higher administrative levels. This finding is consistent with Muhoza et al. (2021), who reported that data quality and information use challenges often originate at the operational level where data are initially collected.

#### *The Effect of Data Quality on Programme Monitoring and Supply Management*

Facility managers reported using contraceptive data to monitor family planning programme performance and manage contraceptive supplies. Similarly, Adane et al. (2021) found that routine health facility data were used for programme monitoring and drug supply management. In contrast, Byrne and Heywood (2023) reported a lack of routine health data use for planning and monitoring in many settings.

In this study, managers recognised that poor data quality negatively affects service management. Inaccurate data may lead to inappropriate procurement decisions, resulting in shortages or wastage of contraceptive supplies. These findings emphasise that facility managers view inaccurate data not merely as a documentation error, but as a direct threat to programme effectiveness. This aligns with broader literature indicating that accurate and reliable data are essential for effective supply chain management (Lemma et al., 2020).

The couple-year protection rate (CYPR) is a routine health information system indicator used to estimate the level of contraceptive protection provided to women of reproductive age (15–49 years), expressed in couple-years of protection. Persistent underperformance of this indicator has been reported nationally and is partly attributed to inconsistencies in routine data quality at

facility level (Moloko & Ramukumba, 2022; Ndlovu & Padarath, 2024). The study reinforces this challenge by highlighting managers' views that inaccurate and incomplete data compromise evidence-based decision-making at all levels of the health system, thereby limiting effective resource allocation and programme improvement (Ayele et al., 2024). Sawadogo-Lewis et al. (2021) caution that routine health data may be useful at national level, but should be interpreted cautiously due to potential inaccuracies and may not be suitable for impact evaluation until data quality improves.

#### *Contextual Implications for Data Management Processes and Strategic Direction*

The findings suggest that facility managers support contraceptive data management processes and use routine information for decision-making at facility level, despite ongoing data quality challenges. However, facility-level information use could be strengthened through improved district-level support. Kawakyu et al. (2024) note that staff members are more likely to implement data-driven actions when they receive adequate support.

To improve contraceptive data management, the study highlights the importance of implementing comprehensive and multidimensional interventions. First, strategies must go beyond technical barriers and address behavioural factors, potentially through formal integration of data management into clinical competencies and the introduction of incentives to promote good data management practices (Muhoza et al., 2022). Second, the inconsistency in HIO support suggests the need to invest in a more reliable and proactive supportive supervision system, including regular onsite visits, which have been shown to improve data quality (Gobena et al., 2024). Third, the shortage of data capturers should be regarded as a significant systemic barrier. The costs associated with poor-quality data are likely to exceed the costs of investing in dedicated data management staff. Data quality affects not only individual facilities but also the performance of the district, province, and national health system.

#### *Limitations*

This study highlights the role of facility managers in contraceptive data management; however, several limitations should be acknowledged. First, as a qualitative

study based on a purposive sample of 11 facility managers from one district, the findings are not statistically generalisable, although they offer transferable insights to similar settings. Second, reliance on self-reported views introduces the possibility of social desirability bias, as participants may have overstated compliance and data quality while underreporting challenges due to professional accountability. Finally, the study lacked triangulation, as managers' perceptions of data quality and use were not verified through objective data audits or through interviews with healthcare providers and data capturers, which might have provided different perspectives.

#### **CONCLUSIONS**

This study demonstrates that facility managers are active participants in efforts to generate accurate and reliable contraceptive data. They exercise leadership, supervision, and verification practices to mitigate risks associated with poor-quality data. However, their views indicate that these efforts are frequently undermined by behavioural challenges and insufficient organisational support from the district level.

The findings suggest that contraceptive data quality is not solely dependent on technical factors, but is also significantly influenced by organisational and behavioural factors. Strengthening data quality and information utilisation requires a multifaceted approach that extends beyond individual facility efforts. It demands consistent supportive supervision, targeted strategies to improve healthcare workers' commitment to data management tasks, and addressing systemic resource challenges, particularly shortages of data capturers. Strengthening these areas may enhance the reliability of contraceptive data, thereby enabling accurate programme performance monitoring and evidence-based decision-making to improve reproductive health outcomes.

#### *Recommendations*

Facility managers should arrange monthly training sessions focused on data management procedures, SOPs, and the importance of data quality for decision-making. Weekly data verification should be conducted, with increased file sampling to improve verification effectiveness. All discrepancies should be documented,

and corrective actions should be taken with the staff members involved. Facility managers should include contraceptive data management as a standing agenda item in weekly staff meetings. These meetings may also be used to recognise and reward staff members who demonstrate commitment to accurate data collection and reporting, thereby improving motivation and influencing positive attitudes among other staff. Facility managers should share family planning programme performance during monthly meetings to demonstrate how accurate data entry influences contraceptive supply ordering, target setting, and service improvement planning.

Health information officers should shift from problem-based supervision to proactive supportive supervision by conducting scheduled quarterly facility visits regardless of perceived performance. Centralised feedback meetings should be replaced with smaller-scale meetings held at facilities to enable more nurses to attend without significantly disrupting clinic operations.

The district health office should schedule formal training sessions on data management and collaborate with higher education institutions that train nurses and data capturers to integrate data management into curricula, thereby strengthening foundational competencies. The district should also ensure that facilities have sufficient data collection tools, data capturers, and healthcare providers to reduce workload and allow time for accurate data collection and processing. Finally, the district should consider implementing incentives for high-performing facilities.

**Acknowledgements:** The authors express gratitude to all participants who took part in this study.

**Funding:** This study was funded by the Sefako Makgatho Health Sciences University Research Development Grant (RDG).

**Authors' Contributions:** Moloko, S. M. was responsible for conceptualisation of the study, data collection, analysis, and manuscript writing. Mogale, N. M. contributed to the study design, literature review, and manuscript writing. Both authors contributed to data interpretation and approved the final manuscript.

**Ethical Approval:** Ethical approval and permission to conduct the study were obtained from the University of South Africa Research Ethics Committee (HSHDC/719/2017) and the Tshwane District Research Committee.

**Conflicts of Interest:** None declared.

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