

Evaluation of Data Quality Improvement Plans and Their Impact on Clinical and Administrative Decisions at FMC Yenagoa

¹Biobelemoye Jack-Gbarabe., ²Grace Esohe Ogbeifun., ³Meshach Gbaye

¹Department of Health Information Management, Faculty of Health Sciences, Bayelsa Medical University

²Department of Health Information Management, Edo State Collage of Health Science and Technology

³Federal University Otuke Business School

DOI: <https://doi.org/10.51584/IJRIAS.2026.11080059>

Received: 19 August 2026; Accepted: 24 August 2026; Published: 05 September 2026

ABSTRACT

This study evaluated Data Quality Improvement Plans (DQIPs) and their impact on clinical and administrative decision making at the Federal Medical Centre, Yenagoa, Nigeria. It was motivated by persistent challenges in healthcare data quality, including inaccurate reporting, incomplete records, delayed submissions, and suboptimal use of health information for evidence-based decision making. A descriptive cross-sectional survey design was adopted. The population comprised 1,151 healthcare workers, including Health Information Management personnel, nurses, doctors, laboratory scientists, pharmacists, and administrative staff. A sample size of 297 was determined using Taro Yamane's formula, and respondents were selected through stratified and simple random sampling techniques. Data were collected using a structured questionnaire, and reliability was established using Cronbach's Alpha. Data were analyzed using descriptive statistics, including frequencies, percentages, means, and standard deviation. Out of 297 questionnaires distributed, 284 were validly returned, yielding a 95.6% response rate. Findings showed that DQIPs were implemented in the institution, including staff training (mean = 3.20), routine data quality assessments (mean = 3.16), standardized data collection tools (mean = 3.24), feedback mechanisms (mean = 3.13), and supportive supervision (mean = 3.18). Healthcare data quality was rated relatively high across accuracy, completeness, timeliness, consistency, and reliability (grand mean = 3.15). The study further revealed that DQIPs positively influenced clinical decision making (grand mean = 3.20), particularly in diagnosis, treatment planning, continuity of care, patient management, and reduction of medical errors. Similarly, administrative decision making was enhanced (grand mean = 3.19), especially in planning, budgeting, performance monitoring, policy implementation, and resource allocation. The study concludes that effective implementation of DQIPs improves healthcare data quality and strengthens evidence-based clinical and administrative decision making in tertiary healthcare settings. It recommends continuous staff training, regular data quality assessments, improved governance systems, strengthened digital infrastructure, and sustained institutional support for data quality initiatives.

Keywords: Data Quality, Health Information Systems, Clinical Decision Making, Administrative Decision Making, Nigeria

INTRODUCTION

Healthcare systems increasingly depend on digital technologies such as Electronic Health Records (EHRs) and Health Information Management Systems (HIMS) to support clinical and administrative decision making. These systems enhance data accessibility, improve coordination of care, reduce medical errors, and strengthen efficiency in healthcare service delivery (Aguirre et al., 2021). As healthcare delivery becomes more data-driven, the reliability of information systems has become central to both patient outcomes and institutional performance.

Healthcare data are essential for a wide range of functions, including diagnosis, treatment planning, patient monitoring, budgeting, workforce planning, performance evaluation, and health policy implementation (WHO, 2021). In this regard, data quality is a critical determinant of whether health information can effectively support evidence-based clinical judgment and sound administrative decision making.

Despite significant progress in digital health adoption, many healthcare institutions continue to face persistent data quality challenges. These include incomplete and inaccurate records, delayed data reporting, inconsistencies across departments, duplication of entries, and weak system interoperability (Bender & Sartipi, 2021; Reegu et al., 2023). In low- and middle-income countries, these challenges are further compounded by infrastructural limitations, inadequate funding, shortage of skilled personnel, and weak institutional data governance structures (Makinde et al., 2020).

Globally, the rapid expansion of digital health technologies such as electronic medical records, data analytics platforms, and clinical decision support systems has significantly increased the volume and availability of healthcare data. However, the effectiveness of these innovations is highly dependent on the quality of underlying data. Poor-quality data can compromise patient safety, distort clinical decisions, reduce operational efficiency, increase healthcare costs, and weaken confidence in health information systems (Alharthi et al., 2021).

Data quality in healthcare is generally defined by dimensions such as accuracy, completeness, timeliness, consistency, validity, and reliability, all of which determine the fitness of data for intended use (Sharma et al., 2020). In Nigeria, the National Health Management Information System (NHMIS) continues to experience significant data quality gaps, including poor documentation practices, delayed submissions, and inconsistent reporting, particularly within tertiary healthcare institutions where complex clinical and administrative decisions are made (Adeleke et al., 2021; Eze et al., 2022).

In response, healthcare organizations implement Data Quality Improvement Plans (DQIPs), which include structured interventions such as staff training, supportive supervision, standardized data collection tools, electronic reporting systems, and routine data quality audits. These interventions are intended to strengthen data generation, validation, and use for decision making. However, empirical evidence on the effectiveness of DQIPs in improving clinical and administrative decision making in Nigerian tertiary hospitals remains limited, necessitating further investigation.

Theoretical Framework

This study is anchored on the Performance of Routine Information System Management (PRISM) framework and Information Quality Theory. Together, these frameworks provide a coherent explanation of how health information systems influence data quality and decision-making outcomes in healthcare settings.

The PRISM framework, developed by Aqil, Lippeveld, and Hozumi, posits that the performance of routine health information systems is determined by the interaction of technical, organizational, and behavioral factors. Technical factors refer to the tools, system design, and procedures used for data collection, processing, reporting, and analysis. Organizational factors include leadership support, governance structures, policies, supervision mechanisms, financial resources, and institutional commitment to data management. Behavioral factors relate to the knowledge, attitudes, skills, motivation, and data-use culture of health workers involved in generating and utilizing health information (Aqil et al., 2019). The framework emphasizes that improvements in data quality are most effective when these three dimensions operate in a coordinated and mutually reinforcing manner.

Information Quality Theory, embedded within the DeLone and McLean Information Systems Success Model, argues that the effectiveness of an information system depends largely on the quality of the information it produces. Information quality is commonly assessed in terms of accuracy, completeness, timeliness, consistency, and reliability (DeLone & McLean, 2003). In healthcare contexts, these dimensions determine whether health information is fit for clinical and administrative use, thereby influencing the quality of decision making.

The integration of PRISM and Information Quality Theory provides a strong analytical foundation for this study. While PRISM explains the system-level determinants that shape data production and utilization, Information Quality Theory clarifies how improvements in data attributes translate into better decision-making outcomes. Together, they provide a clear pathway for understanding how Data Quality Improvement Plans (DQIPs) enhance health information system performance and ultimately strengthen clinical and administrative decisions.

Research Objectives and Research Questions

General Objective

The general objective of this study was to evaluate Data Quality Improvement Plans and their impact on clinical and administrative decision making at the Federal Medical Centre, Yenagoa.

Specific Objectives

The specific objectives were to:

1. Identify the Data Quality Improvement Plans implemented in the institution.
2. Assess the level of healthcare data quality within the institution.
3. Examine the impact of Data Quality Improvement Plans on clinical decision making.
4. Determine the impact of Data Quality Improvement Plans on administrative decision making.

Research Questions

The study was guided by the following research questions:

1. What Data Quality Improvement Plans are implemented at the Federal Medical Centre, Yenagoa?
2. What is the level of healthcare data quality in the institution?
3. What is the impact of Data Quality Improvement Plans on clinical decision making?
4. What is the impact of Data Quality Improvement Plans on administrative decision making?

METHODS

Study Design and Setting

This study adopted a descriptive cross-sectional survey design to assess Data Quality Improvement Plans (DQIPs) and their influence on clinical and administrative decision making at the Federal Medical Centre, Yenagoa. The design was considered appropriate because it allows the collection of data from respondents at a single point in time, providing a snapshot of existing DQIPs, the level of healthcare data quality, and their impact on decision making within the institution.

The study was conducted at the Federal Medical Centre, Yenagoa, a federal tertiary healthcare institution located in Yenagoa, Bayelsa State, Nigeria. The hospital provides a wide range of services, including medical, surgical, laboratory, pharmaceutical, and administrative care to patients from Bayelsa State and neighbouring regions. It was selected because it relies extensively on health information systems for patient management, planning, administration, and decision making, and employs diverse categories of health professionals involved in routine data generation and use.

Population and Sampling Technique

The study population comprised all healthcare workers involved in the generation, processing, management, and use of health data at the Federal Medical Centre, Yenagoa. These included Health Information Management personnel (83), nurses (582), medical doctors (254), medical laboratory scientists (79), pharmacists (51), and administrative staff (102), giving a total population of 1,151.

The sample size of 297 respondents was determined using the Taro Yamane formula for finite populations:

$$n = N / (1 + Ne^2)$$

Where $N = 1,151$ and $e = 0.05$.

A stratified sampling technique was used to ensure proportional representation across professional groups. Proportional allocation produced 21 HIM personnel, 150 nurses, 66 doctors, 20 medical laboratory scientists, 13 pharmacists, and 27 administrative staff. Within each stratum, simple random sampling was used to select respondents.

Instrument for Data Collection

Data were collected using a structured questionnaire titled *“Evaluation of Data Quality Improvement Plans and Their Impact on Decision Making Questionnaire.”* The instrument was developed based on relevant literature and aligned with the study objectives.

The questionnaire contained five sections. Section A covered demographic information such as age, gender, profession, qualification, and years of experience. Section B assessed the implementation of DQIPs. Section C examined healthcare data quality. Section D measured the impact of DQIPs on clinical decision making, while Section E assessed their impact on administrative decision making. Each section contained five items.

All items were rated on a four-point Likert scale: Strongly Disagree (1), Disagree (2), Agree (3), and Strongly Agree (4).

Validity and Reliability of the Instrument

Content validity was ensured through expert review by three specialists in Health Information Management, Medical Statistics, and Research Methodology. Their suggestions were used to refine the instrument for clarity, relevance, and adequacy.

The reliability of the instrument was established through a pilot study conducted in a separate tertiary health facility outside the study area to avoid contamination. Data from the pilot study were analyzed using Cronbach’s Alpha coefficient. A reliability threshold of 0.70 and above was considered acceptable, indicating satisfactory internal consistency of the instrument.

Procedure for Data Collection

Following ethical approval and administrative permission, data collection was carried out over four weeks. The researcher, assisted by two trained research assistants, administered questionnaires directly to respondents in their respective departments.

Participants were informed about the study purpose and assured of confidentiality. Each questionnaire took approximately 15–20 minutes to complete. To improve response rate, questionnaires were retrieved immediately after completion or during scheduled follow-up visits.

Method of Data Analysis

Data were coded and analyzed using SPSS version 26. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize data and answer research questions. A decision rule

based on a criterion mean of 2.50 was applied. Mean scores of 2.50 and above were interpreted as agreement, while scores below 2.50 indicated disagreement.

Ethical Considerations

Ethical approval was obtained from the Health Research Ethics Committee of the Federal Medical Centre, Yenagoa, while administrative clearance was granted by hospital management.

Participation was voluntary, and informed consent was obtained from all respondents after full explanation of the study objectives and procedures. Confidentiality and anonymity were strictly maintained, with no personal identifiers collected. All data were securely stored using coded identifiers and password-protected systems accessible only to the researcher. The study adhered to established ethical standards for research involving human participants.

RESULTS

Respondent Characteristics

Out of the 297 questionnaires distributed, 284 were correctly completed and returned, representing a response rate of 95.6%. This high response rate indicates strong participation and data reliability. Table 1 presents the demographic characteristics of the respondents.

Table 1: Demographic Characteristics of Respondents (N = 284)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	132	46.5
	Female	152	53.5
Age (years)	20–29	48	16.9
	30–39	103	36.3
	40–49	87	30.6
	≥50	46	16.2
Professional Category	HIM Personnel	20	7.0
	Nurses	144	50.7
	Doctors	63	22.2
	Medical Laboratory Scientists	19	6.7
	Pharmacists	12	4.2
	Administrative Staff	26	9.2

Data Quality Improvement Plans Implemented

Table 2 shows that various Data Quality Improvement Plans (DQIPs) are implemented in the institution, with a grand mean of 3.18, above the decision benchmark of 2.50. This indicates general agreement among respondents that DQIP activities are actively practiced. The most prominent intervention was the use of

standardized data collection tools (mean = 3.24), followed by staff training on data management (mean = 3.20).

Table 2: Data Quality Improvement Plans Implemented (Benchmark = 2.50)

Item	Mean	SD	Decision
Staff receive regular training on healthcare data management	3.20	0.82	Accepted
Routine data quality assessments are conducted	3.16	0.84	Accepted
Standardized data collection tools are used across departments	3.24	0.80	Accepted
Feedback mechanisms exist for correcting dSata errors	3.13	0.86	Accepted
Supervisory activities improve data quality	3.18	0.83	Accepted
Grand Mean	3.18	—	Accepted

Level of Healthcare Data Quality

Table 3 indicates that respondents rated healthcare data quality in the institution as relatively high, with a grand mean of 3.15. All measured dimensions such as accuracy, completeness, timeliness, consistency, and reliability scored above the benchmark, suggesting generally good data quality performance.

Table 3: Level of Healthcare Data Quality

Item	Mean	SD	Decision
Healthcare records are accurate and dependable	3.19	0.81	Accepted
Patient records are complete and well documented	3.12	0.87	Accepted
Data are available when needed for decision making	3.14	0.84	Accepted
Data reporting is consistent across departments	3.09	0.88	Accepted
Data are reliable for clinical and administrative use	3.19	0.82	Accepted
Grand Mean	3.15	—	Accepted

Impact of DQIPs on Clinical Decision Making

As shown in Table 4, respondents agreed that Data Quality Improvement Plans positively influence clinical decision making, with a grand mean of 3.20. The highest-rated effect was improved diagnostic accuracy due to better data quality (mean = 3.22).

Table 4: Impact of DQIPs on Clinical Decision Making

Item	Mean	SD	Decision
Improved data quality supports accurate diagnosis	3.22	0.81	Accepted
Reduced medication and treatment errors	3.19	0.82	Accepted

Improved continuity of patient care	3.21	0.81	Accepted
Enhanced treatment planning	3.20	0.82	Accepted
Supports effective patient management	3.17	0.83	Accepted
Grand Mean	3.20	—	Accepted

Impact of DQIPs on Administrative Decision Making

Table 5 shows strong agreement that DQIPs positively influence administrative decision making, with a grand mean of 3.19. The strongest perceived benefit was improved organizational planning (mean = 3.21).

Table 5: Impact of DQIPs on Administrative Decision Making

Item	Mean	SD	Decision
Supports effective organizational planning	3.21	0.81	Accepted
Improves budgeting processes	3.18	0.82	Accepted
Enhances resource allocation and utilization	3.20	0.81	Accepted
Improves performance monitoring and evaluation	3.18	0.82	Accepted
Supports policy implementation and management decisions	3.16	0.83	Accepted
Grand Mean	3.19	—	Accepted

Summary

DQIPs were widely implemented, with standardized tools recording the highest mean (3.24). Overall data quality was rated high (grand mean = 3.15). Clinical decision making improved notably (grand mean = 3.20), particularly in diagnosis and treatment accuracy. Administrative decision making was similarly enhanced (grand mean = 3.19), especially in planning and resource allocation.

DISCUSSION

Data Quality Improvement Plans and Healthcare Data Quality

The findings indicate that Data Quality Improvement Plans (DQIPs) are well integrated into routine operations at the Federal Medical Centre, Yenagoa. Respondents reported the implementation of staff training, routine data quality assessments, standardized data collection tools, feedback mechanisms, and supportive supervision. These interventions reflect the combined application of technical, organizational, and behavioral components emphasized in the PRISM framework (Aqil et al., 2019). The use of standardized tools and supervisory mechanisms suggests that the institution has established structures to strengthen data management processes and promote accountability in health information practices.

The study further revealed that healthcare data quality was generally high across the dimensions of accuracy, completeness, timeliness, consistency, and reliability. This finding suggests that existing DQIPs are contributing positively to the quality of health information generated within the institution. However, consistency recorded comparatively lower ratings than other dimensions, indicating that challenges related to data harmonization and interoperability may still exist across departments. This observation is consistent with Reegu et al. (2023), who identified fragmented information systems and poor interoperability as persistent barriers to healthcare data quality.

Impact on Clinical and Administrative Decision Making

The findings demonstrate that DQIPs positively influence both clinical and administrative decision making. Improved data quality was associated with enhanced diagnosis, treatment planning, continuity of care, patient management, and reduction of clinical errors. These findings support Sharma et al. (2020), who argued that reliable and accurate healthcare data are fundamental to effective clinical practice and patient safety. From the perspective of Information Quality Theory, high-quality information enables healthcare professionals to make more informed and evidence-based decisions.

Similarly, improvements were observed in administrative functions such as organizational planning, budgeting, resource allocation, performance monitoring, and policy implementation. This finding supports Krive et al. (2022), who emphasized the importance of high-quality data in promoting efficient healthcare management and evidence-based administration. Collectively, the results suggest that investments in data quality initiatives can generate benefits beyond information management by strengthening institutional decision-making processes and overall organizational performance.

Limitations of the Study

Several limitations should be acknowledged. The cross-sectional design limits the ability to establish causal relationships between DQIPs and decision-making outcomes. The study also relied on self-reported perceptions, which may be influenced by response bias. Furthermore, the investigation was conducted in a single tertiary healthcare institution, limiting the generalizability of the findings to other healthcare settings. The absence of objective data quality indicators, such as audit reports or system-generated metrics, further restricts independent verification of reported outcomes. Nevertheless, the high response rate and consistency of findings with existing literature enhance confidence in the study's conclusions.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study evaluated Data Quality Improvement Plans (DQIPs) and their influence on clinical and administrative decision making at the Federal Medical Centre, Yenagoa. The findings demonstrate that DQIPs, including staff training, routine data quality assessments, supportive supervision, feedback mechanisms, and standardized data collection tools, are actively implemented within the institution and contribute to improved healthcare data quality.

The study found that healthcare data were generally rated high in terms of accuracy, completeness, timeliness, consistency, and reliability, indicating that ongoing data quality initiatives have strengthened health information management practices. Furthermore, improved data quality was associated with enhanced clinical decision making, particularly in diagnosis, treatment planning, continuity of care, and patient management. Administrative decision making also benefited through improved planning, budgeting, resource allocation, performance monitoring, and policy implementation.

The findings support the propositions of the PRISM framework and Information Quality Theory, demonstrating that improvements in technical, organizational, and behavioral aspects of health information systems contribute to better-quality information and more effective decision-making outcomes.

Overall, the study concludes that DQIPs significantly improve healthcare data quality and enhance both clinical and administrative decision-making. However, sustaining these gains requires continuous staff training, strengthened data governance structures, and sustained investment in digital health infrastructure to support effective data management and evidence-based healthcare delivery.

Recommendations

Given the above findings, the following recommendations are made:

1. Management should implement regular and structured training programmes on healthcare data management, including practical sessions on data recording, validation, and use for decision making.
2. Routine data quality assessments and supportive supervision should be maintained across all departments, with findings used to guide continuous improvement.
3. Clear policies, standards, and accountability frameworks should be enforced to ensure uniform data collection, reporting, and management practices across departments.
4. Investment should be made in Electronic Health Records (EHRs) and integrated health information systems to enhance accuracy, accessibility, and timeliness of data. Partnerships may be explored where funding is limited.
5. Structured feedback mechanisms should be enhanced to ensure timely identification and correction of data errors and inconsistencies.
6. Healthcare data should be actively integrated into routine clinical and administrative decision making, including meetings and performance evaluations.
7. Adequate and sustained funding should be provided for health information systems, with dedicated budget allocations for data quality improvement activities.

Contributions and Suggestions for Future Research

This study contributes to existing knowledge by providing empirical evidence on the impact of DQIPs on clinical and administrative decision making in a Nigerian tertiary healthcare institution. It reinforces the understanding that data quality is not only a technical requirement but also a strategic factor in healthcare performance.

Future studies should expand to multiple healthcare facilities across different regions to allow for comparative analysis. Longitudinal research is recommended to assess the long-term sustainability and impact of DQIPs on health outcomes and organizational efficiency. Further research should also explore barriers to effective implementation of digital health systems, particularly Electronic Health Records, and examine the role of emerging technologies such as artificial intelligence in improving healthcare data quality.

In addition, mixed-method approaches combining quantitative and qualitative data are recommended to provide deeper insights into contextual and organizational factors influencing the effectiveness of Data Quality Improvement Plans.

REFERENCES

1. Adeleke, I. T., Adekanye, A. O., Onawola, K. A., & Jegede, O. A. (2021). Health information management practices and data quality challenges in Nigerian tertiary healthcare institutions. *Nigerian Journal of Clinical Practice*, 24(5), 677–684.
2. Aguirre, R. R., Suarez, O., Fuentes, M., & Sanchez-Gonzalez, M. A. (2021). Electronic health record implementation: A review of resources and tools. *Cureus*, 13(9), e17788. <https://doi.org/10.7759/cureus.17788>
3. Alharthi, H., Youssef, A., Radwan, A., & Al-Mutairi, S. (2021). Healthcare data quality challenges and impacts on clinical decision making. *Healthcare Informatics Research*, 27(3), 201–210. <https://doi.org/10.4258/hir.2021.27.3.201>
4. Aqil, A., Lippeveld, T., & Hozumi, D. (2019). PRISM framework for strengthening routine health information systems: Recent applications and implications for healthcare management. *BMC Health Services Research*, 19(1), 1–10.

5. Ayele, W., Biruk, E., Habtamu, T., & Taye, G. (2022). Routine health information system data quality and use for decision making in Ethiopia. *BMC Medical Informatics and Decision Making*, 22(1), 1–11. <https://doi.org/10.1186/s12911-022-01898-3>
6. Bender, D., & Sartipi, K. (2021). HL7 FHIR: An agile and RESTful approach to healthcare information exchange. *Proceedings of the IEEE International Symposium on Computer-Based Medical Systems*, 326–331.
7. DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems*, 19(4), 9–30. <https://doi.org/10.1080/07421222.2003.11045748>
8. Eze, P. N., Nwosu, O. B., & Chukwu, J. N. (2022). Assessment of routine health information system data quality in tertiary hospitals in Nigeria. *African Health Sciences*, 22(2), 154–165.
9. Hazelhurst, B., Kwan, B. M., & Stevens, V. J. (2021). Electronic health record completeness and healthcare quality outcomes. *Journal of the American Medical Informatics Association*, 28(4), 742–750. <https://doi.org/10.1093/jamia/ocaa356>
10. Krive, J., Joshi, A., & Sonnad, S. (2022). Data governance and healthcare analytics: Implications for clinical and operational decision making. *BMC Medical Informatics and Decision Making*, 22(1), 1–12. <https://doi.org/10.1186/s12911-022-01790-0>
11. Lemma, S., Janson, A., Persson, L. Å., Wickremasinghe, D., & Källestål, C. (2020). Improving quality and use of routine health information system data in low- and middle-income countries: A scoping review. *PLoS ONE*, 15(10), e0239683. <https://doi.org/10.1371/journal.pone.0239683>
12. Mahmoud, H., Simba, D., & Mwangi, M. (2020). Strengthening routine health management information systems in Tanzania: Effects on data completeness and timeliness. *BMC Health Services Research*, 20, 1–12.
13. Makinde, O. A., Azeez, A., Bamidele, S., Oyemakinde, A., Oyediran, K., Fapohunda, B., & Mullen, S. (2020). Development of a master health facility list in Nigeria. *Online Journal of Public Health Informatics*, 12(1), e12. <https://doi.org/10.5210/ojphi.v12i1.10264>
14. Reegu, F., Alshammari, F., & Ahmed, S. (2023). Improving healthcare data quality through integrated information systems. *Health Information Science and Systems*, 11(1), 1–14. <https://doi.org/10.1007/s13755-023-00210-4>
15. Sharma, A., Rana, N. P., & Dwivedi, Y. K. (2020). Data quality dimensions in healthcare information systems: A systematic review. *Information Systems Frontiers*, 22(6), 1349–1368. <https://doi.org/10.1007/s10796-019-09906-9>
16. Verma, P., Gupta, S., & Singh, R. (2022). Health information quality and patient safety outcomes in tertiary healthcare settings. *International Journal of Medical Informatics*, 163, 104765. <https://doi.org/10.1016/j.ijmedinf.2022.104765>
17. World Health Organization. (2021). Strengthening health information systems for evidence-based policy and decision making. World Health Organization.

APPENDIX

The research instrument titled “*Evaluation of Data Quality Improvement Plans and Their Impact on Decision Making Questionnaire*” is available upon request from the corresponding author. The instrument was designed in line with the study objectives and theoretical framework.

The questionnaire is structured into five sections. Section A covers respondents’ demographic characteristics, including gender, age, professional category, educational qualification, and years of experience. Section B assesses the implementation of Data Quality Improvement Plans using five items. Section C examines healthcare data quality across five dimensions: accuracy, completeness, timeliness, consistency, and reliability. Section D evaluates the impact of DQIPs on clinical decision making, while Section E assesses their impact on administrative decision making, each using five items.

All items in Sections B to E were measured using a four-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (4). The instrument was developed from relevant literature and aligned with the study’s objectives and theoretical framework.