FEDERAL MINISTRY OF
HEALTH

REPORT OF NHMIS RAPID ASSESSMENT 2025

FEDERAL MINISTRY OF HEALTH

FOREWORD

In an era where data is the cornerstone of effective health system governance, the Federal Ministry of Health (FMOH) recognizes the critical role of a robust and responsive National Health Management Information System (NHMIS). This Rapid Assessment Report offers a timely and evidence-based reflection on the current state of the Routine Health Management Information System (RHMIS), with a focus on the District Health Information System (DHIS-2) and the Health Facility Registry/Master Facility List (HFR/MFL).

For policymakers at the FMOH, this report provides actionable insights into the systemic and operational challenges that hinder the full realization of NHMIS as envisioned in the National Health Act of 2014. It highlights the urgent need for improved coordination, clearer governance structures, and enhanced capacity at all levels of the health system. The findings underscore the importance of strengthening institutional oversight, ensuring interoperability across platforms, and investing in the digital infrastructure that supports real-time, high-quality data for decision-making.

To our development partners and donors, this report serves as a call to align investments with the strategic priorities of Nigeria's Health Sector Renewal and Investment Initiative. The evidence presented here points to critical areas where targeted support such as capacity building, digital transformation, and system integration can yield significant returns in health outcomes and system efficiency.

For implementing and program officers, the assessment offers a roadmap for programmatic alignment and operational improvement. It identifies gaps in awareness, access, and utilization of key data platforms, and proposes practical solutions that can be embedded into ongoing and future interventions.

We commend the Department of Planning, Research and Statistics for their leadership and the Monitoring and Evaluation Community of Practice for their responsiveness in conducting this rapid assessment. Their work lays a strong foundation for a more integrated, accountable, and data-driven health information ecosystem in Nigeria.

Let this report not only inform but also inspire collective action toward a health system where every decision is backed by reliable data and every Nigerian benefits from it.

Muhammad Ali Pate, CON
Coordinating Minister of Health and Social Welfare
Federal Republic of Nigeria

ACKNOWLEDGMENT

We sincerely express our deepest gratitude to the Global Financing Facility (GFF), Results for Development (R4D), and Engender Health for their invaluable support and guidance throughout the NHMIS Rapid Assessment. Their strategic and technical assistance was pivotal to the successful completion of this study.

Our heartfelt appreciation extends to all implementing partners, donors, and Federal and State personnel who contributed by participating in the interviews and providing valuable feedback. Your dedication and commitment to strengthening health information systems in Nigeria are truly inspiring.

I especially thank my M&E team in the Department of Planning, Research and Statistics for their leadership, and the wider Monitoring and Evaluation Community of Practice for their responsiveness during this rapid assessment. Your efforts have laid a strong foundation for a more integrated, accountable, and data-driven health information ecosystem in Nigeria.

To our development partners and donors, this report underscores the importance of aligning investments with Nigeria's Health Sector Renewal and Investment Initiative. The evidence presented highlights critical areas where targeted support such as capacity building, digital transformation, and system integration can significantly improve health outcomes and system efficiency.

For our program officers, HMIS officers and M&E officers at the states and LGAs, this assessment offers a strategic roadmap for programmatic alignment and operational enhancement. It identifies gaps in awareness, access, and utilization of key data platforms, and proposes practical solutions that can be integrated into ongoing and future interventions.

These findings will help shape a data-driven health information system in Nigeria. We hope this Report inspires collective action towards a reliable, data-guided health system for the benefit of all Nigerians.

Daju Kachollom S. mni,
Permanent Secretary
Federal Ministry of Health and Social Welfare

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EXECUTIVE SUMMARY

The National Health Management Information System (NHMIS), established in 1993, serves as the backbone for monitoring the results of the National Strategic Health Development Plan (NSHDP). The NHMIS is expected to guarantee the availability of accurate, timely, reliable, and relevant health information, which is essential for informed public health decision-making. Over the years, the NHMIS has undergone various revisions and harmonizations due to increasing fragmentation of data collection tools and processes, caused by institutional weaknesses and disease-specific demands driven by donor requirements and reporting obligations. The national policy on health information systems has consistently prioritized issues of data governance, system architecture, indicators, data management, data demand and use, and data security. This has led to the establishment of electronic data reporting platforms, such as the District Health Information System – 2 Nigeria National Instance (DHIS-2) and the Health Facility Registry (HFR)/Master Facility List (MFL).

This assessment aimed to evaluate the knowledge, attitudes, and practices of key stakeholders in the Monitoring and Evaluation (M&E) Community of Practice (CoP) at the federal, state, LGA, and facility levels regarding the uptake of the DHIS-2 and the HFR/MFL platforms for routine data reporting in Nigeria. Data on knowledge, awareness, utilization, administration of DHIS-2 and HFR/MFL were collected and analysed using a structured questionnaire.

The findings from this assessment highlighted key gaps in knowledge, awareness, access barriers, and the utilisation of the DHIS-2 platform and the HFR/MFL for routine data reporting. Below is a summary of the key findings:

- Across all levels (Federal, State, LGA, and facility), the majority of respondents were unable to identify all the components of the NHMIS, with only 21% at the Federal level and as low as 6% at the LGA and facility levels demonstrating full awareness.

- This was also true regarding identifying components of the Routine Health Management Information Systems (RHMIS). Of those able to identify components, the DHIS-2 was most frequently cited.

- Awareness of the HFR/MFL ranged from 81% at the federal level to only 39% at the facility level. Even where awareness existed, usage rates were relatively low – ranging from 60% at the LGA level to 25% at the facility level.

- Access to the DHIS-2 system was not universal: the highest proportion of respondents with access to the system was at the State (77%) and LGA (79%) levels, with only 56% at the Federal level and 45% at the facility level.

- A significant portion of respondents felt the system was "poor" or needed improvement: 44% Federal, 40% State, 45% LGA, and 48% facility.

Specific areas of concern regarding the DHIS-2 platform included: data quality, server downtime, access barriers, lack of interoperability, stockouts of reporting tools, lack of user capacity, poor software design, and poor management practices.

- Recommendations for improving the DHIS2 included Stronger data validation systems, improved access to the platform, user training/capacity building, defined user and management roles, system upgrades, and increased availability of reporting tools.

- Specific areas of concern around the HFR/MFL included: poor data quality/duplications, incomplete or incorrect data, poor interoperability with DHIS-2, irregular updates, server downtime, and lack of user capacity/awareness.

- Proposed recommendations to improve HFR/MFL included: More frequent updates, capacity building for users and decision-makers, transition to digital reporting, better integration of the private sector, strengthened coordination/oversight, and implementing meetings for routine data review and validation.

- Facilities continue to rely on manual or a combination of electronic and manual data reporting, with 46% only reporting manually and 42% in some combination. Only 11% of respondents indicated that their facility used only electronic reporting.

- Community-level data is primarily provided by community figures and officers in charge at facilities, with nearly 1/5 of respondents indicating no one at their facility provided community-level data.

- Less than half of facilities had a data clerk on staff (43%), but where there was a data clerk, the majority were registered health record officers (75%).

- Only 31% of respondents indicated their facility had a functional telephone set.

Key recommendations for improving the knowledge and practices of M&E CoP stakeholders regarding the uptake of the DHIS-2 and HFR/MFL include:

- Strengthen oversight at the Federal level of systems, with clear user roles, access procedures, and defined data points and systems for reporting.

- Raise awareness among the appropriate communities of the system's components, how they can be accessed, and how they can be utilized to strengthen the Nigerian health system and, in turn, improve health outcomes for Nigerians.

- Provide capacity-building/training/refresher training for the CoP that targets their specific roles and potential uses of the various components of the systems.

- Improve institutional coordination by the DPRS at both federal and state levels, ownership and oversight for routine DQAs/Data Validation Exercises ensuring accurate triangulation between onsite facility-based data and DHIS-2 across the facility, LGA, and state levels. This can also involve reviewing the current system and ensuring that all data elements and indicators are defined and mapped to identified data collection sources.

- Information Technology system requirements and specifications stipulate routine preventive maintenance and troubleshooting to reduce the occurrence of downtimes. The DPRS at the federal level has the institutional responsibility to ensure coordination and effective management of the DHIS-2 instance, including cloud hosting and maintenance. There should also be a systematic and detailed approach to routine DHIS-2 system upgrades and preventive maintenance with a clear communication plan.

- The DHIS2.0's interoperability with other devices and tools, user experience, and other key systems specifications should be seamless for data entry and analysis by

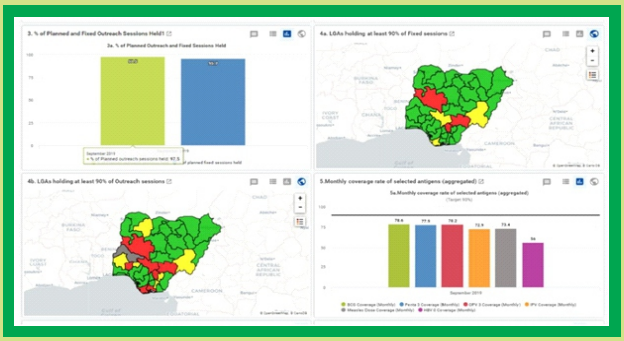
In conclusion, the Department of Planning, Research and Statistics at the national and subnational levels has a key institutional role to play in strengthening data governance and coordination within the context by working collaboratively with all stakeholders.

INTRODUCTION

The National Health Act of 2014 (NHAct 2014) mandates the Federal Ministry of Health to facilitate, coordinate, and maintain a comprehensive National Health Management Information System (NHMIS) across all levels of governance, including Federal, State, and Local Government. Specifically, the Act requires the Honorable Minister of Health to "prescribe the categories or kinds of data for submission and collection and the manner and format in which and by whom the data is to be compiled or collated and shall be submitted to the Federal Ministry of Health."

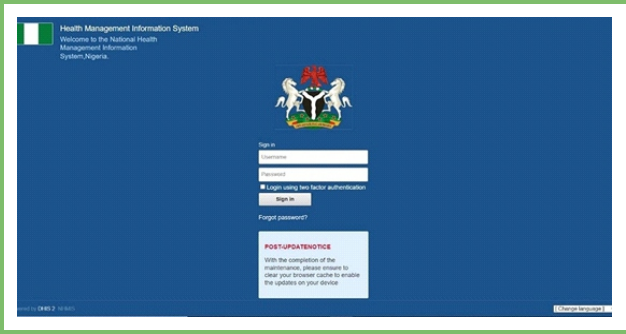
The NHAct 2014 further mandates the Secretary responsible for Health in the Federal Capital Territory (FCT) to establish a committee in the FCT to maintain, facilitate and implement the health information system part of the NHMIS. The law mandates all private health providers to establish and maintain health information systems as part of the NHMIS. It makes it a prerequisite for the issuance of certificates of Standards to health facilities. To ensure compliance, the NHAct 2014 stipulates a fine or jail time for private providers who violate the provisions of the law. The aim is to ensure a cohesive NHMIS that integrates data collection, analysis, and dissemination for effective healthcare planning and decision-making.

The NHMIS is established in line with the World Health Organization and generally agreed on definition as a system that collects, processes, stores, and distributes all forms of health data and information to support the decision-making process, assist in the control of health organisations and enhance healthcare applications, and ultimately improve health outcomes. As such, the NHMIS, as established, includes all RHMIS that include assessment, surveillance and health service delivery data collected regularly, and Periodic Health Management Information (PHMIS) that include population survey data and information from campaigns conducted occasionally.



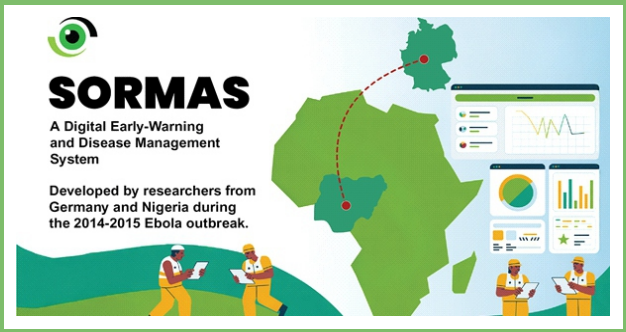
PLANNED AND FIXED OUTREACH HELD

Despite the clear-cut definition of and provisions of the NHAct 2014 on the NHMIS, it is continuously described as unreliable and ineffective in healthcare planning and decision-making at all levels. While the information from periodic assessments, campaigns, and population surveys are seen as reliable, however, disparities between reports of national population surveys and estimates by United Nations agencies and independent surveys. There is also limited coordination by the Federal Ministry of Health so methodologies, conduct, analysis, and report writing of surveys are either driven by programs, agencies, or donors, which makes the quality and, ultimately, the use of such surveys significantly limited.



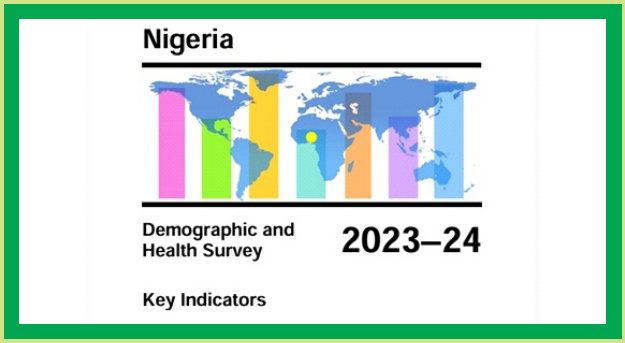
A SNAPSHOT OF DHIS2 LOGIN PAGE

Regarding the RHMIS, despite the resolution of the 56th session of the National Council of Health (NCH) for the adoption and use of the District Health Information System (DHIS) platform to ensure a unified, decentralised national health database, there have been continued proliferation of data platforms by departments, programs, agencies, parastatals, and partners at all tiers of governance and levels of healthcare. For example, despite the existence and significant investment in the national DHIS-2, and sub-systems such as the Health Facility Registry (HFR), various parallel platforms such as the e-TB for Tuberculosis data, National Data Repository (NDR) for HIV/AIDS data, SORMAS for surveillance data and many more were set up as components of the RHMIS without due consideration for existing provisions and stipulations.



SORMAS (DIGITAL EARLY-WARNING & DISEASES MANAGEMENT SYSTEM)

Similarly, various public and private hospitals have set up Electronic Health Record (EHR) systems as RHMIS sub-systems that are not linked to the national aggregate (DHIS-2) system. It is the same with the health insurance information systems set up and being used across all the States of the Federation including the FCT. The systems, like the EHRs, sit on varied operating platforms and therefore make it difficult to integrate critical information in insurance enrolment, utilisation of insurance packages and other information important to implementing health insurance strategies across the country.

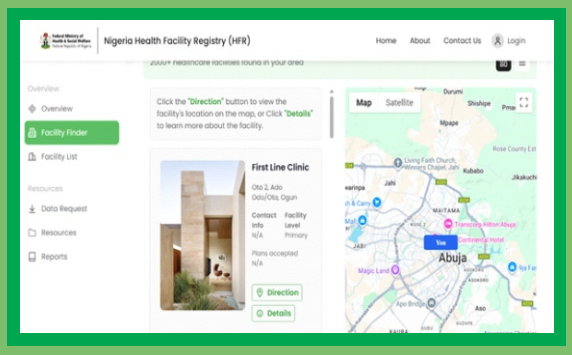


KEY INDICATORS

The continued proliferation of data systems and siloed implementation of systems such as registries for the health workforce, facilities, and diseases (e.g., cancer registries) continue to hinder the ability of the NHMIS (both RHMIS and PHMIS) to drive informed decision-making, robust patient care coordination, quality improvement, public health surveillance, resource optimisation, patient empowerment, compliance, and legal requirements, as well as research and innovation in the country. Various studies and reports have documented some challenges with implementing health information systems in Nigeria but with limited specifics about settings-specific problems and targeted interventions.

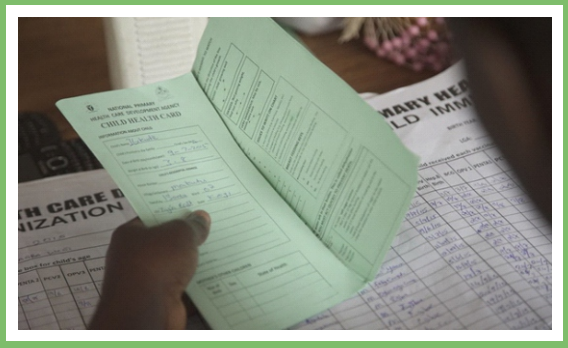
HEALTH FACILITY DAILY LABOUR & DELIVERY REGISTER

The Health Sector Renewal and Investment Initiative has data and digitisation as critical enablers and sets out to ensure quality data for decision-making in the health system. To support the HMIS strengthening, a series of planned assessments will be undertaken to explore the challenges of the NHMIS using various established frameworks such as the PRISM for the RHMIS to explore current barriers and opportunities for the NHMIS to make critical recommendations for appropriate interventions to strengthen the overall health information system in Nigeria. This assessment, which is the first in the series, assesses the knowledge, awareness, administration, and access to the DHIS-2 and sub-systems and their utilisation by priority users at the Federal, State, and LGA, as well as health facility levels.

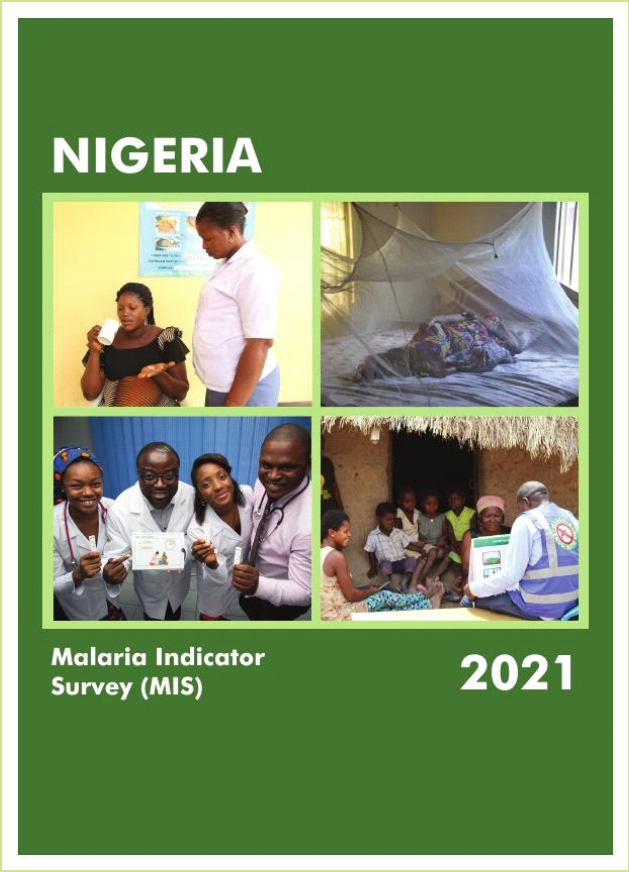


FACILITY FINDER

PATIENCE REFERENCE PERSONAL CARD



CHILD HEALTH CARD



MALARIA INDICATOR SURVEY (MIS)

ATTENDANCE REGISTER

OBJECTIVES

The primary aim of this rapid assessment is to quickly evaluate the RHMIS among the community of practice at the Federal and sub-national levels and make recommendations to enhance the quality of data for decision-making.

The specific objectives are as follows:

Assess the level of knowledge and awareness of components of the RHMIS, such as the DHIS-2 and HFR, among stakeholders at all levels.

Assess the administration of the DHIS-2 platform among stakeholders at all levels.

Explore stakeholders' perspectives on the immediate perceived challenges with the DHIS-2 national instance and HFR among stakeholders at all levels.

Identify additional RHMIS systems, particularly those operating within healthcare facilities and

·Gather stakeholders' insight regarding potential areas for improvement within the RHMIS ecosystem, focusing on enhancing the overall functionality and usability.

ANALYTICAL FRAMEWORK

The Performance of Routine Information System Management (PRISM) Framework is a global tool developed by Measure Evaluation for assessing RHMIS. The PRISM, which emphasizes strengthening RHIS's performance through a system-based approach, allows for the assessment of the individual components of the RHMIS, such as organisational, environmental, behavioural, and technical determinants to improve system and health outcomes.

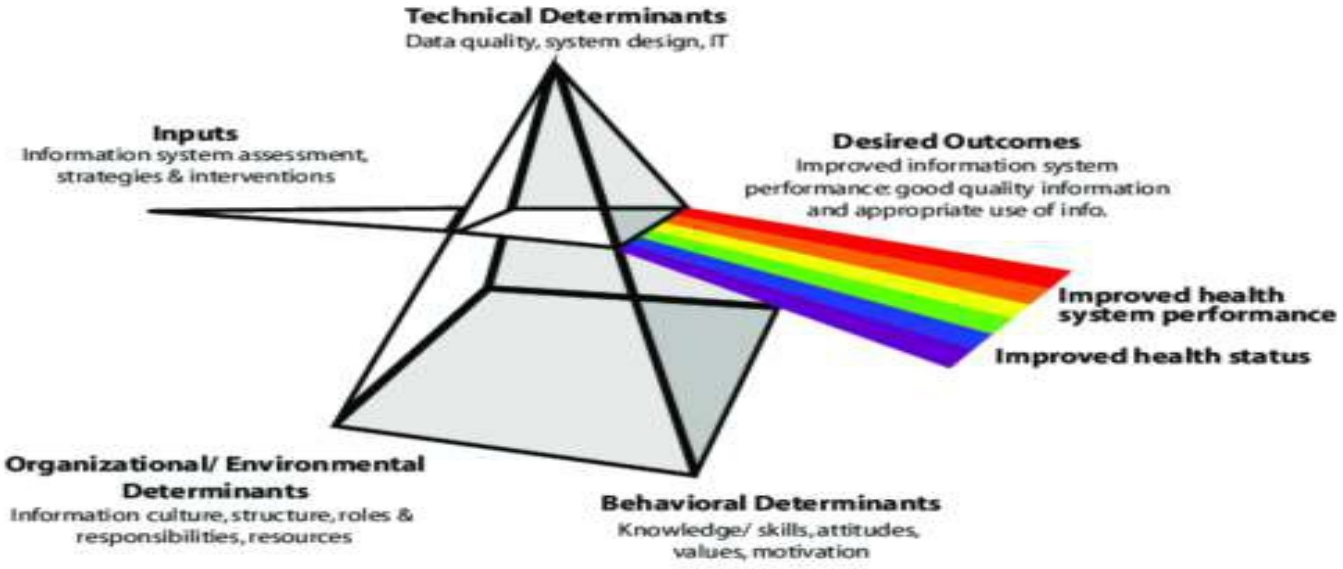


Figure 1: RHIS Prism Analytical Framework. Adopted from PRISM toolkit. 1

The rapid assessment focused on selected aspects of the PRISM framework such as knowledge, structure, system administration and aspects of system design of the RHMIS in the country. The questions in the toolkit were modified to fit the Nigeria context and to address foundational issues in the routine health information system across various levels of healthcare management: Federal, State, Local Government Area (LGA), and Facility levels. The PRISM framework has been transformed into a logical model outlined below, emphasising the essential determinants and inputs instrumental in shaping the desired outcomes of the RHMIS. Further exploration of additional aspects within the framework will be undertaken through subsequent rapid or in-depth assessments.

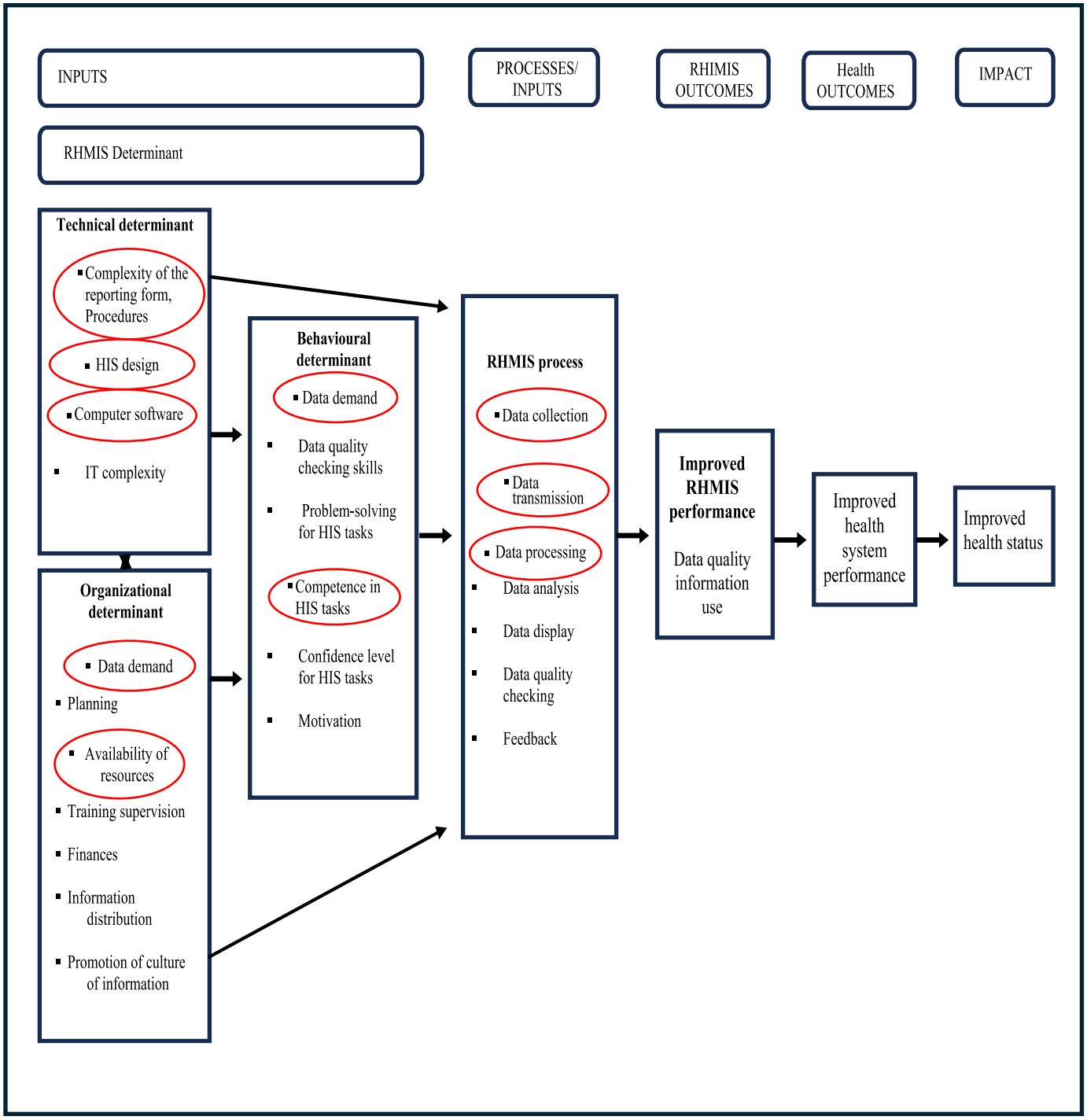


Figure 2: NHMIS Rapid Assessment Logical Framework

1 MEASURE Evaluation. (2019). Performance of Routine Information System Management (PRISM) User's Kit: Analyzing Data from a PRISM Assessment. Chapel Hill, NC, USA: MEASURE Evaluation, University of North Carolina.

METHODOLOGY

Sampling

The assessment was conducted aby the M&E community of practice comprised of M&E and HMIS officers at the Federal and sub-national levels. Specifically, M&E and HMIS officers in the Federal Ministry of Health, agencies of health, and Partners were included in the assessment. Health Records officers in various Federal Tertiary Hospitals (FTH) were also included in the assessment. At the sub-national level, State HMIS officers, M&E officers at the State agencies and Partner organisations supporting the States were invited to participate in the assessment. At the LGAs, the focus was on Monitoring and Evaluation (M&E) officers responsible for collecting and uploading data onto the DHIS-2. This targeted approach aimed to gather firsthand information from those directly involved in data management processes at the grassroots level. While at the facility level, the assessment targeted Officers in Charge (OICs) and facility data clerks who play a pivotal role in generating and managing health-related data. By engaging with these key personnel, the assessment sought to capture perspectives from those at the forefront of data collection and reporting within healthcare facilities.

Questionnaire and Data Collection

The questionnaire was designed with open and closed-ended questions drawn from the PRISM toolkit for RHMIS assessment and national health facility registry, as well as other relevant data assessment tools. The questionnaire was then intentionally made simple and concise to ensure ease of understanding and use by respondents. The data collection method was via Google Forms, chosen for its user-friendly interface and adaptable features. A distinct link to the Google Form was created and shared with respondents via emails and dedicated WhatsApp groups, enabling them to respond using smartphones or computers conveniently.

Analytical Method

The data analysis employed a mixed-method approach combining descriptive and thematic analysis techniques. Specifically, the problems and solutions sections of the questionnaires underwent thematic analysis to uncover recurring patterns. This process involved creating codes and categorising responses into coherent and distinct themes, facilitating prioritisation based on thematic importance.

For quantitative data, analysis was conducted using a user-friendly Microsoft Excel template. Descriptive statistics, including simple percentages, bar charts, trend analysis, and ranges, were generated. These statistical methods not only helped analyze the data comprehensively but also helped present it clearly and understandably for the target audience.

Table 1: Steps for analysing the rapid assessment data based on the framework developed

S/N	Analytical Steps	Variables
1.	Data Cleaning and Preparation	▪ Check for completeness by ensuring all required fields are filled. ▪ Handle missing data by deciding how to deal with missing responses. In this instance, we would be population empty cells with zero to enable us to proceed with the analysis. ▪ Standardize responses with variations in responses, standardise them for consistency. ▪ Remove duplicates by eliminating any duplicate entries if present
2.	Descriptive Statistics	▪ Frequency analysis to determine responses for each question. ▪ Cross-tabulations to examine relationships between different variables. ▪ Summary statistics to calculate mean, median, mode, and range for relevant quantitative responses. • Compare the proportion of respondents who have access to DHIS-2 by level. • Analyze ratings for the administrator of DHIS-2 to identify satisfaction levels. • Identify the top challenges reported for DHIS-2 and HFR/MFL. • Health Facility Registry/Master Facility List (HFR/MFL) Evaluation: • Determine the awareness and usage rates of HFR/MFL among respondents.
3.	Comparison with Other Platforms	▪ Identify other health data reporting platforms
4.	Correlation Analysis	▪ Explore potential correlations between access to DHIS-2 and the reported challenges. ▪ Investigate relationships between usage of HFR/MFL and perceived challenges.
5.	Qualitative Analysis (for open-ended responses)	▪ Conduct thematic analysis to identify recurring themes in challenges and proposed solutions. ▪ Summarize perceived problems to data quality in DHIS-2 and HFR/MFL. ▪ Summarize proposed solutions for improving DHIS-2 and HFR/MFL data quality. ▪ Analyze common themes across perceived problems and proposed solutions to data quality in DHIS-2 and HFR/MFL ▪ Extract insights from qualitative responses to supplement quantitative findings.
6.	Visualisation	▪ Create visual representations such as charts, graphs, and diagrams to present key findings clearly and understandably. ▪ Use visualisations to highlight trends, patterns, and relationships uncovered during the analysis.
7.	Recommendations	▪ Based on the analysis, provide recommendations for addressing identified challenges and improving the effectiveness of routine health information systems. ▪ Prioritize recommendations based on their potential impact and feasibility of implementation.
8.	Report Generation	▪ Compile the findings, analysis, and recommendations into a comprehensive report. ▪ Ensure the report is structured logically, with clear sections for each aspect of the analysis. ▪ Include supporting visualisations and tables to enhance understanding and readability.

RESULTS SUMMARY

Out of the 1,220 respondents surveyed across the 36 States and Federal Capital Territory (FCT), 51% were from the LGAs, 29% from health facilities, 14% from the State level. The Federal level accounted for the lowest proportion of respondents at 7%.

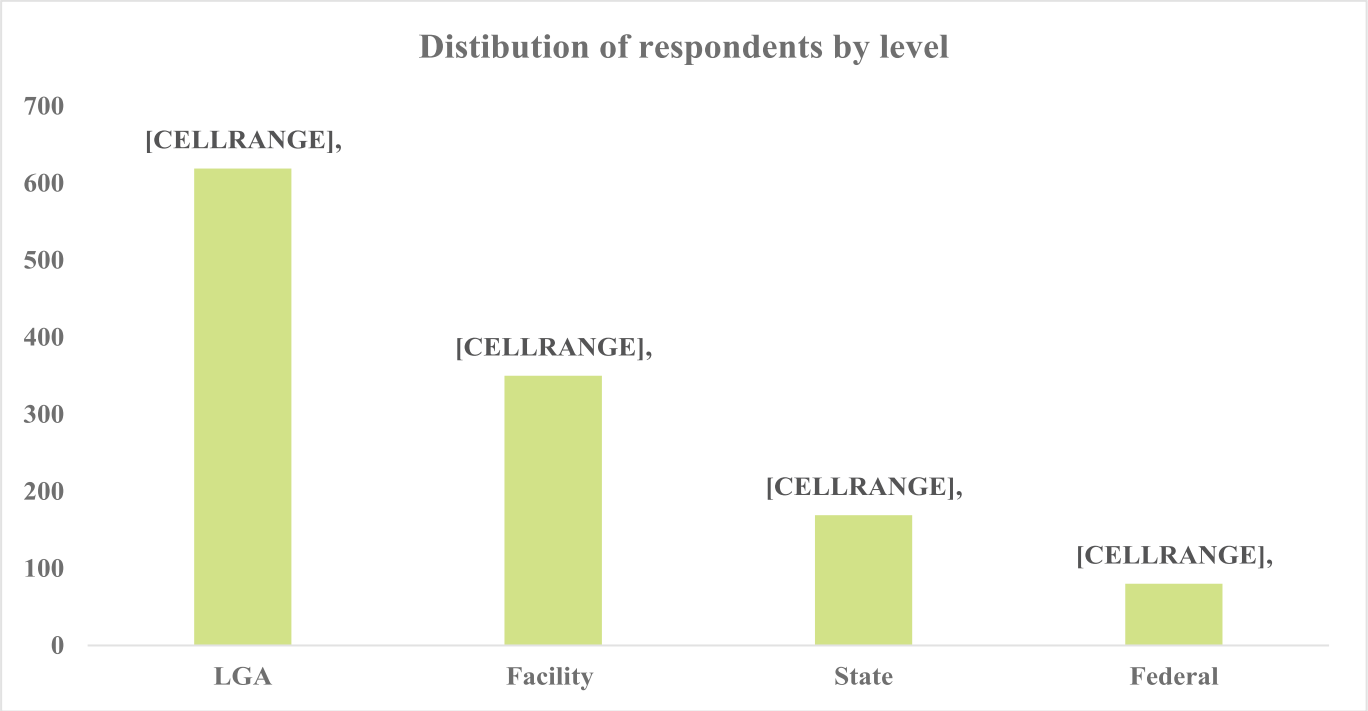


Figure 3: Respondents distribution by administrative tier

In terms of respondent designations across the different levels, 155 variables for designation were identified. Analysis shows that the highest percentage of respondents were OICs with 40%, followed by LGA M&E officers at 33%. This detail is somewhat inconsistent with the figure above, which indicated that 51% of total respondents were from the LGA level. It can therefore be inferred that respondents, especially those at the LGA and facility levels, may be unclear about their designation or did not fully understand the question.

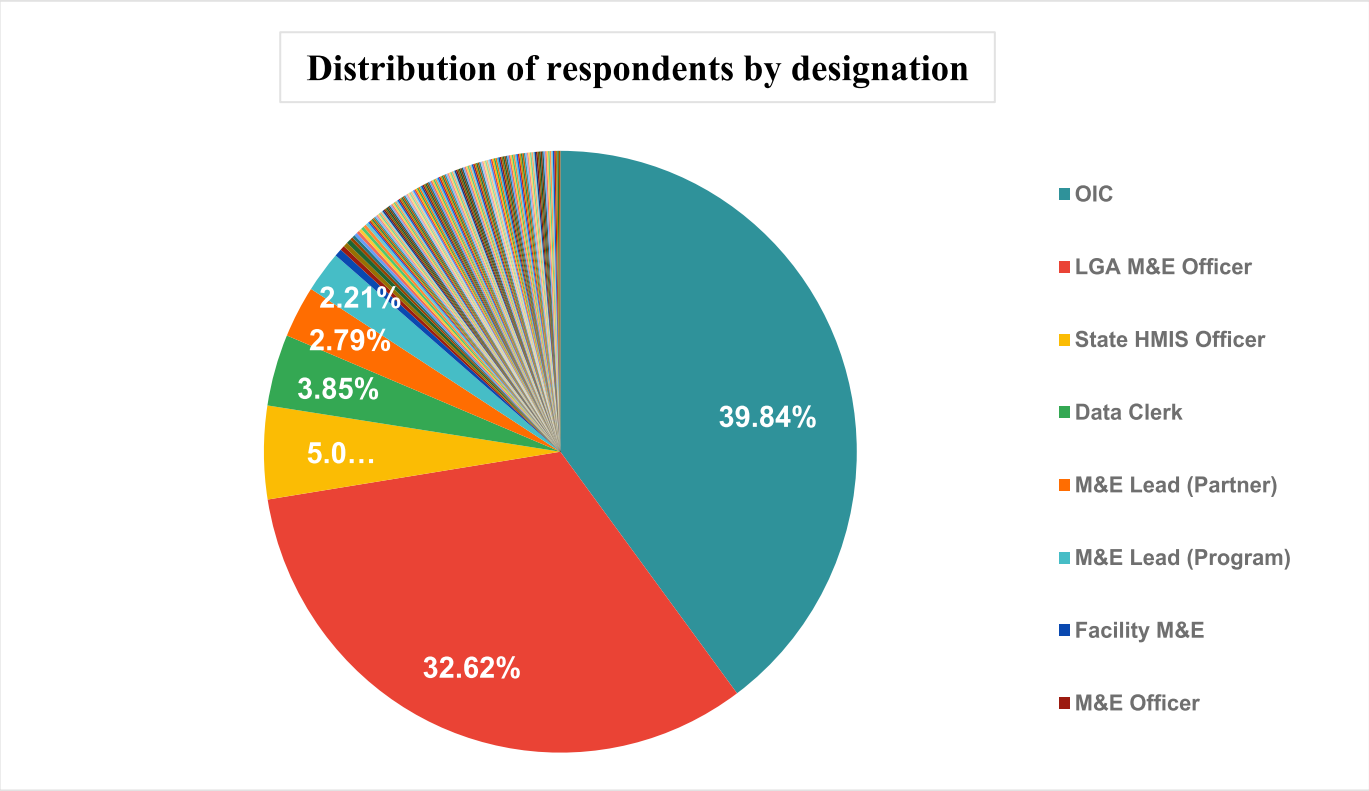


Figure 4. Respondents' distribution by designation

The assessment results are organised into three main areas, aligned with the analytical framework illustrated in Figure 1. The areas are:

1. Behavioural determinants, focusing on knowledge, skills, and attitudes;
2. Organisational determinants, which centre on information culture, structure, and roles and responsibilities; and thirdly,
3. Input, which focuses on information system assessment.

1. FINDINGS ON KNOWLEDGE, SKILLS, AND ATTITUDE

This section of the results focuses on the findings regarding the knowledge and awareness of NHMIS, RHMIS, HFR/MFL across various levels.

Summary of Knowledge and Awareness of the NHMIS Across all Levels.

The NHMIS encompasses all the provided options, including the DHIS-2, MIC/NIC Surveys, SORMAS, NDHS, and EMRs in public and private hospitals. Finding on knowledge and awareness of the NHMIS at the federal level reveal that only 21% of the respondents, highlighted in amber in the chart below, are aware of what the NHMIS entails. The majority of the respondents, equivalent to 25% identified the DHIS-2 as the sole component of the NHMIS. For detailed insights into these findings, refer to Figure 5 below.

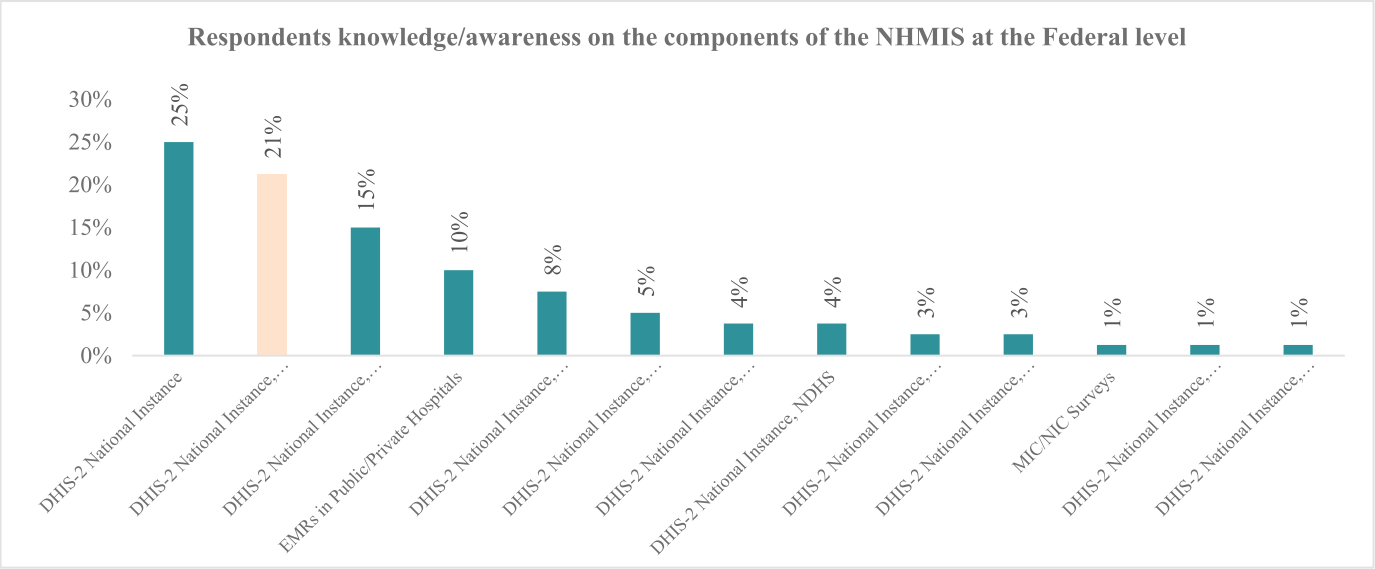


Figure 5: Knowledge and awareness of NHMIS at the federal level

At the state level, the findings, as highlighted in the figure below, show a concerning lack of understanding among state-level respondents regarding the NHMIS. Only 15% of respondents, highlighted in amber, fully comprehend what the NHMIS entails, with 36% identifying the DHIS-2 National Instance as the sole component and 17% including EMR as well. These findings emphasize the critical need for targeted awareness initiatives to enhance stakeholders' understanding. For detailed insights into these findings, refer to Figure 6 below.

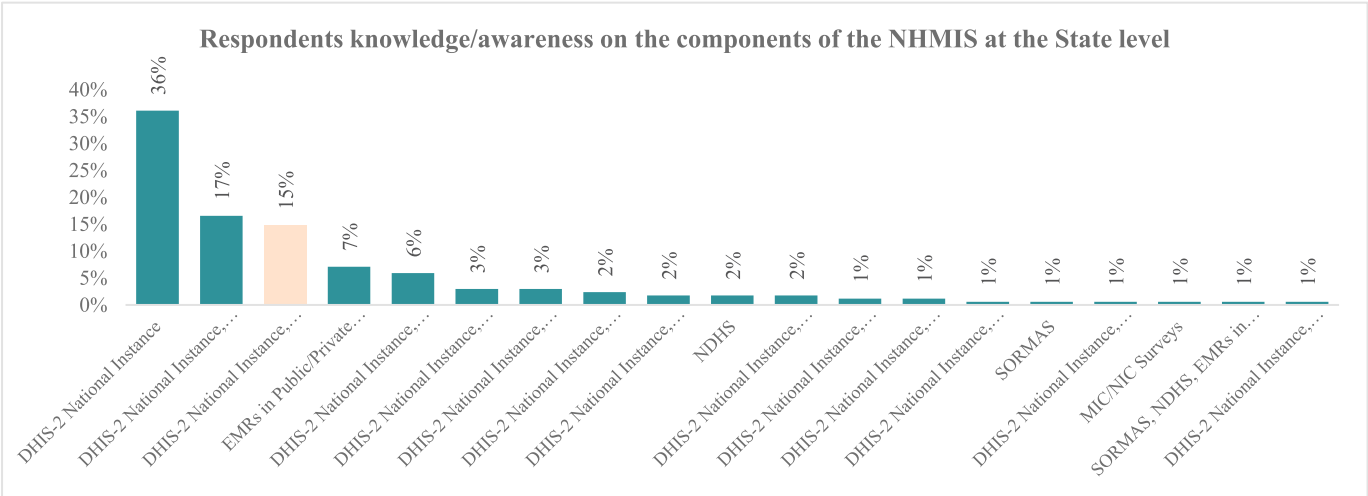


Figure 6: Knowledge and awareness of the NHMIS at the state level

At the LGA level, a detailed examination of knowledge and awareness of the NHMIS revealed that only 6% of respondents clearly understood the NHMIS. In contrast, 49% of respondents, amounting to 303 individuals, identified only DHIS-2 as the correct option, while 10% recognised both DHIS-2 and EMR as correct components of NHMIS. Alarmingly, 23 different responses were recorded, indicating a significant lack of clarity regarding NHMIS components among LGA-level respondents. For detailed insights into these findings, refer to Figure 7 below.

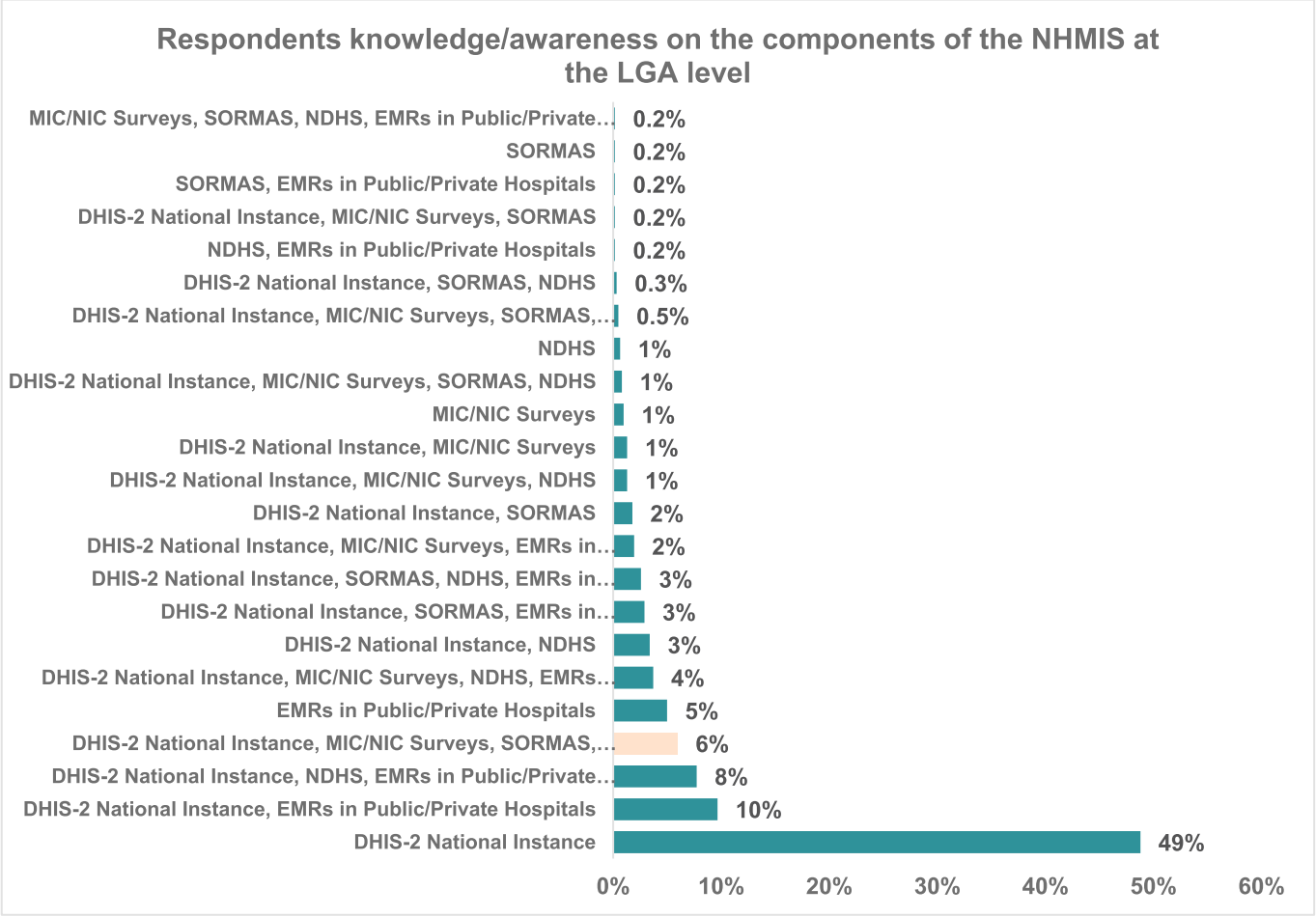


Figure 7: Knowledge and awareness of the NHMIS at the LGA level

The findings on knowledge and awareness of the NHMIS at the facility level are similar to those at the LGA level. An analysis revealed that only 6% of respondents, highlighted in amber, exhibited a comprehensive understanding of NHMIS. In contrast, 39% correctly identified DHIS-2 as a component of NHMIS, while 13% recognised Electronic Medical Records (EMR) as part of system. It is concerning that a total of 19 different responses were recorded, highlighting a significant lack of clarity among facility-level respondents regarding NHMIS components. For detailed insights into these findings, refer to Figure 8 below.

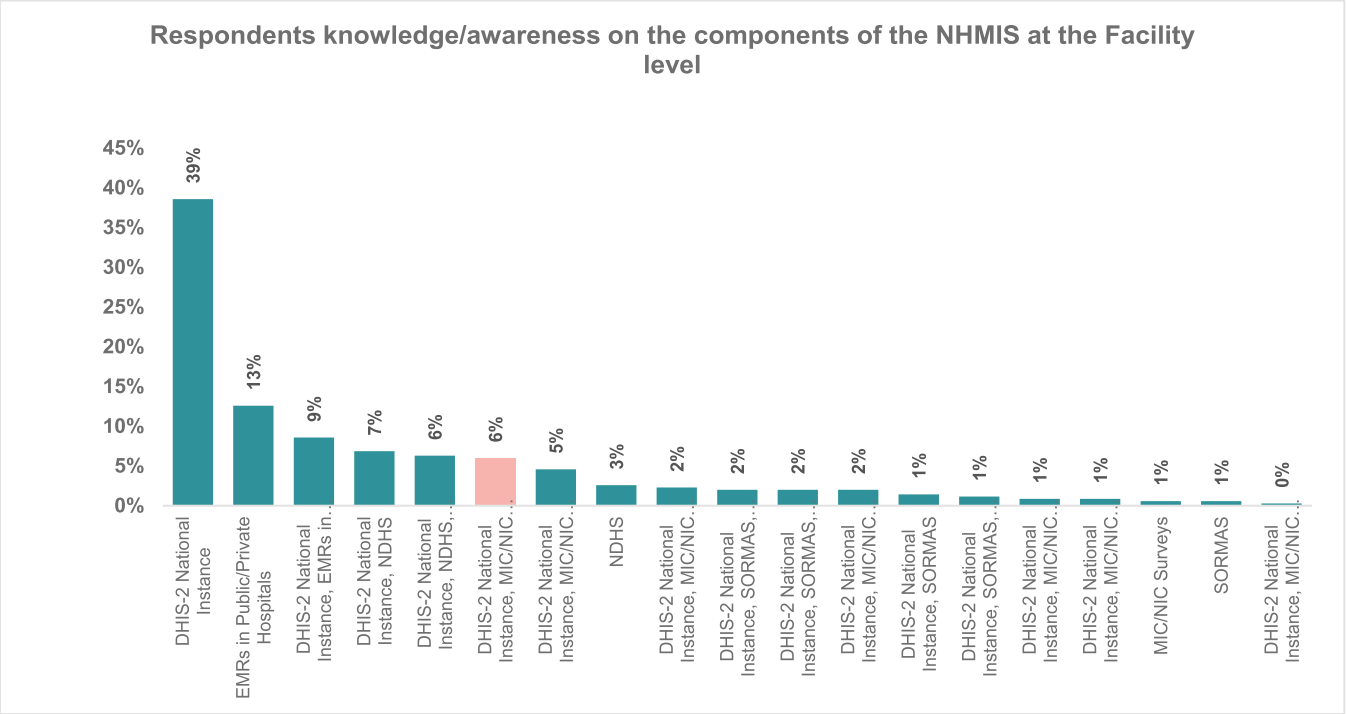


Figure 8: Knowledge and awareness of the NHMIS at the facility level

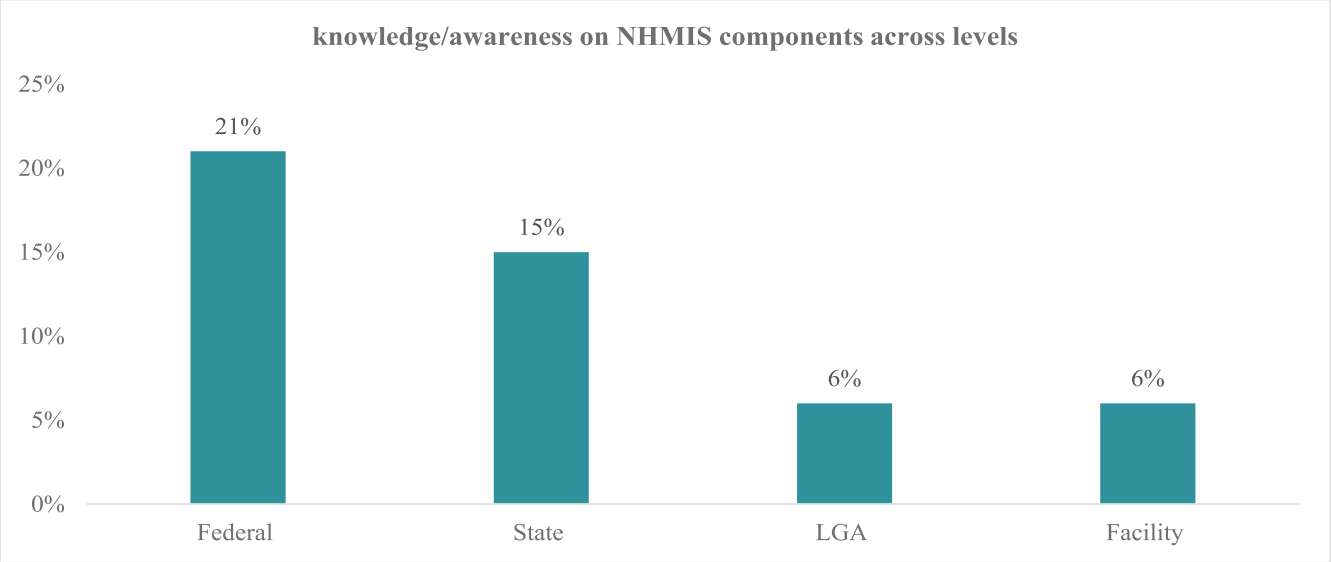


Figure 9: Comparison of Knowledge and awareness of the NHMIS at all levels

Key Takeaways from NHMIS Awareness

Across all levels (LGA, State, Facility, and Federal), the proportion of respondents with comprehensive knowledge of NHMIS is notably low. For instance, only 6% of respondents at the LGA and facility levels, 15% at the State level, and 21% at the federal level demonstrated a thorough understanding of NHMIS.

The disparity in awareness levels across the different administrative tiers indicates a widespread lack of awareness regarding this crucial health information system. While the federal level had the highest level of awareness, with 21% of its respondents displaying comprehensive knowledge, the LGA and facility levels demonstrated a poor understanding,

with only 6% of respondents at each level having comprehensive knowledge. This suggests that efforts to raise awareness and understanding of the NHMIS may need to be tailored differently across these levels to address specific knowledge gaps.

Summary of Knowledge and Awareness of the RHMIS Across all Levels

In addition to the NHMIS, the knowledge and awareness of respondents regarding the Routine Health Management Information System (RHMIS) were also assessed across the various levels. The RHMIS includes the DHIS-2, NDHS, and the National Cancer Registry, among the options provided. Findings from the analysis of the RHMIS components at the federal level show that none of the respondents correctly identified all three components from the five components provided. The majority, equivalent to 19%, identified the DHIS-2 as the only component of the RHMIS. In total, 19 different responses were recorded, yet none correctly identified the three options that routinely collect health data. These findings indicate a knowledge gap in understanding what the RHMIS entails. For detailed insights into these findings, refer to Figure 10 below.

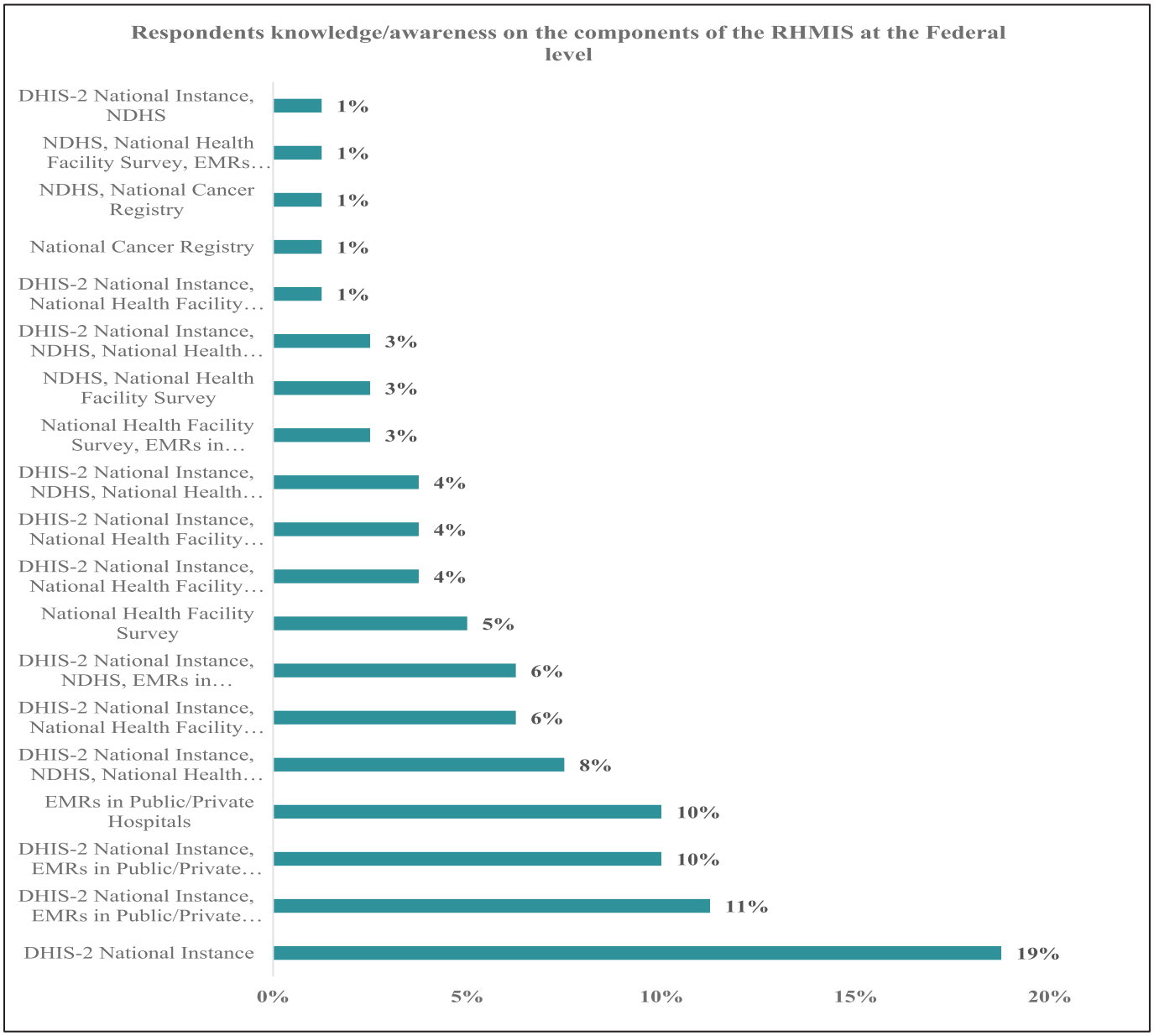


Figure 10. Knowledge and awareness of RHMIS at the federal level

The RHMIS includes the DHIS-2, NDHS, and the National Cancer Registry, among the options provided. However, at the state level, the findings on knowledge and awareness of the RHMIS are even more concerning than those for the NHMIS. The results show that only 1% of respondents, highlighted in amber, understood what the RHMIS entails. Meanwhile, 30% of the respondents identified the DHIS-2 as the sole component of the RHMIS, and 14% identified both the DHIS-2 and the EMR as components of the RHMIS. For detailed insights into these findings, refer to Figure 11 below.

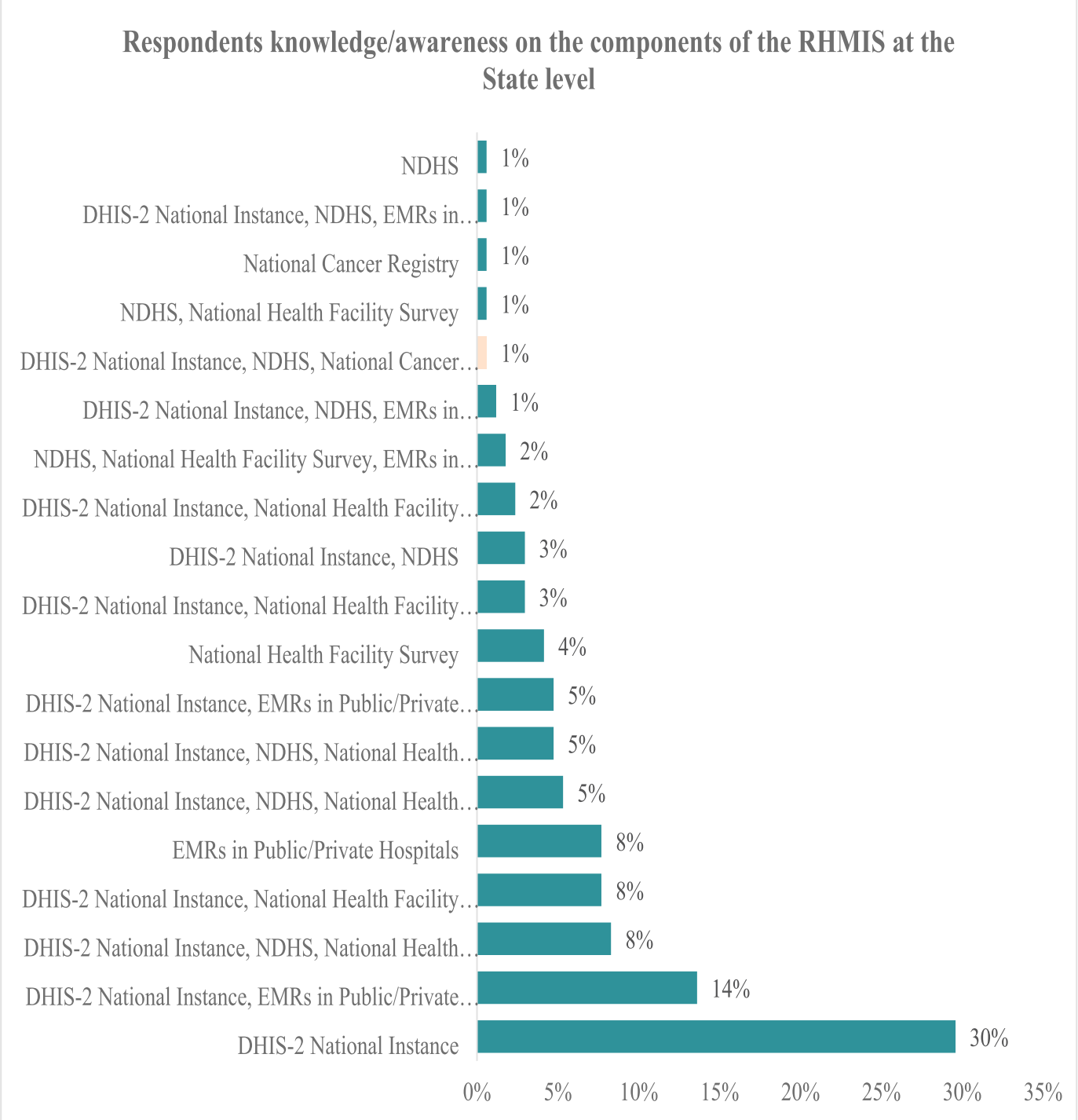


Figure 11. Knowledge and awareness of RHMIS at the state level

The RHMIS includes the DHIS-2, NDHS, and the National Cancer Registry, among the provided options. However, at the LGA level, the findings revealed that none of the 26 responses correctly identified the components of the RHMIS. Notably, 28% of respondents identified DHIS-2 as the sole component, indicating a significant gap in their understanding of the RHMIS. This result underscores a substantial lack of comprehension regarding the RHMIS among LGA stakeholders.

A further examination of the detailed results, as shown in the figure below, underscores the extent of this deficiency. For detailed insights into these findings, refer to Figure 12 below.

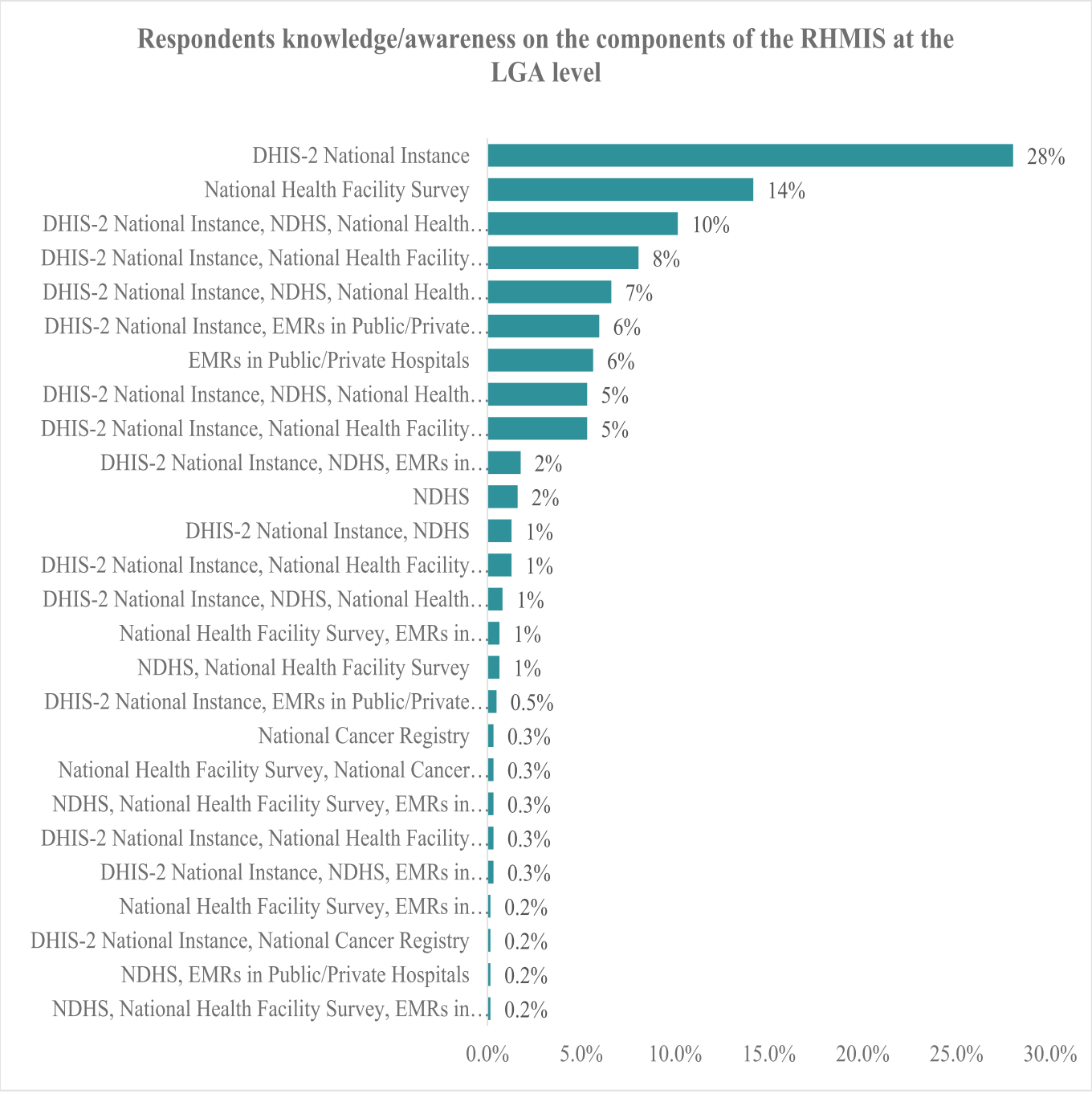


Figure 12. Knowledge and awareness of RHMIS at the LGA level

At the facility level, a comprehensive evaluation of knowledge and awareness regarding the RHMIS yielded 23 diverse responses from participants, reflecting a clear knowledge gap concerning the RHMIS. Despite the wide range of responses, none of the respondents accurately identified the components of the RHMIS, which include the DHIS-2, NDHS, and the National Cancer Registry, from the options provided. Notably, 28% of the respondents identified the DHIS-2 as the exclusive component of the RHMIS. For detailed insights into these findings, refer to Figure 13 below.

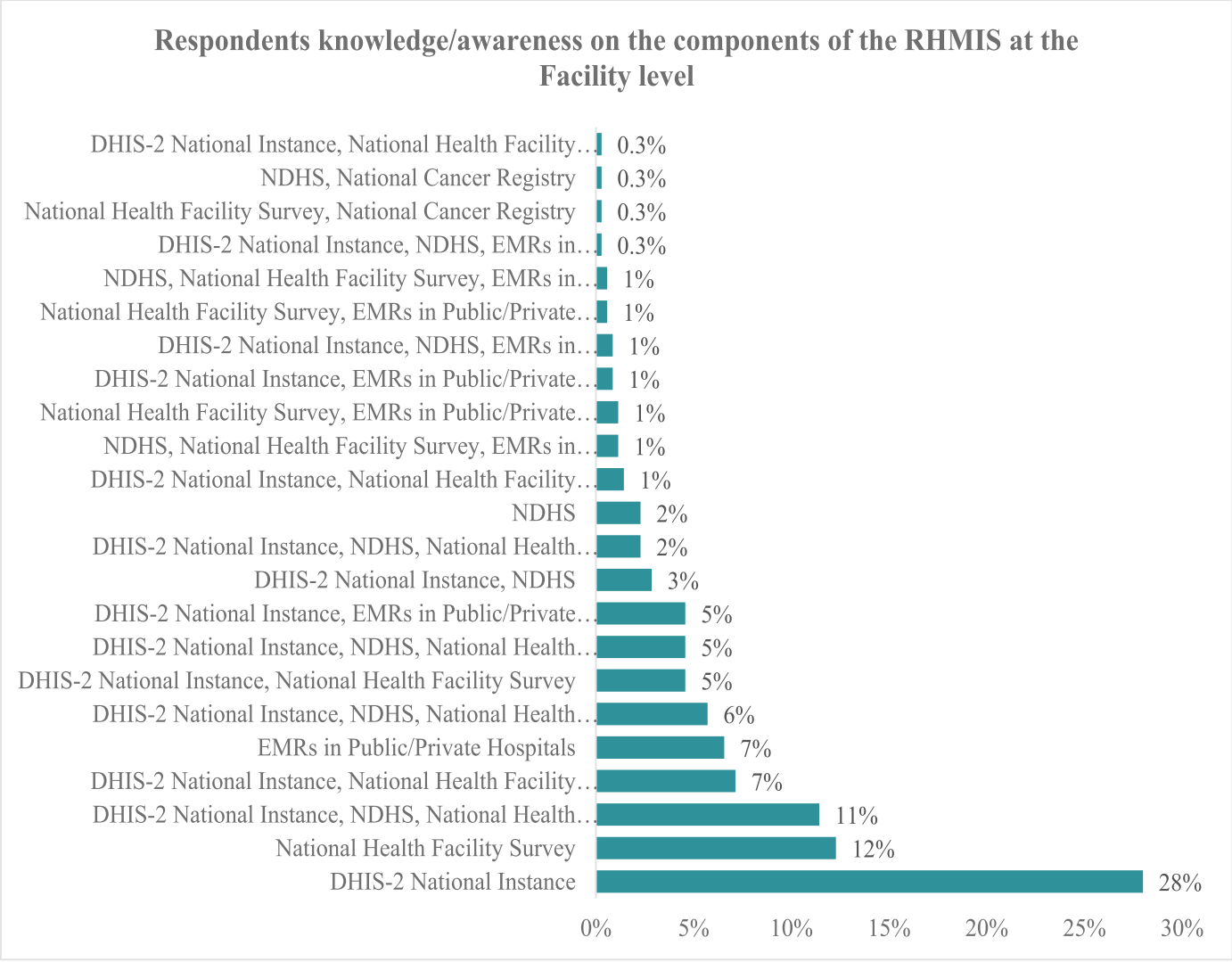


Figure 13. Knowledge and awareness of RHMIS at the facility level

Summary of Knowledge and Awareness of the HFR/MFL Across all Levels

Another aspect of knowledge and awareness assessed was the HFR/MFL. These two platforms provide a comprehensive repository of both public and private health facilities in the country. Respondents were evaluated to determine if stakeholders were aware of the existence of the HFR/MFL and whether they had utilised the register to inform decision-making.

The findings reveal that an impressive81% of federal-level respondents are aware of the HFR/MFL's existence, indicating a foundational understanding of its role in healthcare

infrastructure management. However, the narrative shifts when utilisation metrics are considered. Despite high levels of awareness, only 46% of stakeholders have actively used the register, revealing a utilisation gap that merits attention and strategic intervention.

Conversely, 19% of respondents remain unaware of the register's existence, representing an untapped segment where targeted awareness initiatives could lead to transformative outcomes. This contrast between high awareness and moderate utilisation underscores a critical opportunity to maximise the potential of healthcare infrastructure data. The gap between awareness and usage calls for a strategic review of existing systems, emphasising the need to foster a culture of data-driven decision-making through the comprehensive use of vital registers like the HFR/MFL.

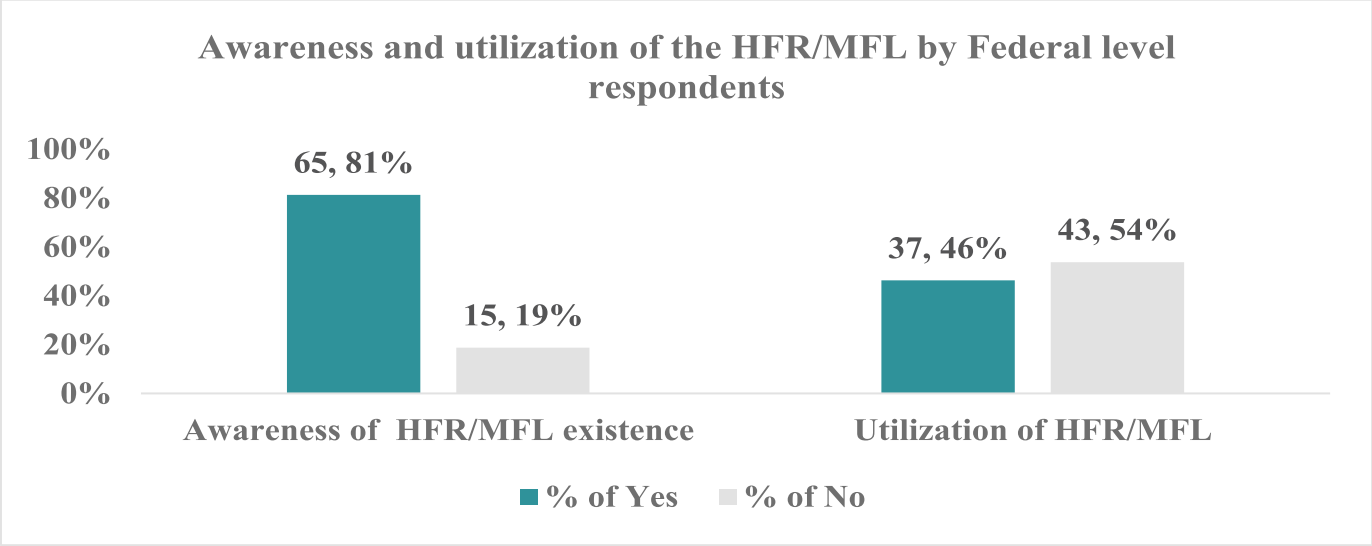


Figure 14. Federal-level awareness and utilisation of HFR/MFL

At the state level responses regarding the HFR/MFL were analysed to assess awareness and understanding among state-level respondents. The results indicate that 76% of respondents are aware of the HFR/MFL, leaving 24% unaware. However, the utilisation rate of the HFR/MFL is only 53% among respondents. Figure 16 below shows the awareness and utilisation of the HFR/MFL.

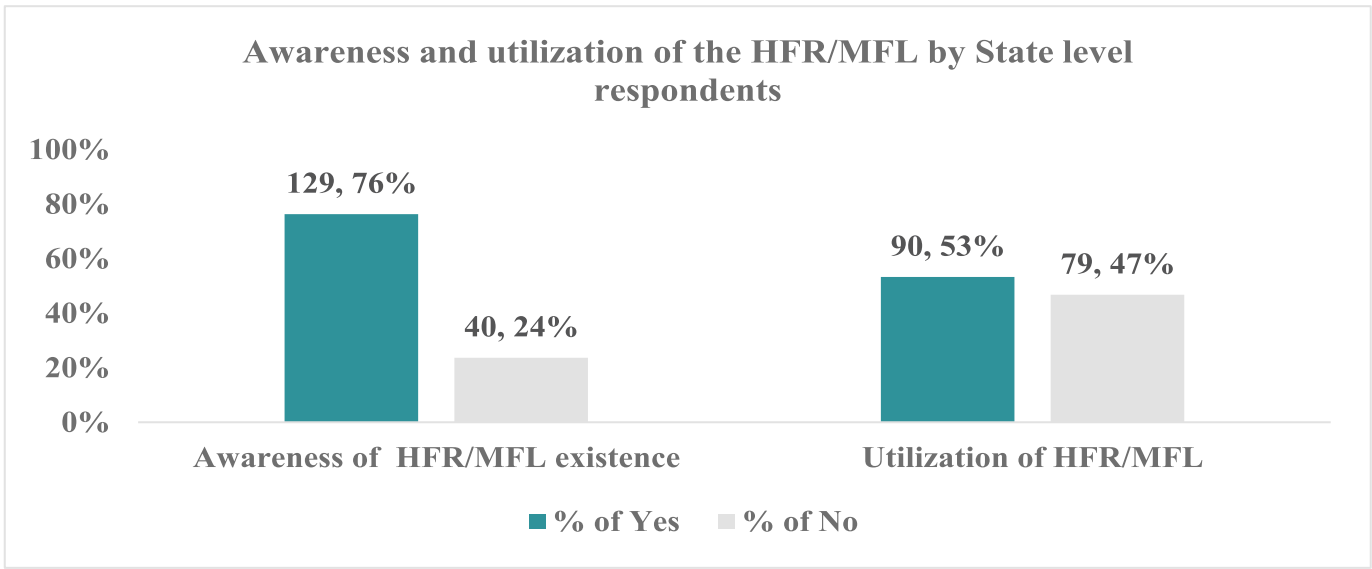


Figure 15. State-level awareness and utilisation of the HFR/MFL

At the LGA level, the findings on HFR/MFL awareness and utilisation revealed that a substantial majority, 73% or 451 respondents, were aware of the HFR/MFL, while 27% admitted to lacking awareness of this registry. In terms of utilisation, 60% of respondents, equivalent to 371 individuals, reported having used the HFR/MFL. Conversely, 40% acknowledged not having utilised the HFR/MFL. For a visual representation of the awareness and utilisation levels of the HFR/MFL at the LGA level, refer to Figure 17 below.

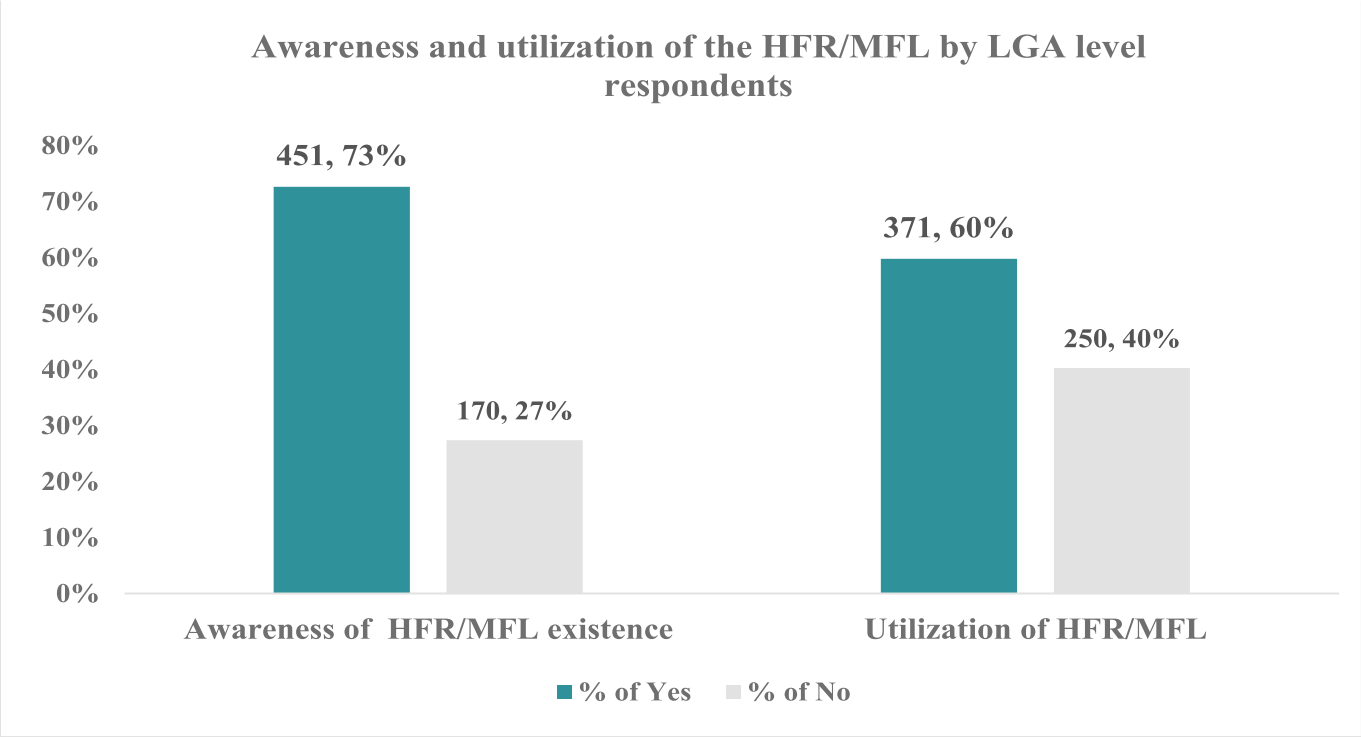


Figure 16. LGA-level awareness and utilisation of HFR/MFL

At the facility level, an analysis of knowledge and awareness regarding the HFR/MFL revealed that only 39% of respondents were aware of the HFR/MFL, with just 25% reporting actual utilisation of this resource. Conversely, a substantial 61% of respondents were unaware of the HFR/MFL, and a significant 75% had never used it. These statistics are visually represented in Figure 18, illustrating the stark contrast in awareness and utilisation rates.

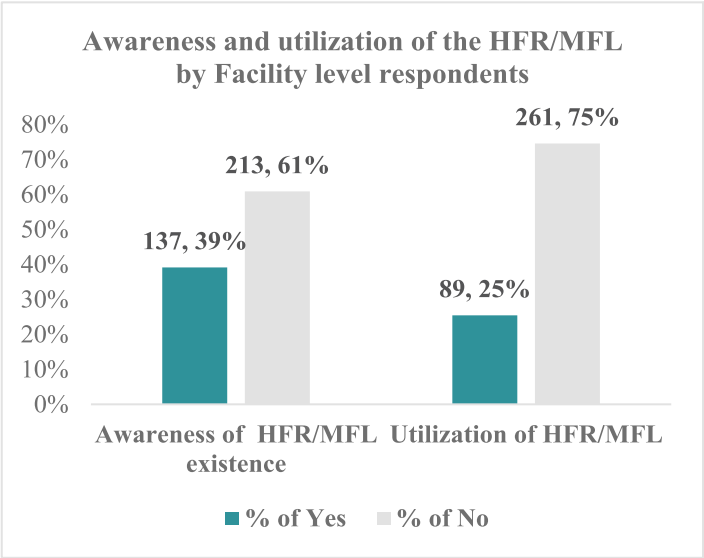


Figure 17. Awareness and utilization HFR/MFL

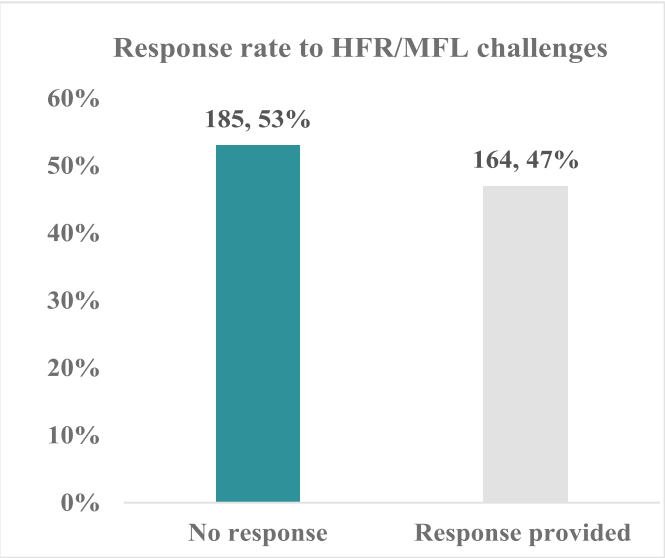


Figure 18. Response rate to HFR/MFL challenges

Figure 18 complements the findings presented in Figure 17 by confirming that only 39% of respondents acknowledged their awareness of the HFR/MFL. Additionally, the absence of responses from over half of the respondents in Figure 18 regarding challenges associated with the HFR/MFL may be attributed to their lack of awareness regarding its existence.

FINDINGS ON INFORMATION CULTURE, STRUCTURE, ROLES & RESPONSIBILITIES

Information Culture

The path to effective healthcare management is built on data-driven insights, and at the heart of this endeavor is access to critical information systems. Understanding the information culture is crucial, as it reflects how the organisation values, manages, and uses information. Analysing the structure helps assess the flow of information, decision-making processes, and data governance practices. It also reveals whether the organisation has a centralised or decentralised approach to information management. Identifying and clarifying roles is equally important to ensure that individuals understand their contributions to information management, including roles such as data stewards responsible for data quality and compliance, and diverse user roles involved in data utilisation and analysis.

The rapid assessment conducted delved into the accessibility landscape of the DHIS-2 across the four administrative levels, aiming to gauge the culture of data utilization for informed decision-making within the National Health Management Information System.

At the federal level, the figure below reflects the outcomes of this assessment, providing a clear view of accessibility dynamics. Among the 80 stakeholders who responded to survey, a notable divide emerges. Only 56% of the respondents reported having access to the DHIS-2 platform, while a significant 44% acknowledged the absence of such access. For detailed insights into these findings, refer to Figure 19 below.

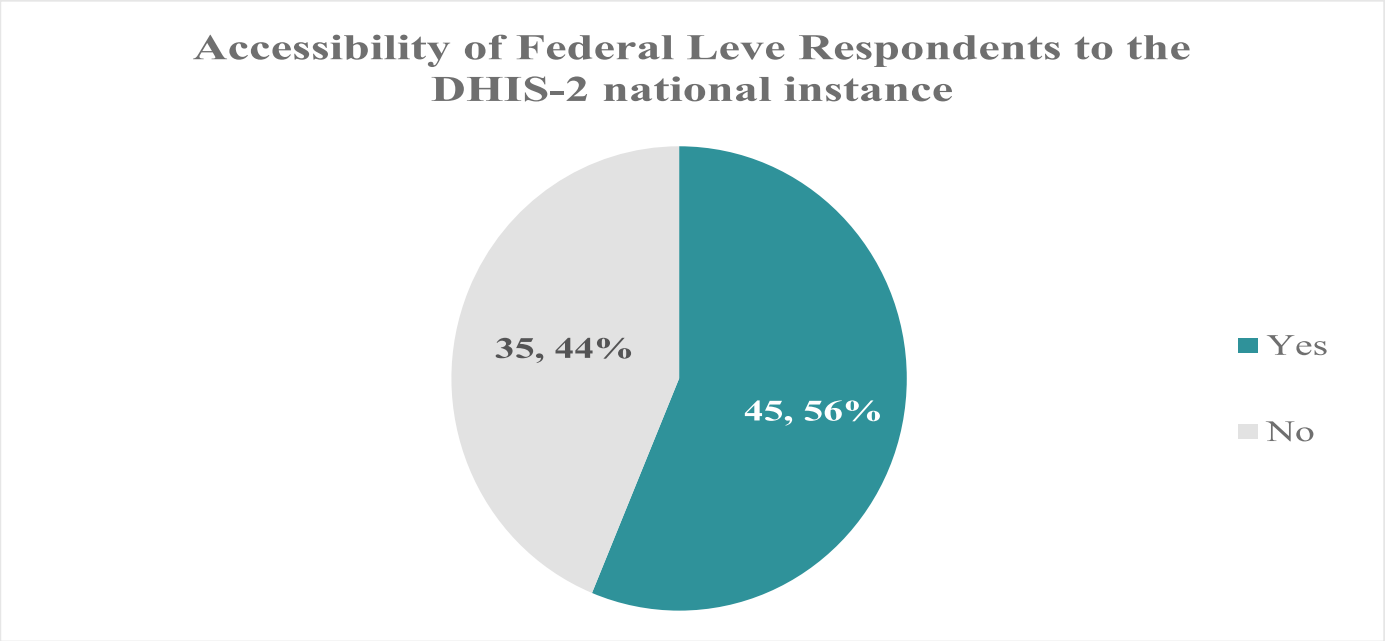


Figure 19. Access to DHIS-2 National Instance at the federal level

These findings are more than just statistics—they are a clarion call for action. The 56% of respondents who have access to DHIS-2 represent a foothold in data-driven decision-making, showcasing the potential for informed interventions and resource allocation based on evidence. Conversely, the 44% without access indicate a missed opportunity—a group whose voices and contributions could amplify the efficacy of healthcare initiatives if equipped with the right tools.

At the state level, based on the data presented in Figures 7 and 12, a significant proportion of respondents correctly identified DHIS-2 as a component of both NHMIS and RHMIS. Figure 20 below evaluates respondents' access to DHIS-2, revealing that 77% of the respondents acknowledging having access, while the remaining 23% reported no access. This statistic reflects a positive level of engagement with DHIS-2 among respondents, indicating their active involvement in data utilisation for decision-making processes across various capacities.

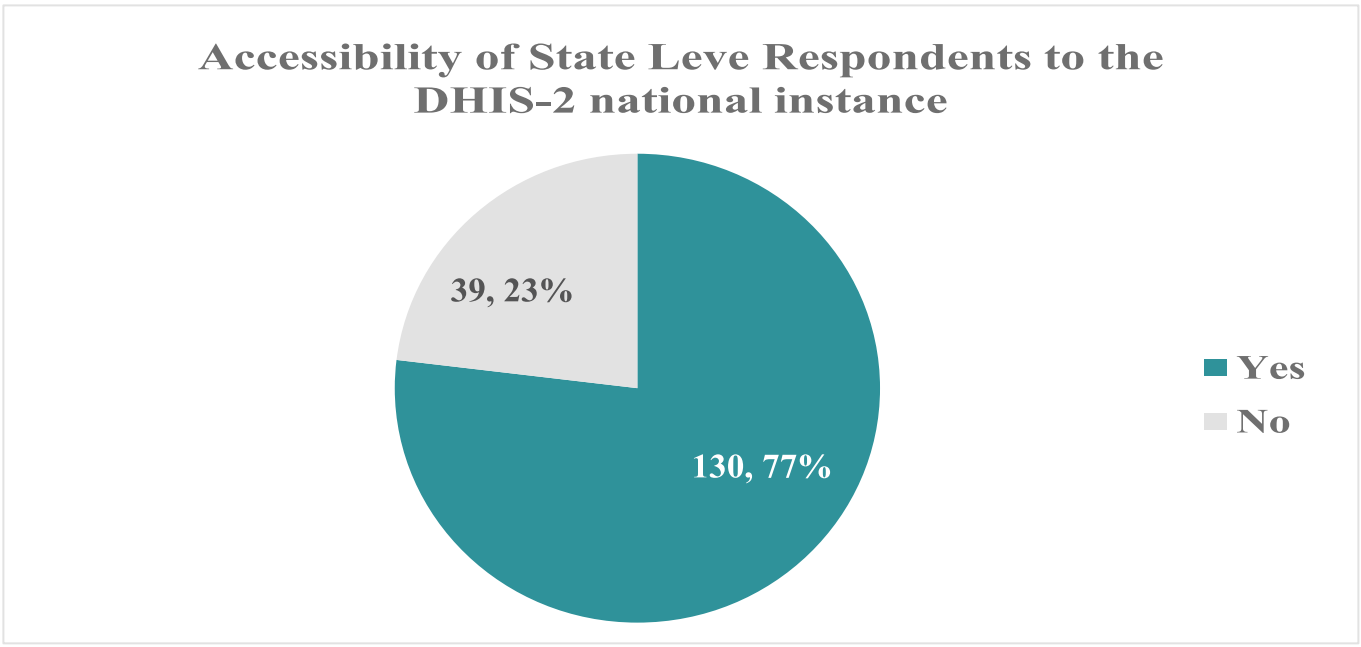


Figure 20. Access to DHIS-2 by state-level respondents

At the LGA level, the findings revealed that although respondents did not accurately identify the components of the NHMIS and RHMIS, the data presented in Figures 8 and 13 indicated that the DHIS-2 was recognised as part of both systems. Notably, 79% of respondents reported having access to DHIS-2. This substantial percentage represents approximately one-third of all participants in the assessment. This high level of accessibility can be attributed to the prevalence of the M&E officers among the respondents at the LGA level, as they play a crucial role in assisting healthcare facilities with uploading their monthly summary data onto the DHIS-2 platform. For detailed insights into these findings, refer to Figure 21 below, which corroborates these findings, emphasising the significant presence and utilisation of DHIS-2 among the LGA respondents.

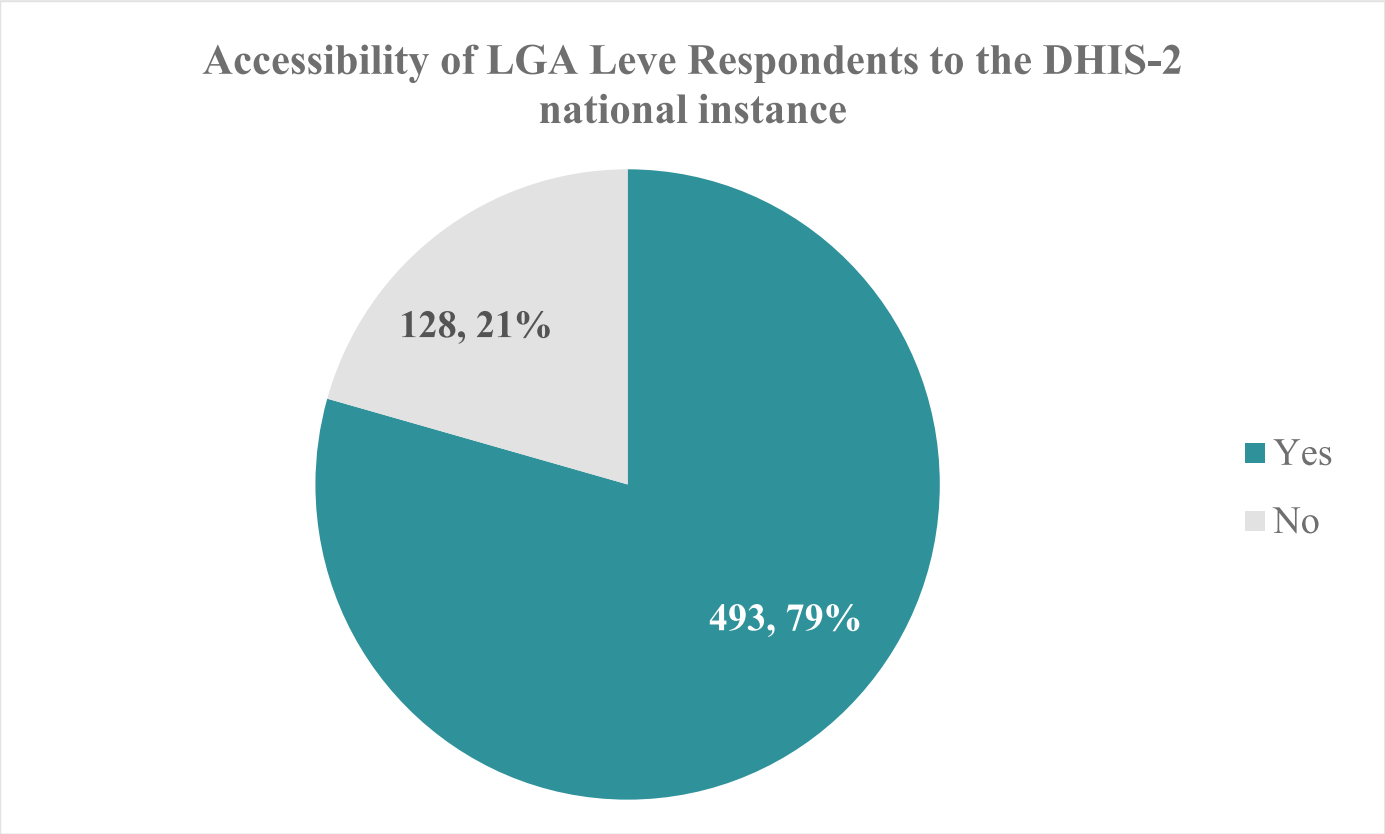


Figure 21. Access to DHIS-2 National Instance at the LGA

At the facility level, Figures 9 and 14 show a notable level of familiarity with DHIS-2among facility-level respondents. Specifically, 39% and 28% of respondents in Figures 8 and 13, respectively, recognised DHIS-2 as integral to the NHMIS and RHMIS.

However, despite this awareness, Figure 22 below reveals a concerning gap in access to DHIS-2. Only 45% of the respondents reported having access to the platform. This lack of adequate access at the facility level is significant, as data generation primarily occurs there. The fact that more than half of the respondents cannot access DHIS-2 indicates a substantial hurdle, contributing to the lack of ownership and comprehension of the data generated at these facilities.

The gap in access likely plays a key role in the ongoing challenge of improving data quality. Facilities that do not interact extensively with DHIS-2 may not fully grasp its importance, leading to diminished efforts in ensuring data accuracy and completeness. Addressing this access issue and enhancing engagement with DHIS-2 could be instrumental in overcoming barriers to data quality improvement within the healthcare system. For detailed insights into these findings, refer to Figure 22 below.

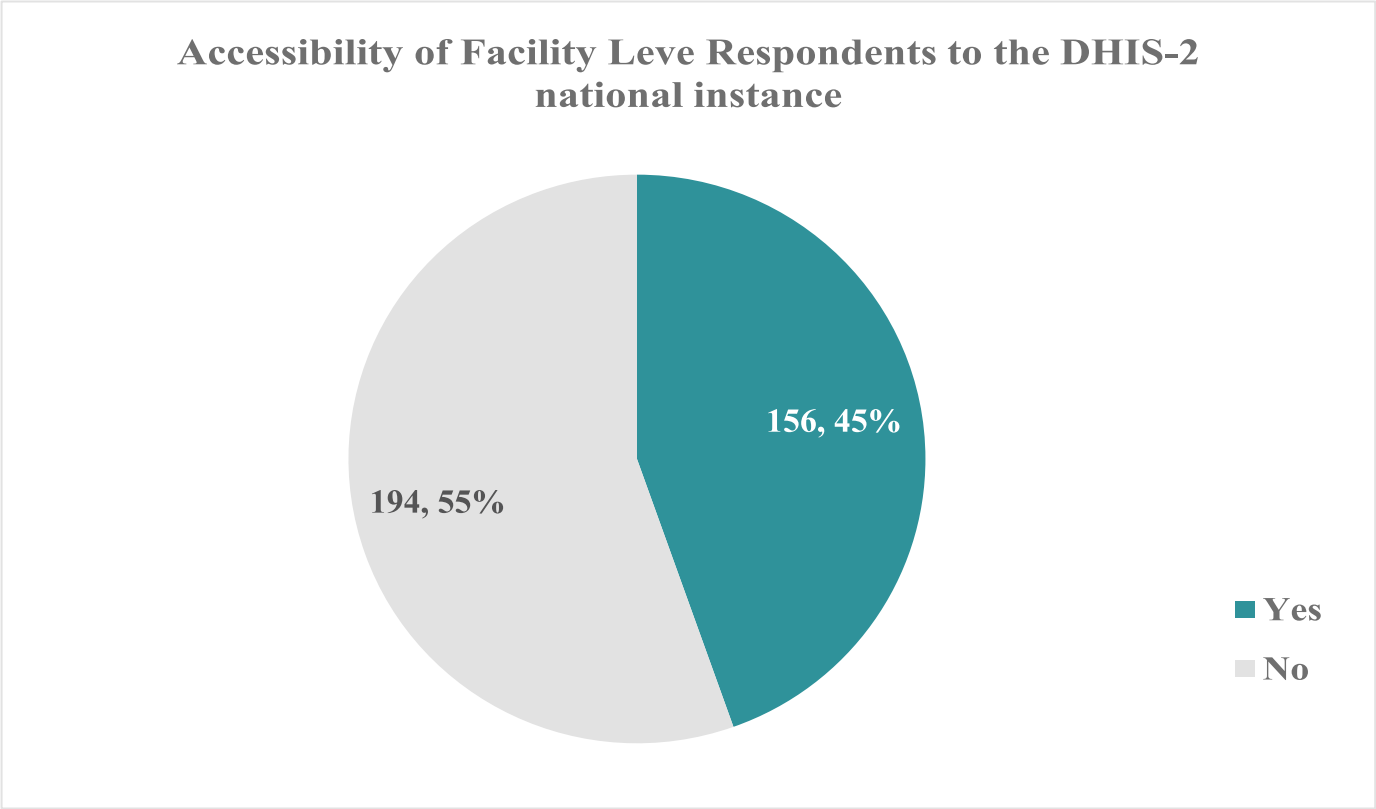


Figure 22. Level of access to DHIS-2 at the facility level

The divergence in accessibility to the DHIS-2 across the various levels not only underscores an existing gap but also signifies a crucial juncture for leveraging data to drive transformative healthcare decisions. Access to the DHIS-2 platform serves as a gateway to utilising robust data analytics, enabling stakeholders to extract actionable insights that are vital for shaping health policies and strategies.

With this analysis in hand, it becomes imperative to share these insights with high-level policy decision-makers. The data illuminates the need to bolster efforts to improve accessibility to DHIS-2, not as an end in itself, but as a means to an end —where data fuels impactful decisions that resonate throughout the healthcare ecosystem. By enhancing accessibility and fostering a culture of data utilisation, we can pave the way for a healthcare landscape that is driven by evidence, efficiency, and ultimately, improved health outcomes for all.

Information Structure, Roles & Responsibility

To further understand the performance of the existing DHIS-2 system, respondents were asked to evaluate the platform's administration based on their user experience. The table below summarizes the performance ratings of the DHIS-2 across all levels of federal, state, local government, and facility levels.

Table 2: Performance rating of DHIS-2

Performance rating of DHIS-2 national instance by the level of respondents	Federal	State	LGA	Facility
Poor	3%	3%	2%	3%
Needs Improvement	43%	37%	43%	45%
Satisfactory	33%	39%	30%	36%
Very Satisfactory	18%	16%	20%	12%
Outstanding	5%	5%	5%	4%

Figure 23 below captures the range of perceptions among respondents at the federal level, each voice a thread weaving into the tapestry of data-driven governance. A notable 43% of respondents advocated for improvements in the DHIS-2 platform, signaling a conscientious call for optimisation to address evolving needs.

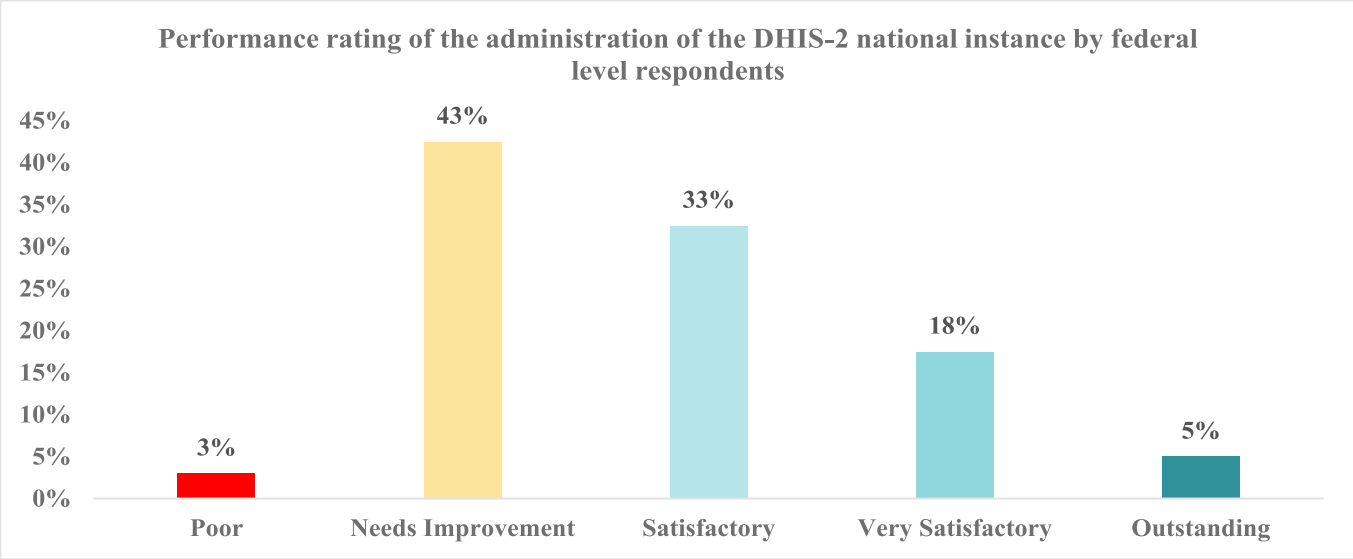


Figure 23. Administration DHIS-2 performance rating by federal-level respondents

Conversely, 33% of respondents expressed satisfaction with the platform, a testament to its efficacy in meeting current operational requirements. Delving deeper, 18%rated the platform as very satisfactory, reflecting confidence in its capacity to facilitate seamless data management and decision support. Additionally, 5% rated the platform as outstanding, recognising its transformative impact on healthcare data utilization. However, 3% voiced dissatisfaction.

These perceptions, when juxtaposed with accessibility metrics showing that only 44% have access to DHIS-2, unveil a multifaceted narrative. While access remains a pivotal concern, the diverse opinions on platform performance highlight both opportunities and challenges. The 43% advocating for improvements echoes a collective aspiration for an enhanced data

ecosystem where efficiency and usability converge to empower decision-makers. Conversely, the 33% who are satisfied and the 18% who are very satisfied underscore the platform's existing strengths while pointing to untapped potential that could be unlocked through strategic enhancements. This presents a roadmap for action.

At the state level, respondents perceptions regarding the administration and management of DHIS-2 reveal nuanced viewpoints. Among respondents, 5% expressed an exceptional view of the administration, while 39% of respondents rate the administration as satisfactory. Further, 16% of respondents express a high level of satisfaction with the existing administration. However, a notable 37% of respondents indicated a need for improvement in the administration and management of DHIS-2, and within this group, 3% expressed significant dissatisfaction, rating the administration as poor. This breakdown provides a comprehensive view of the varied perspectives on DHIS-2 administration at the state level, highlighting the need for an in-depth assessment area that requires improvement.

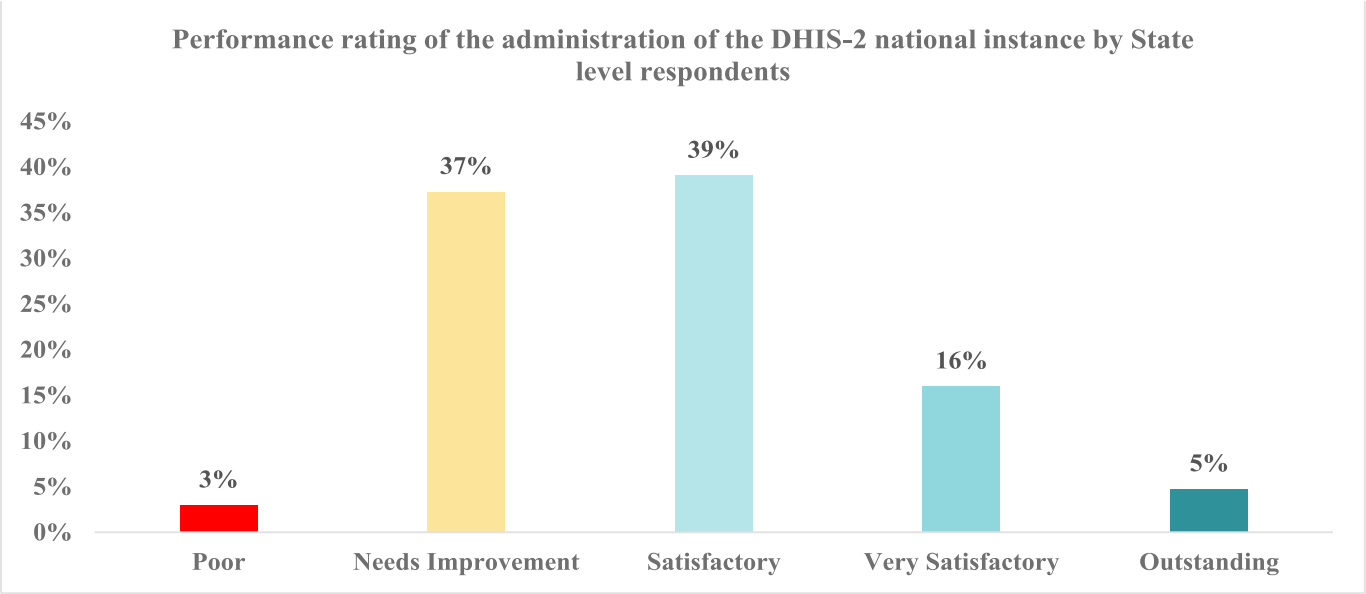


Figure 24. Performance rating of DHIS-2 administration by state-level respondents

At the LGA level, the findings revealed that 79% of the respondents reported having access to DHIS-2. Among these respondents, 43% believe the DHIS-2 system needs improvement, with an additional 2% indicating dissatisfaction with its administration. On the other hand, 30% of the respondents were satisfied with the administration of the DHIS-2. A further breakdown revealed that 20% of respondents considered the platform to be very satisfactory, while 5% rated it as outstanding.

These results highlight both the widespread adoption of DHIS-2 at the LGA level and the nuanced perceptions regarding its functionality and administration. Addressing the areas identified for improvement could significantly enhance the platform's utilization and effectiveness in managing healthcare information management at the local level. These findings are detailed in Figure 25 below.

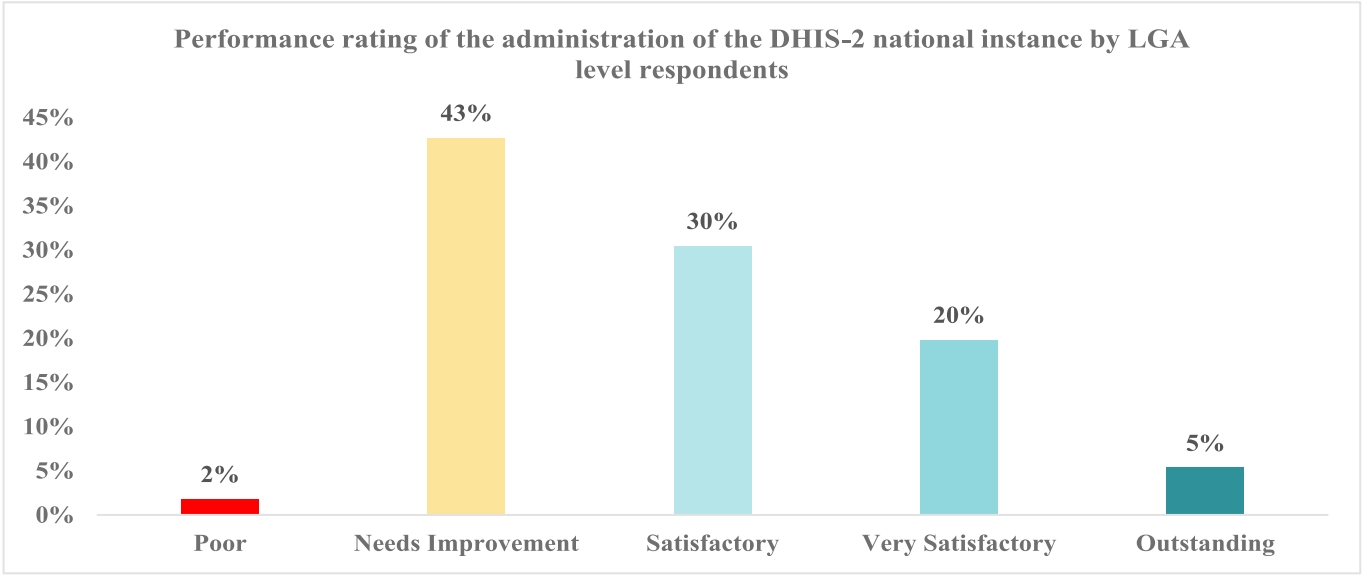


Figure 25. Perception of DHIS-2 administration at the LGA

At the facility level, 45% of the respondents reported having access to the DHIS-2. Interestingly, despite the relatively limited accessibility, all the respondents rated the administration and management of the platform. Among them, 45% --matching the percentage of those who reported access – suggested that the platform requires improvement as seen in Figure 37. Specifically, 36% rated it as satisfactory, 12% as very satisfactory, and 4% as outstanding. Only a small percentage, 3%, rated the administration as poor.

It is important to note that the discrepancy between the percentage of respondents with access to DHIS-2 and those providing ratings for its administration raises questions about the validity of the ratings. Without a more representative sample of all stakeholders who have access to DHIS-2, it is challenging to fully justify or interpret these ratings accurately. Further research with a broader and more representative sample size would provide clearer insights into stakeholders' perceptions regarding the administration and management of DHIS-2 at the facility, LGA, state and national levels. Figure 26 below shows the distribution of respondent ratings.

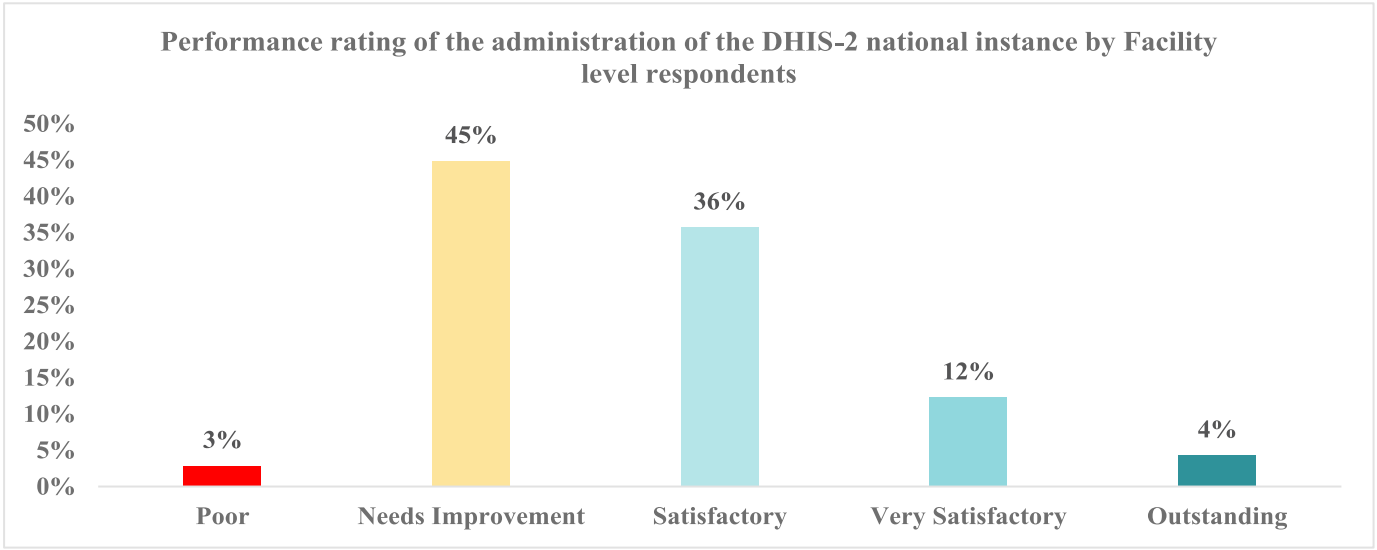


Figure 26. Administration rating of DHIS-2 by facility-level respondents

ADDITIONAL PROBING AT THE FACILITY LEVEL

Data Generation

Healthcare facilities play a crucial role in generating and reporting health data, offering invaluable insights into a nation's overall health status. As part of efforts to align with the current administration's digitalisation agenda, it was essential to evaluate the data reporting methods employed by healthcare facilities.

Our findings show that 11% of facilities exclusively use electronic means for data reporting, highlighting a progressive adoption of digital technologies. In contrast, 46% of facilities still rely exclusively on manual reporting processes, indicating a significant portion has yet to transition to electronic systems. Additionally, 42% of facilities use a hybrid approach, combining both manual and electronic methods for data reporting, showcasing a transitional phase in the healthcare sector's move towards full digital integration.

Figure 27 illustrates the distribution of data reporting methods across the assessed facilities, depicting the varying degrees of digitalisation within these healthcare facilities.

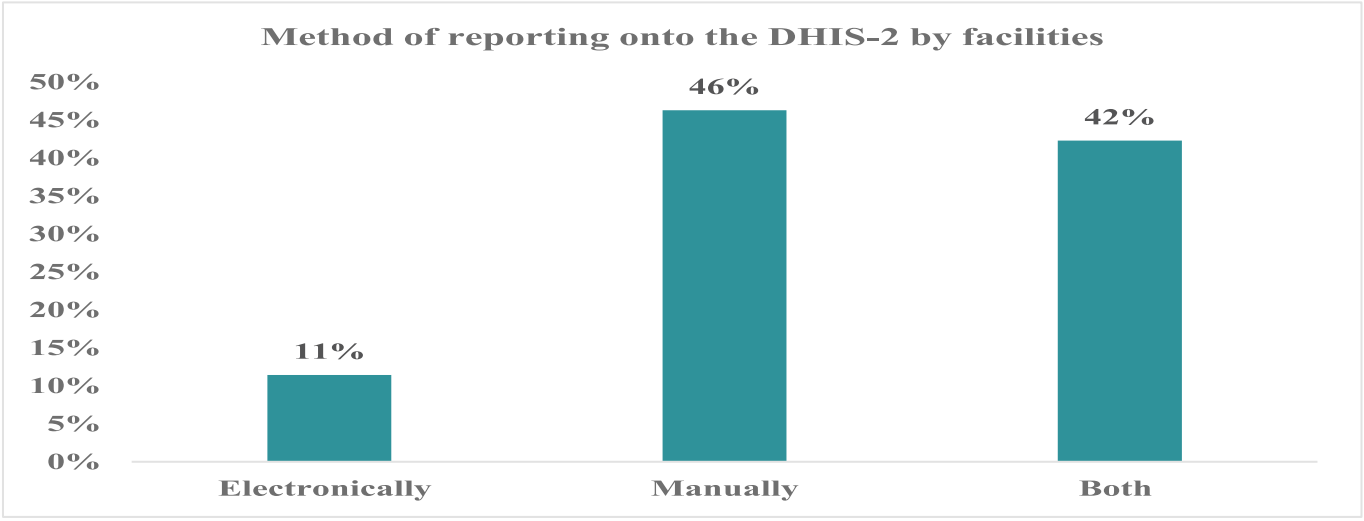


Figure 27: Method of data reporting.

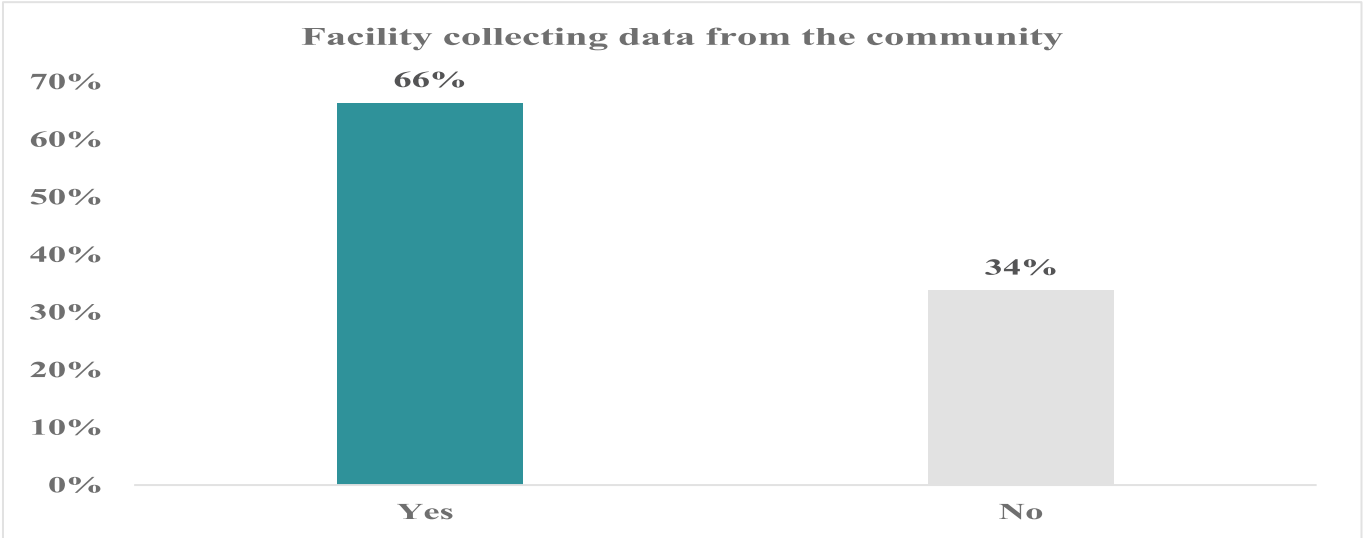


Figure 28: Evidence of data collection at the community

To ensure a comprehensive data collection process, the assessment sought to determine whether facilities were gathering data from the community. Notably, 66% of respondents confirmed that they collect community data, while 34% reported not collecting such data. However, to gain a deeper understanding of the methodologies employed by facilities in gathering data from communities, additional research may be warranted.

RESPONSIBLE PERSONS FOR COMMUNITY DATA COLLECTION

The assessment revealed that most respondents (30.9%) indicated that community mobilisers, traditional/religious leaders, and community health workers were primarily responsible for data collection and reporting at the community level. A smaller proportion (16.3%) reported that officers in charge of primary health facilities were involved in collecting and reporting community-level data, while 6.9% mentioned monitoring and evaluation officers as being responsible. Interestingly, a significant percentage (19.7%) of respondents stated that no designated entity was collecting community-level data.

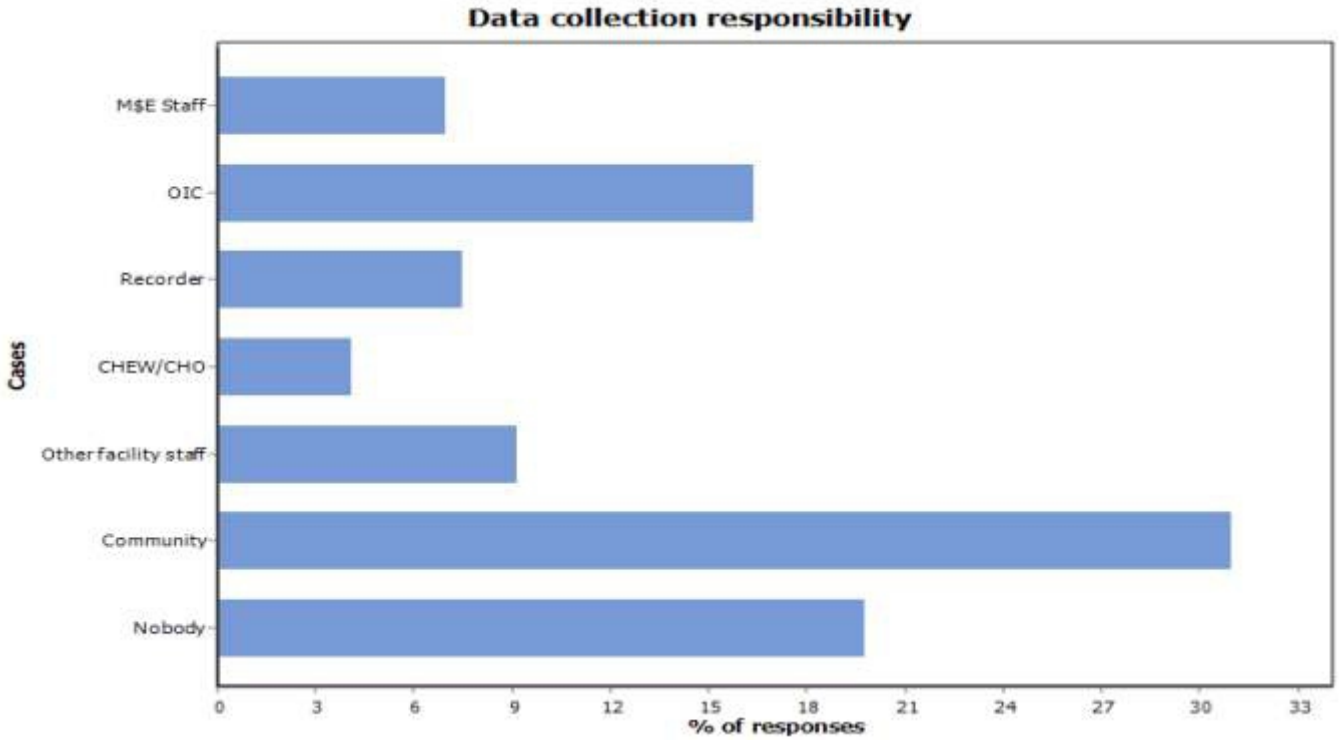


Figure 29. Identified persons responsible for data collection at the community

Additionally, to address concerns regarding the timeliness of data reporting and other quality issues, the assessment examined the presence of dedicated data collection clerks at healthcare facilities. The findings revealed that only 43% of respondents reported having a dedicated data collection clerk. However, among those facilities, 75% confirmed that their data collection clerk was a trained and registered health record officer.

Remarkably, 57% of the surveyed health facilities do not have a dedicated data clerk. Consequently, the responsibility of capturing and reporting data falls on the Officer in Charge. This situation presents a significant challenge, potentially impeding their primary function of delivering quality care and affecting their ability to report accurate and timely data. Figure 30 below presents a visual representation of these findings.

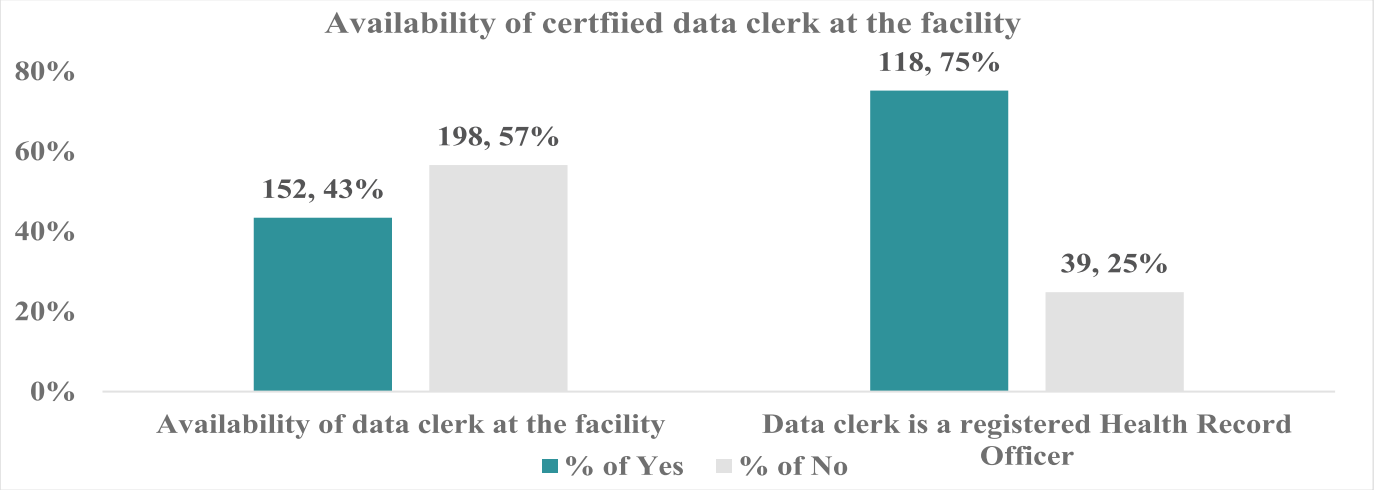


Figure 30: Availability of data collection officers at the health facilities

The digitalisation of the NHMIS and RHMIS data collection signifies a substantial leap forward in healthcare, focusing on optimising real-time data acquisition for evidence-based decision-making. This shift from conventional paper-based approaches to digital platforms yields numerous benefits. Firstly, it ensures Real-time Data Availability, granting instantaneous access to crucial information for healthcare authorities, policymakers, and medical practitioners. Secondly, it enhances accuracy and integrity by minimizing the potential for errors linked to manual data input. Lastly, it increases efficiency and cost savings by streamlining data collection processes and reducing resource expenditure. Overall, digitalising data collection in healthcare results in a more robust, reliable, and efficient data system ultimately leading to improved decision making.

Lastly, additional probing at health facilities aimed to assess the presence of functional facility-owned telephone systems, which are crucial for enabling community members to access emergency services. The analysis revealed that only 31% of surveyed facilities reported having a functional telephone system, whereas the majority, 69%, reported a lack of such equipment. Figure 31 below shows more details.

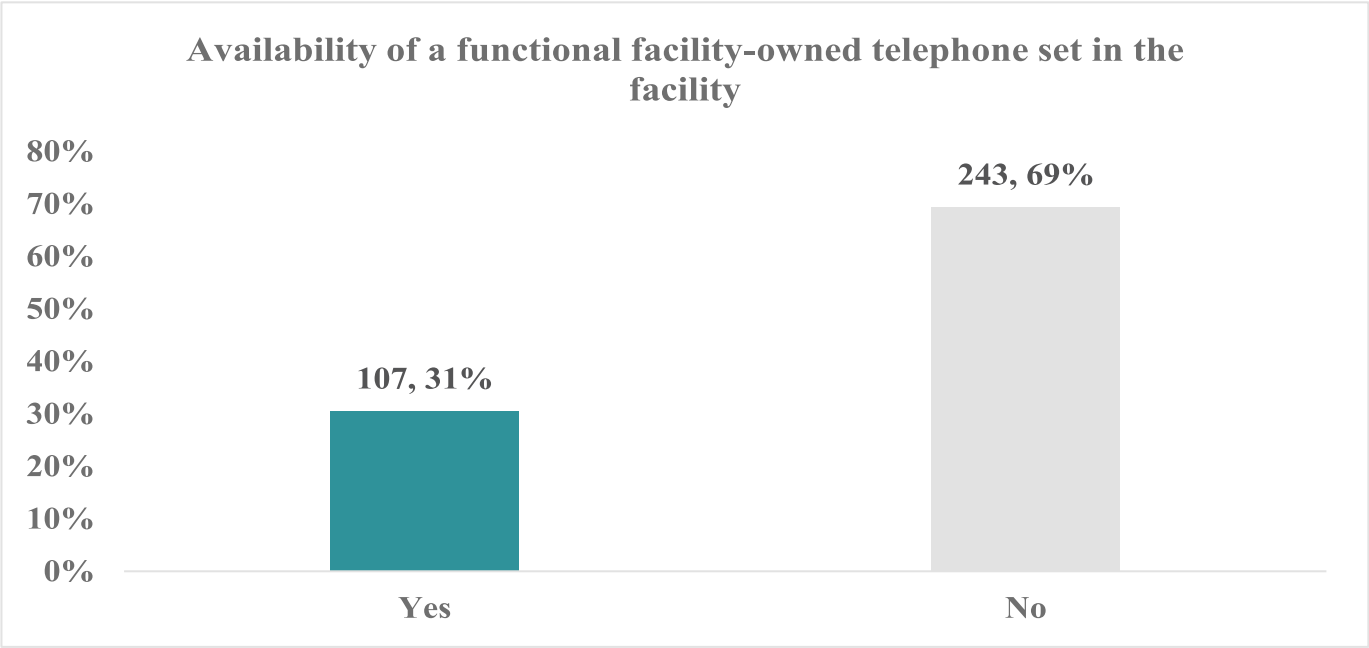


Figure 31. Facilities that own a telephone set

FINDINGS ON INFORMATION SYSTEM ASSESSMENT

The findings on the information system provided a comprehensive insight into the DHIS-2 issues around national digital infrastructure, data management practices, and technological capabilities. Our analysis highlighted challenges encompassing the information culture, organisational structure, roles, and responsibilities related to data governance and utilisation. Through the stakeholders' responses and system performance evaluations, we gained insights into strengths, weaknesses, and areas for improvement.

DHIS-2

Federal Level DHIS-2 Challenges

As depicted in Figure 23, 43% of survey respondents expressed a need for improvements in the DHIS-2, while 3% rated it as poor. Subsequently, a detailed analysis aimed at understanding the underlying challenges contributing to these perceptions identified several recurring issues with DHIS-2, as reported by the respondents. These challenges include:

1. Data Quality: Approximately 17.5% of respondents cited concerns about data quality within the DHIS-2 system.

2. Server Downtime and Internet Connectivity: A significant proportion (25%) reported frequent downtime of the DHIS-2 server, exacerbated by inadequate internet connectivity.

3. Access Barriers: Around 21.3% of respondents highlighted difficulties accessing DHIS-2 due to login barriers, particularly for key stakeholders who require access to the software's data.

4. User Experience and Design: A substantial number (37.5%) expressed dissatisfaction with the software's design, impacting user experience, data input processes, interoperability with other platforms, and data presentation on the dashboard.

5. Technical and Financial Capacity: 30% of respondents indicated a lack of technical expertise and financial resources for effectively utilising DHIS-2.

6. Management Issues: Another 21.3% noted concerns regarding poor management practices related to handling user complaints, establishing standard operating procedures for data quality management, and utilising data for decision-making.

Figure 32 illustrates the challenges identified by the respondents, providing a comprehensive overview of the areas requiring attention and improvement within the DHIS-2.

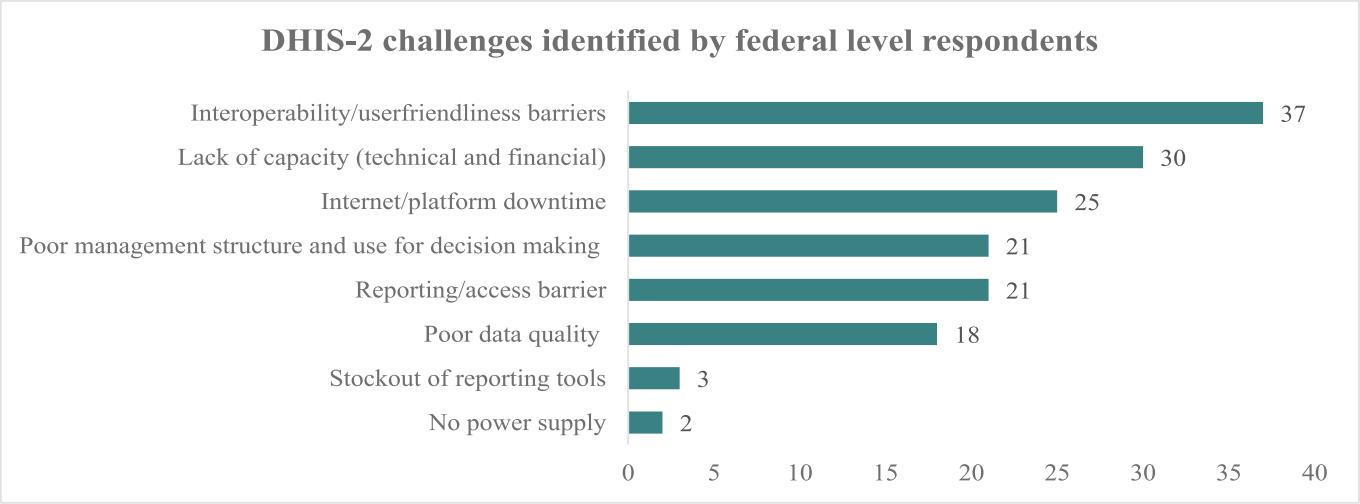


Figure 32: Perceived DHIS-2 challenges by federal-level respondents

State-Level DHIS-2 Challenges

At the state level, respondents identified several common challenges associated with DHIS-2. These challenges include:

1. Data Quality: 27% of respondents reported poor data quality, such as incomplete or duplicate, facility data.

2. Frequent Platform Downtime: 32% of respondents highlighted the frequent downtime of the DHIS2 server, which is often exacerbated by unreliable internet connectivity as a significant challenge.

3. Lack of Capacity: 15.4% of respondents cited a lack of both technical expertise and financial resources as barriers to effectively collecting and transferring data into the DHIS-2.

4. Reporting/Access Barriers: Furthermore, 13.6% of respondents reported not having access to the DHIS-2 platform, leading to difficulties in reporting data.

These findings underscore the multifaceted nature of challenges faced at the state level regarding the utilisation of DHIS-2 for health information management.

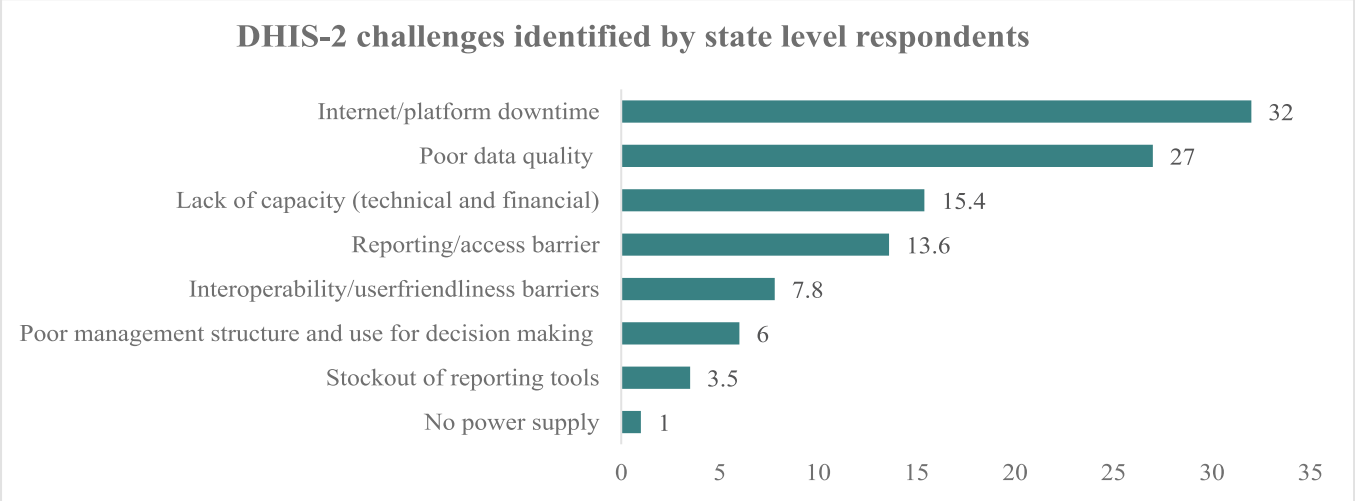


Figure 33: Perceived DHIS-2 challenges by state-level respondents

LGA Level DHIS-2 Challenges

The common responses to the challenges experienced with the DHIS-2 by LGA respondents include:

1. Server downtime and limited access due to internet instability account for 44.3% of reported issues.

2. Insufficient technical expertise and financial resources for data input into DHIS-2, comprising 18.5% of the challenges.

3. DHIS-2's lack of interoperability with other devices, non-intuitive user interface, infrequent upgrades, and scheduling updates during peak reporting periods contribute to 15.3% of obstacles that hinder quality and timely reporting.

4. Poor data quality attributed to missing data, representing 12.4% of the reported challenges.

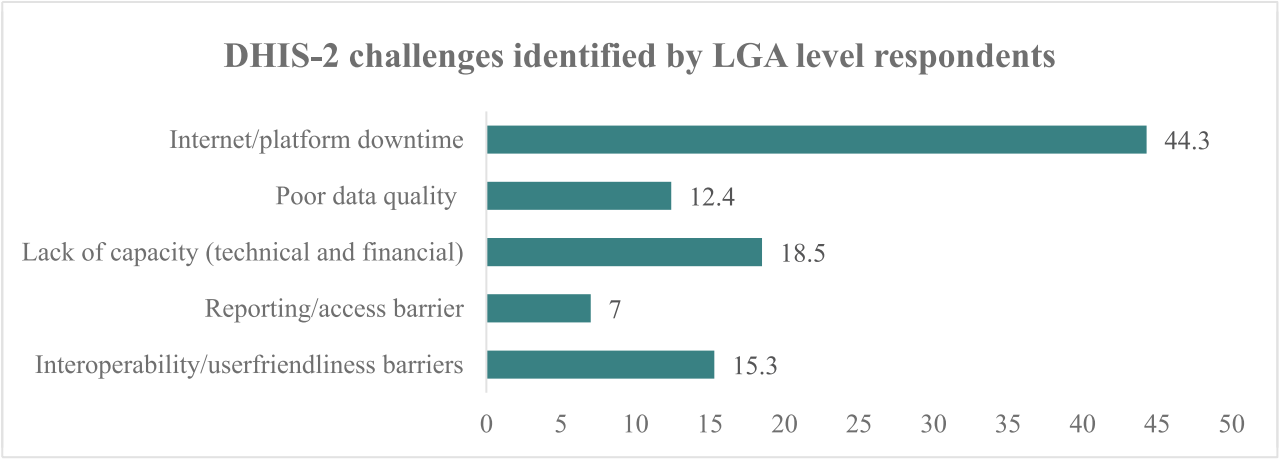


Figure 34. LGA level DHIS-2 challenges

Facility Level DHIS-2 Challenges

At the facility level, several common challenges were identified regarding DHIS-2. These challenges include:

1. Poor Access due to Internet Downtime: The primary issue reported by the respondents was poor access, often exacerbated by internet downtime, affecting approximately 25.4% of respondents.

2. Lack of Capacity: About 20.9% of respondents cited a lack of capacity to use DHIS-2 effectively, including challenges related to the financial resources required for data collation and reporting.

3. Interoperability of DHIS-2Pplatform: Notably, concerns about DHIS-2's interoperability with other devices was raised by 9.1% of the respondents. Its perceived lack of user-friendliness and infrequent updates. When updates do occur, they often coincide with peak reporting times, leading to negative impacts on the quality and timeliness of data reporting.

4. Access Barriers: A smaller proportion of respondents (8%) highlighted issues such as limited login access.

5. Missing Data: 7.1 % of respondents reported instances of missing data.

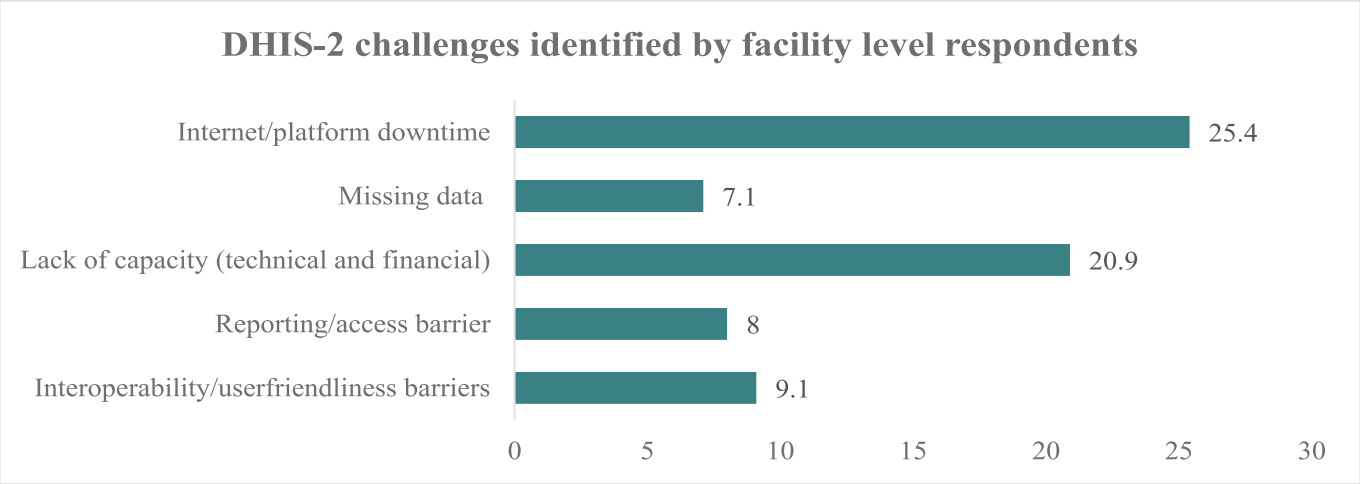


Figure 35: DHIS-2 challenges identified by facility-level respondents

RESULTSSUMMARY: PERCEIVED DHIS-2 NATIONAL INSTANCE CHALLENGES

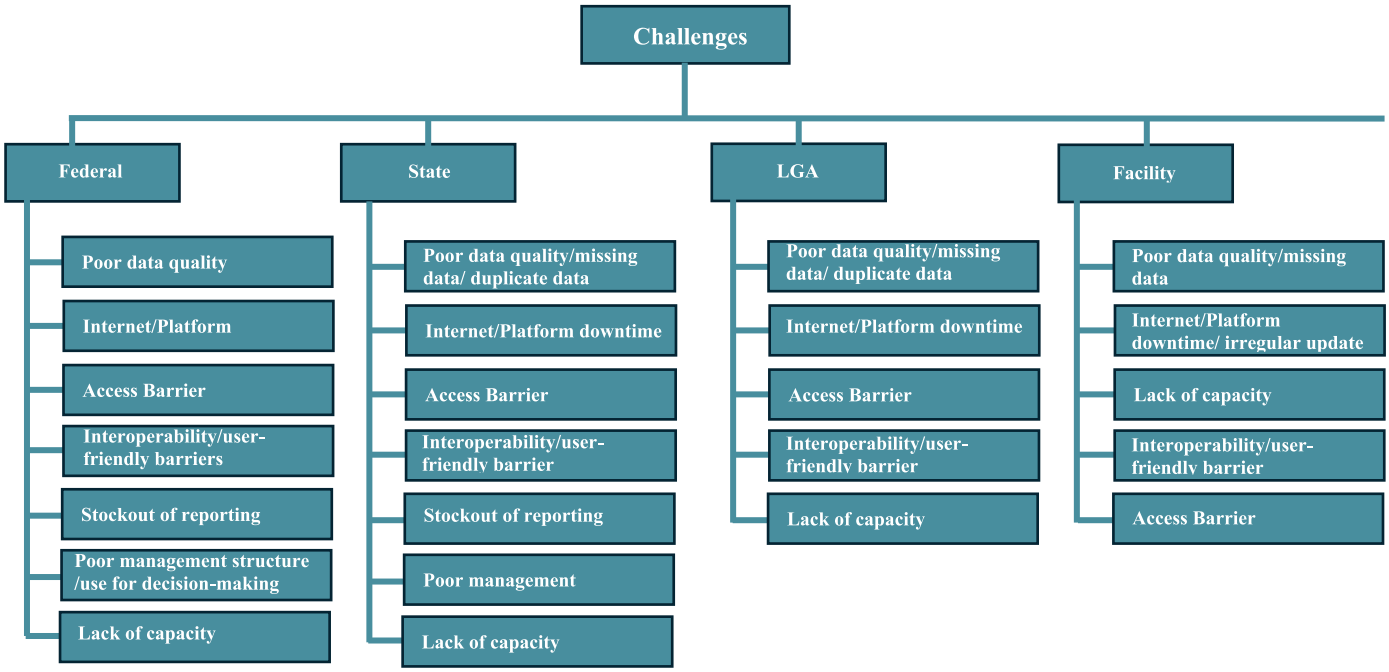


Figure 36: Summary of perceived DHIS-2 challenges across all levels

Federal-Level Proposed DHIS-2 Solutions

Having identified the challenges, the respondents proposed some solutions to improving data quality on the DHIS-2 and these include:

1. Access and Input by Subnational Level Staff: Allow access to DHIS-2 and enable data input by subnational level staff (10% of respondents) to ensure comprehensive and timely data collection from all healthcare system levels.

2. Capacity Building for Health Workers: Implement capacity-building programs to empower health workers in reporting data on DHIS-2 more frequently and effectively.

3. Establishment of Data Review and Validation Mechanisms: Set up regular and thorough data review and validation mechanisms (16.3% of respondents) to ensure the accuracy and reliability of data entered DHIS-2.

4. Defining Roles and Processes for Data Management: Define clear roles for all stakeholders involved in data management on DHIS-2 and establish streamlined processes to facilitate efficient data handling (13.8% of respondents).

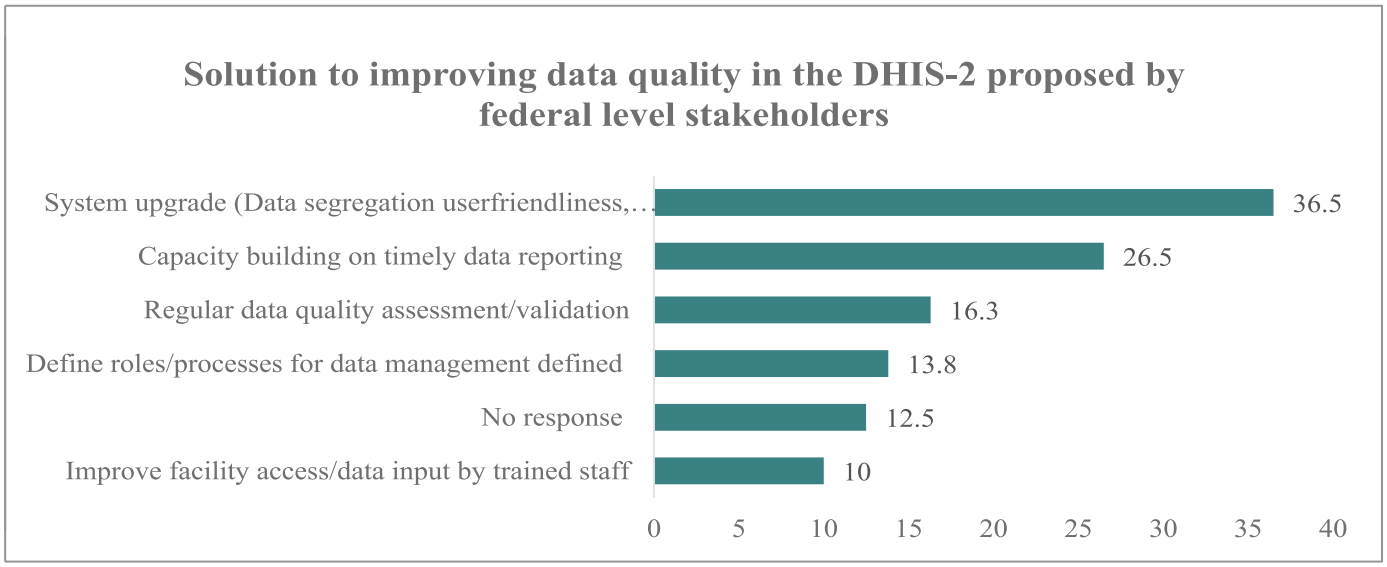


Figure 37: Proposed solutions by federal-level respondents to DHIS-2 challenges

State-Level Proposed DHIS-2 Solutions

1. Supervision and Data Quality Validation: 27.8% of respondents at the state level proposed regular supervision and data quality validation as effective strategies for enhancing data quality on the District Health Information System 2 (DHIS-2).

2. Capacity Building: 35.5% of respondents proposed capacity-building initiatives focusing on data reporting into the DHIS2 and emphasizing the significance of timely reporting. This strategy emphasises the importance of equipping healthcare personnel with the necessary skills and knowledge to promptly input data into the system, thereby improving data timeliness and accuracy.

3. Frequent DHIS-2 Upgrades: Respondents recommended planning frequent DHIS-2 upgrades but avoiding these upgrades during peak data reporting periods to prevent data loss and redundancy. Furthermore, upgrades should prioritise interoperability with other devices, enhance user experience, and implement features such as segregating facility data based on type. This recommendation, endorsed by 30.2% of respondents, underscores the need for continuous system improvement while ensuring seamless integration and user-friendly functionalities.

4. Improve Access to State-Level Skilled Personnel: 14% of respondents stressed the importance of improving access for skilled state health workers to the DHIS-2. This includes ensuring that healthcare professionals have the necessary training, resources, and support to utilize the system effectively, thereby maximizing its potential for data accuracy and utility in decision-making processes.

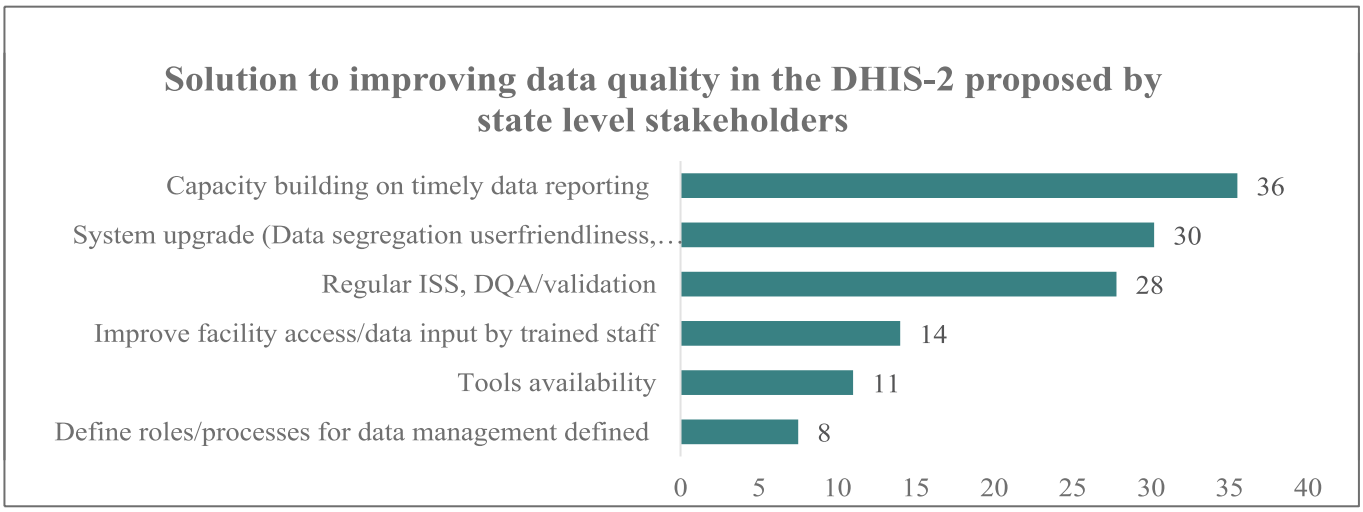


Figure 38: Proposed solutions by state-level respondents to DHIS-2 challenges

LGA Level Proposed DHIS-2 Solutions

Common responses to improving data quality on the DHIS-2 by respondents at the state level include:

1. Regular supervision and data quality validation were reported by 13.4% of respondents as critical factors in maintaining the accuracy and reliability of collected data. This highlights the importance of ongoing monitoring and validation processes to ensure data integrity.

2. Capacity-building initiatives focused on data reporting into DHIS-2, and the significance of timely reporting was emphasised by 27.4% of respondents. Such efforts are crucial for enhancing data literacy among stakeholders and promoting a culture of timely and accurate data submission.

3. A significant proportion (23.8%) of respondents emphasised the importance of strategic planning for DHIS-2 upgrades, particularly avoiding upgrades during peak data reporting periods to prevent data loss and duplication. These upgrades should prioritise interoperability with other devices and improve user experience, including segregating facility data according to type, thus enhancing overall system efficiency.

4. Ensuring the availability of data collection tools was deemed important by 12.2% of respondents to minimize instances of poor reporting. This underscores the need for accessible, and user-friendly tools to facilitate accurate and efficient data collection processes.

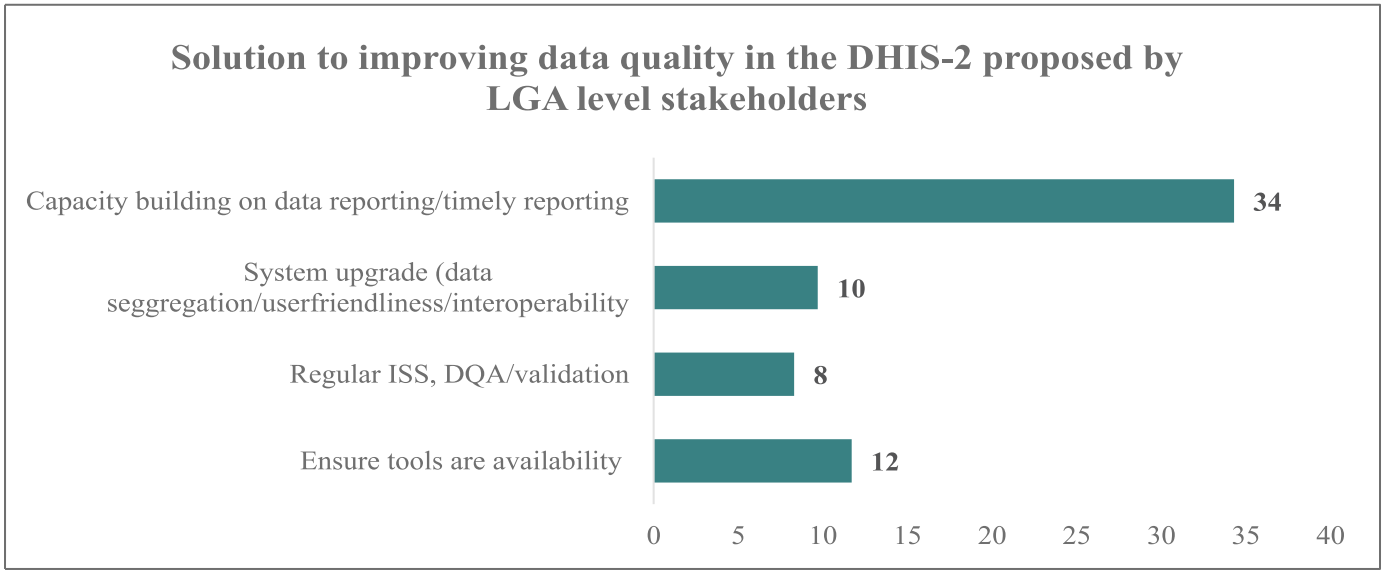


Figure 39. LGA proposed solutions to DHIS-2 challenges

Facility Level Proposed DHIS-2 Solutions

Common responses to improving data quality on the DHIS-2 by respondents at the state level include:

1. Capacity building on data reporting into the DHIS-2 and timely reporting (34.3% of respondents).

2. Respondents thought it was important to ensure data collection tools are readily available to minimise poor reporting (11.7% of respondents).

3. 9.7% of the respondents proposed frequent DHIS-2 upgrades but not during the peak of data reporting to prevent loss of data and repetitiveness. Upgrades should include interoperability with other devices, improve user experience, particularly segregation of facility data according to facility type.

4. Conduct of regular supervision and data quality validation (8.3% of respondents).

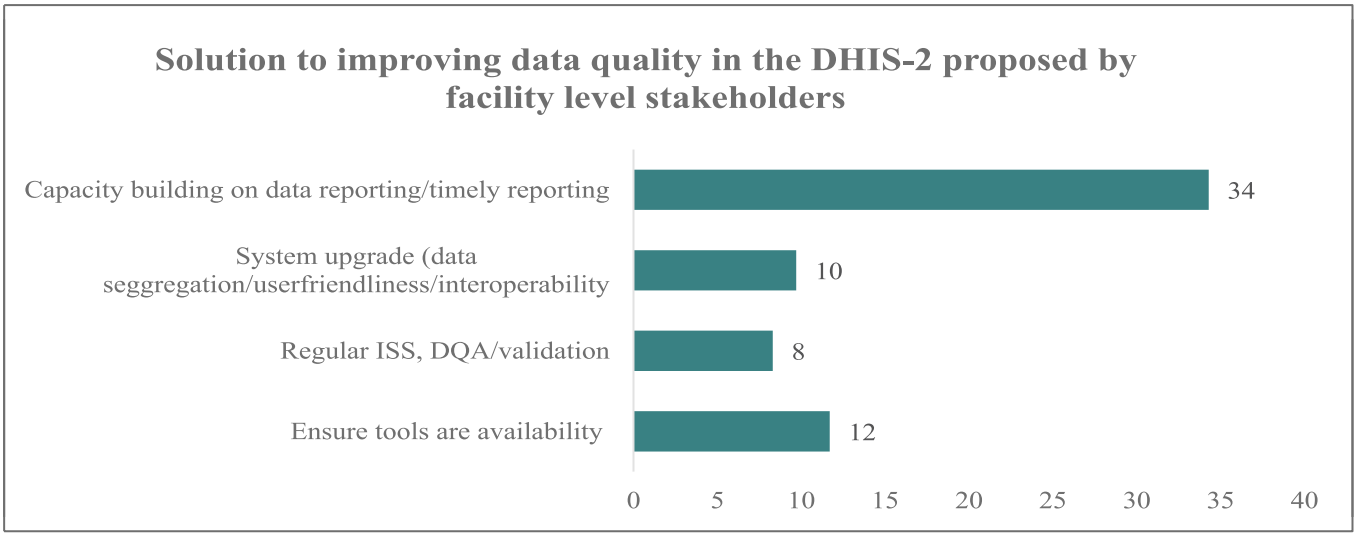


Figure 40. Proposed solutions by facility respondents to DHIS-2 challenges

RESULTS SUMMARY: PROPOSED DHIS-2 SOLUTIONS

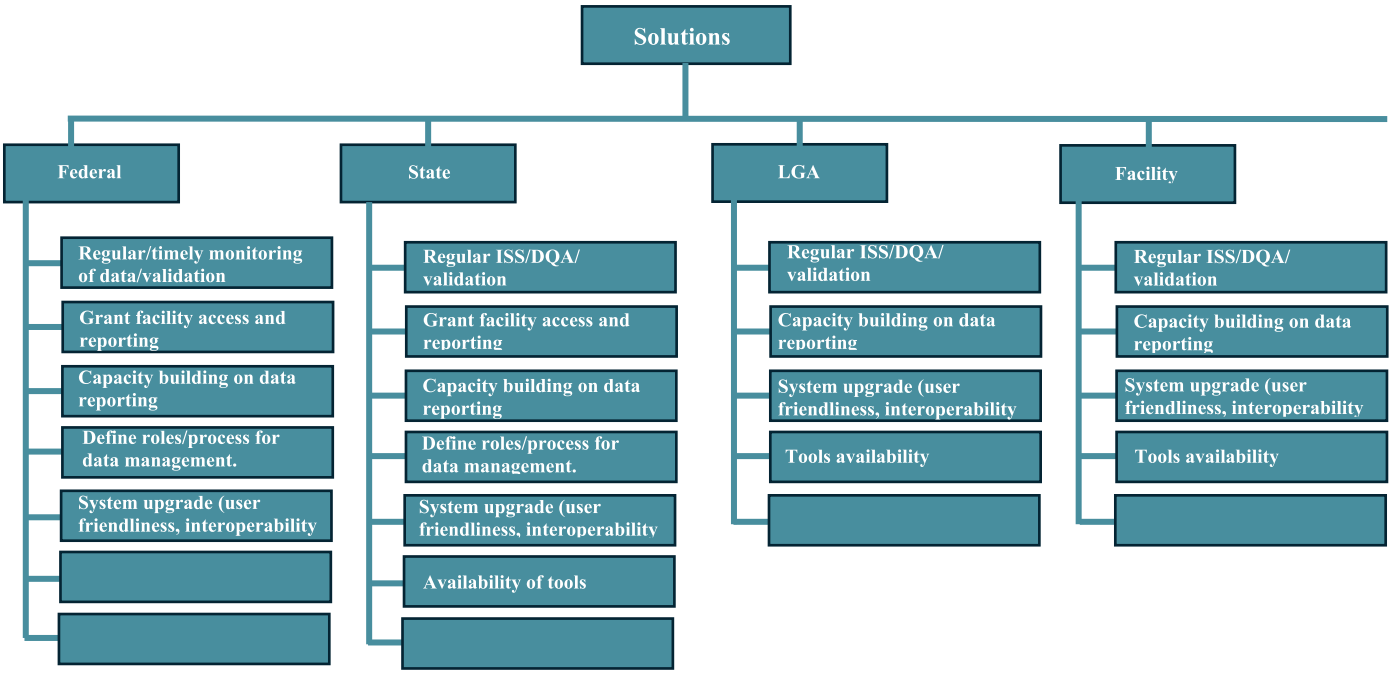


Figure 41: Summary of proposed DHIS-2 solutions by all levels

HEALTH FACILITY REGISTRY/MASTER FACILITY LIST

Federal Level Identified HFR/MFL Challenges

The federal level respondents highlighted several key challenges associated with the HFR/MFL, which include:

1. Poor data quality/data duplication/manipulation: A notable concern, expressed by 11% of respondents, was poor data quality within the registry. This was often attributed to data manipulation and duplication of registered facilities, indicating a need for improved data management practices.

2. Lack of Comprehensive Facility Data/information: 11% of respondents noted that the facility information within the registry needed to be more thorough, particularly regarding facility geo coordinates. This gap in information was further compounded by reports of missing facility data and a need for comprehensive assessments for registered facilities. This included instances where non-functional facilities remained listed in the registry, and new facilities were not promptly updated.

3. Interoperability with DHIS-2/User-friendliness: 10% of respondents reported difficulties accessing the HFR due to restricted access or server downtime issues. This accessibility issue was further exacerbated by concerns that the HFR lacked interoperability with the District Health Information System 2 (DHIS2) and was not user-friendly.

4. Irregular Updates: A smaller but significant portion of respondents (7.5%) highlighted the irregularity of updates to the HFR as a significant challenge. This inconsistency in updates contributed to difficulties navigating and utilising the registry effectively.

5. Poor Capacity/Awareness of HFR: 7.5% of respondents indicated a lack of capacity or awareness regarding the HFR, suggesting a need for enhanced training and awareness programs to empower users to utilize the tool effectively.

It is noteworthy that more than 50% of participants did not provide a response to this question, indicating a potential gap in awareness and capacity regarding the HFR among the surveyed population. This underscores the importance of targeted interventions to address these gaps and improve the usability and effectiveness of the HFR/MFL system.

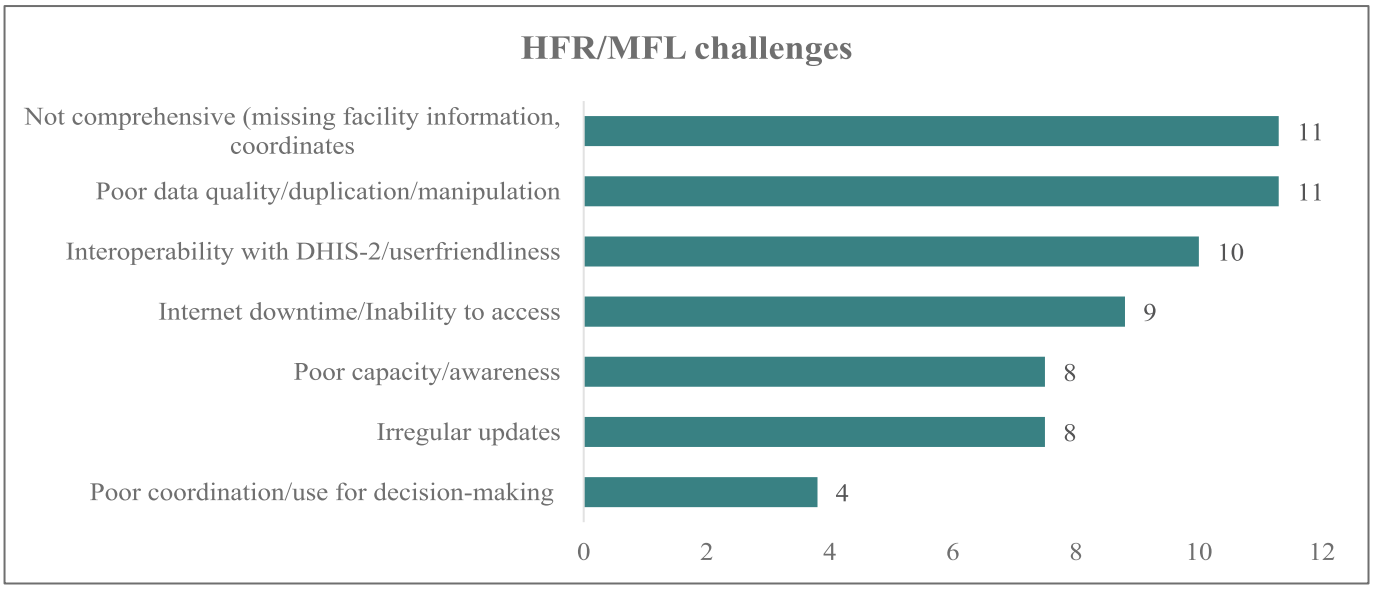


Figure 42. HFR/MFL Challenges identified by federal level respondents

State Level HFR/MFL Challenges

At the state level, respondents reported the following common challenges with the HFR/MFL which includes:

1. Lack of Comprehensive Data in HFR: Approximately 12.4% of respondents identified a significant challenge regarding the absence of comprehensive data within the HFR, particularly concerning private facility information.

2. Limited Access to HFR/MFL and Internet Downtime: Around 10% of respondents highlighted issues related to inadequate access to the HFR/MFL due to lack of login credentials and frequent internet downtime, which hindered their ability to utilize the system effectively.

3. Interoperability Issues with DHIS-2: 8.3% of participants reported a notable concern about the limited interoperability between the HFR/MFL and DHIS-2 which affects data exchange and integration between these systems.

4. Poor Data Quality: Approximately 8.9% of respondents expressed concerns regarding the suboptimal data quality within the HFR/MFL, indicating potential inaccuracies or inconsistencies in the information stored.

5. Duplication of Registered Facilities: Some respondents (7.7%) noted duplicated entries for registered healthcare facilities within the HFR/MFL, suggesting issues with data management and maintenance.

6. Unclear Process for Reporting and Data Use: Another common theme, highlighted by 7.7% of respondents, was the absence of a clearly defined process for reporting data into the HFR/MFL and effectively utilizing the collected data.

7. Limited Knowledge and Capacity to Use HFR/MFL: It is noteworthy that 53% of participants did not respond to this question, which may reflect a broader issue of insufficient knowledge and capacity among healthcare providers to utilize HFR/MFL effectively, as reported by 13% of respondents.

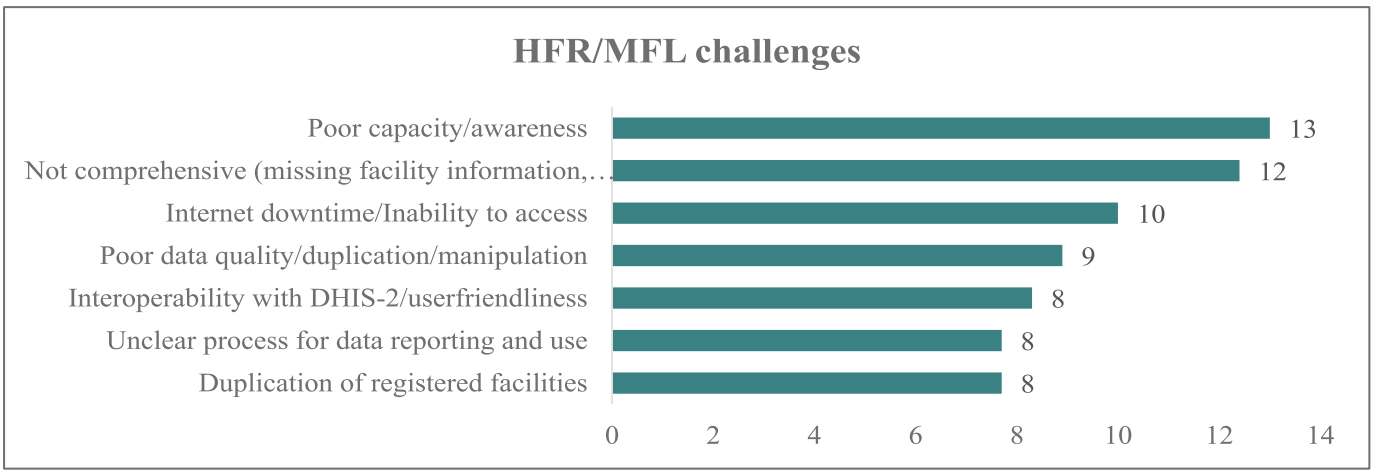


Figure 43. HFR/MFL challenges identified by state level respondents

LGA Level HFR/MFL Challenges

Several significant challenges regarding HFR/MFL were identified in the LGA context. These challenges encompassed a range of factors, including:

1. Knowledge and Capacity Gaps: Respondents identified inadequate knowledge and capacity to effectively utilise the HFR/MFL systems as a major problem. This challenge accounted for 8.2% of the reported issues.

2. Internet Downtime/access: A notable concern, reported by 6.4% of respondents, was related to internet downtime and the subsequent inability to access the HFR, leading to difficulties in uploading facility data.

3. Absence of Standardized Operational Procedures (SOP): Additionally, 6.3% of respondents highlighted the absence of standardised procedures for data management within the HFR, which included unclear delineation of roles and responsibilities among local government staff and limited utilisation of HFR data for informed decision-making processes.

4. Missing Data Set: 5.6% of respondents reported encountering challenges related to missing facility data, particularly in the case of private healthcare facilities, impacting the comprehensiveness of the HFR/MFL.

5. Data Quality: 5.3% of respondents identified data quality as a concern, emphasizing the importance of accuracy and reliability in the information stored within the HFR.

6. Irregular Updates: 4.7% of respondents cited irregular updates of facility information within the HFR, highlighting the need for consistent and timely data management practices to ensure the system's effectiveness and relevance.

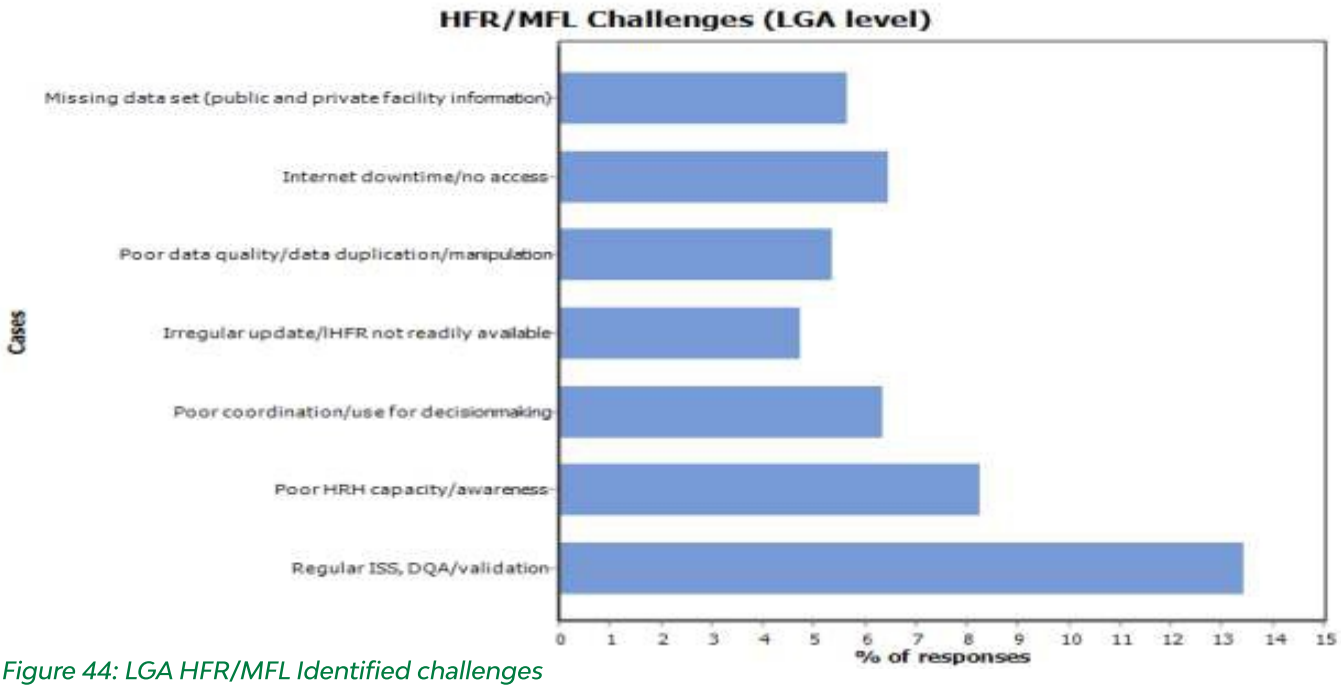


Figure 44: LGA HFR/MFL Identified challenges

Facility Level HFR/MFL Challenges

At the facility level, HFR/MFL implementation challenges were identified. These challenges encompassed limited knowledge and capacity among staff to effectively utilise the HFR/MFL (10.3%), as well as accessibility issues, with 4.6% of facilities reporting no access for their staff. Additional barriers included limited interoperability with the DHIS-2, indicated by 2.4% of respondents, and concerns about user-friendliness, mentioned by 2.4% of facilities. Furthermore, 2% of facilities highlighted the lack of quality and up-to-date data within the HFR/MFL.

Interestingly, a significant proportion (80%) of participants did not respond to these challenges. This non-response may indicate a broader issue: a lack of awareness and understanding of the HFR/MFL at the facility level. Addressing these challenges comprehensively is crucial for optimising the functionality and effectiveness of the HFR/MFL system within healthcare facilities.

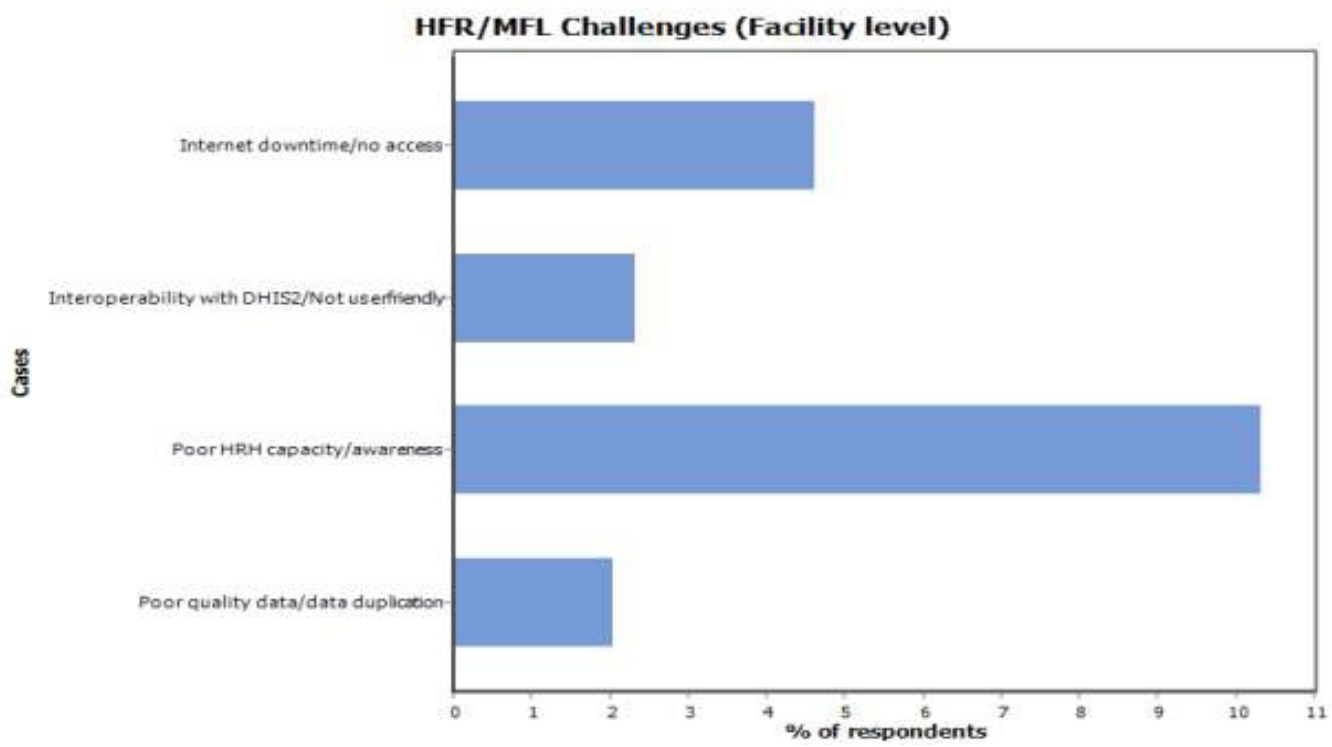


Figure 45: HFR/MFL challenges identified by facility respondents.

RESULTS SUMMARY: PERCEIVED HFR/MFL CHALLENGES

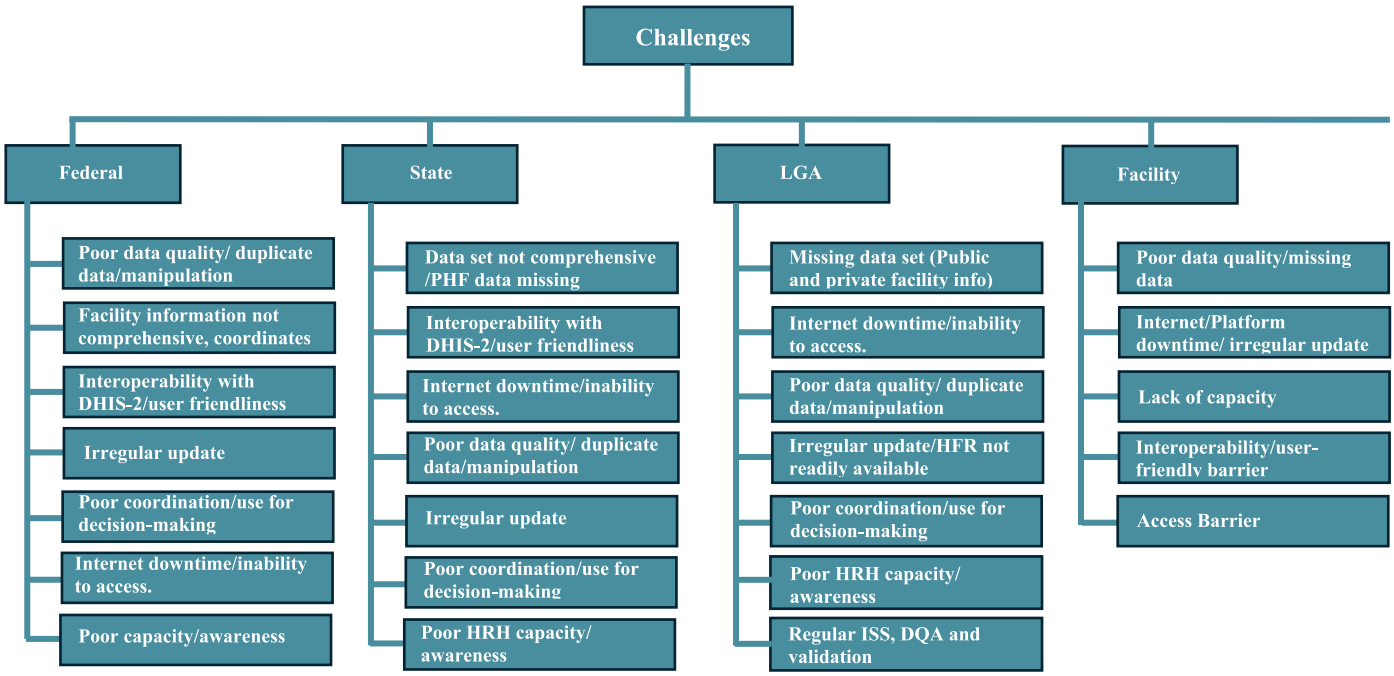


Figure 46: Summary of perceived HFR/MFL challenges across all levels

HFR/MFL PROPOSED SOLUTIONS BY RESPONDENTS

After identifying key challenges in the HFR/MFL, respondents in our survey proposed several innovative solutions to enhance its functionality and effectiveness.

Federal-Level Proposed HFR/MFL Solutions

Common responses to improving data quality of HFR/MFL by respondents at the federal level include:

1. Improving the interoperability of HFR with the DHIS2, improving the infrastructure, especially ease in editing facility information, facility registration and data segregation (37% of respondents)

2. Building the capacity of health workers to report and interpret data (26% of respondents)

3. Other responses include access to the HFR and strengthening oversight to improve data quality.

It is worth noting that 57% of participants did not respond to this question, which further corroborates the lack of awareness of the HFR/MFL.

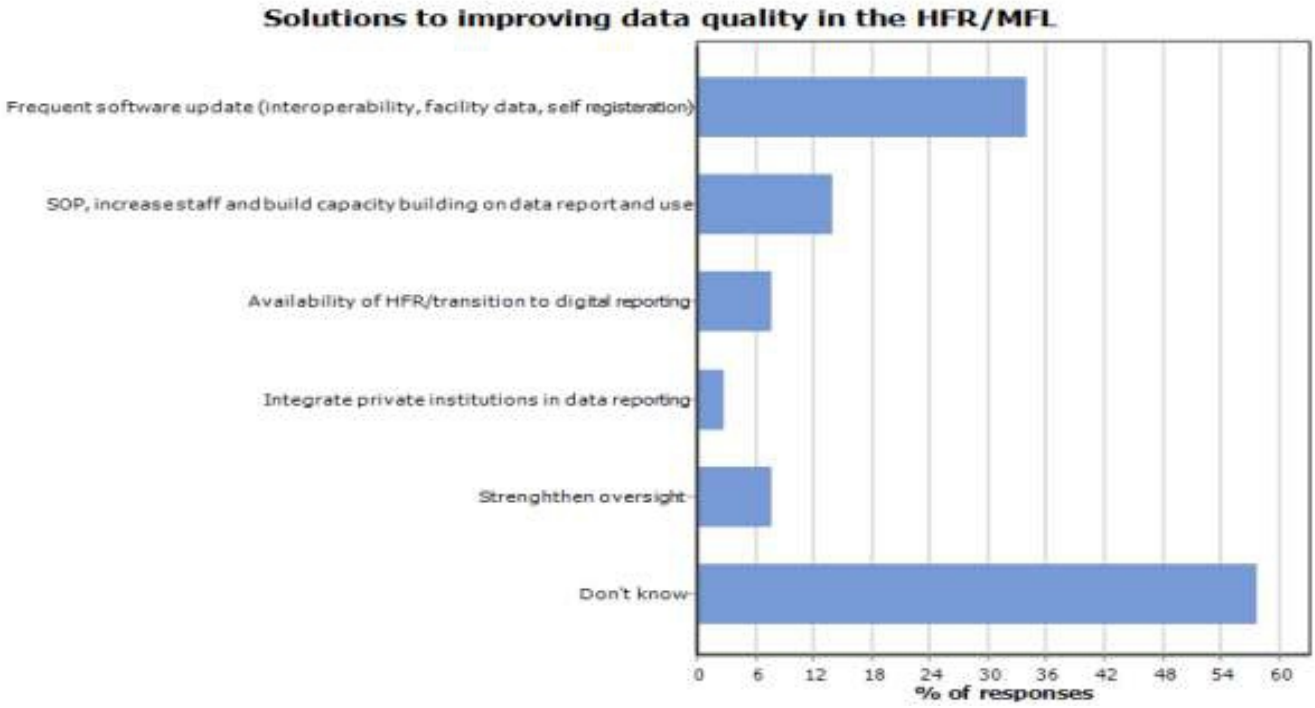


Figure 47. Proposed solutions to HFR/MFL challenges by federal-level respondents

State-Level Proposed HFR/MFL Solutions

Common responses to improving data quality on the HFR/MFL by respondents at the state level include:

1. Standardized Procedures for Data Reporting and Use: A significant portion (18.3%) of respondents emphasised the importance of developing standardised operational procedures (SOP) to delineate the roles and responsibilities of federal, state, local government, and facility staff concerning data reporting and utilisation within the HFR. This strategic approach aims to enhance data quality and consistency across different levels of governance and operational hierarchies.

2. Interoperability Enhancement and Infrastructure Upgrade: A notable percentage (14.2%) of respondents highlighted the necessity for scheduled upgrades to enhance the interoperability of the HFR with the DHIS-2. This upgrade is designed to streamline processes such as editing facility information, facility registration, data segregation, capacity building, and granting access to state-level stakeholders. Such enhancements improve data integrity and facilitate seamless data exchange and utilisation across health information systems.

3. Regular Data Validation and Supervision: Approximately 10.1% of respondents emphasised the critical need for regular data validation and supervision processes for inputs into the HFR. This practice ensures the accuracy, reliability, and completeness of data captured within the system, contributing significantly to overall data quality assurance and decision-making processes at the state level.

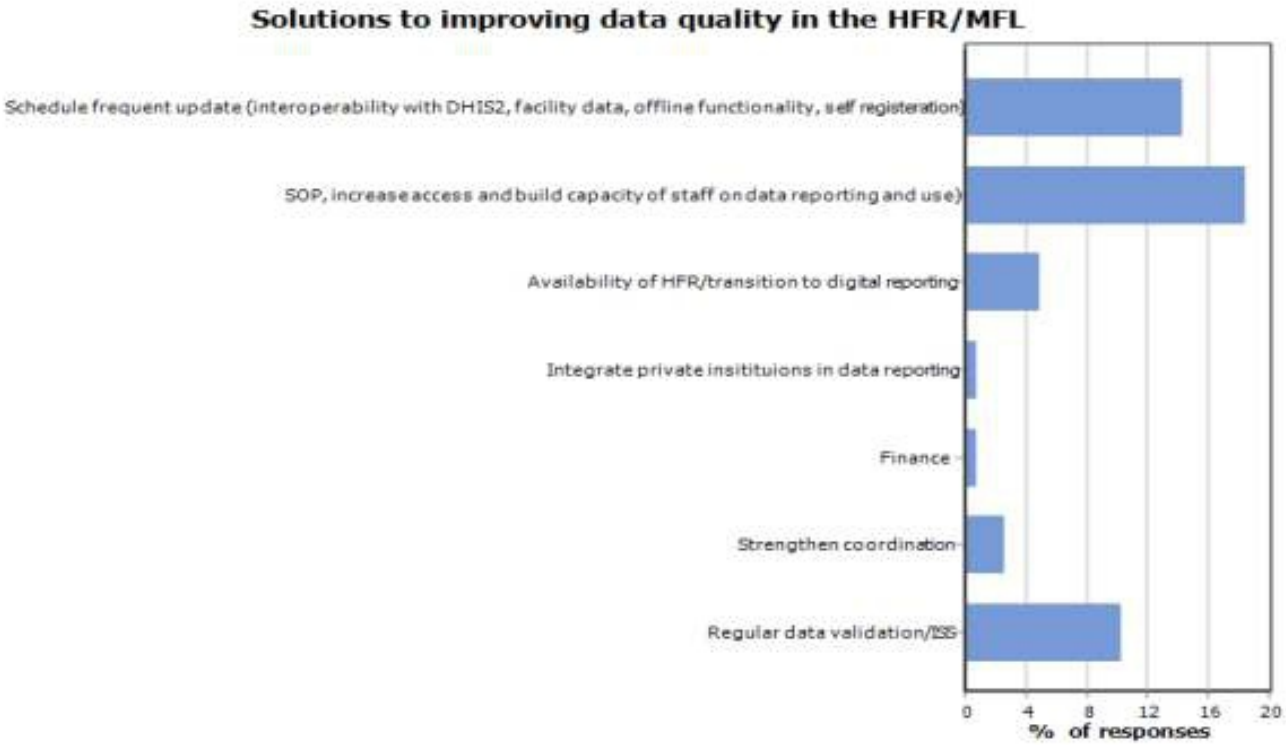


Figure 48: Proposed solution to HFR/MFL challenges at the state level

LGA Level Proposed HFR/MFL Solutions

Common responses to improving data quality on the HFR/MFL by respondents at the state level include:

1. Developing standard of procedure to clearly define roles and responsibilities of federal, state, and local government, and facility staff in reporting and use of data in the HFR (16.3% of respondents).

2. Scheduled upgrade to improve the interoperability of HFR with the DHIS-2, improving the infrastructure, especially ease in editing facility information, facility registration and data segregation, build the capacity and grant access of the HFR to state-level stakeholders (10.8% of respondents).

3. Regular data validation and supervision of data input into the HFR (6.3% of respondents).

4. Ensure that data reporting tools are available and possibly transition to electronic measures (5.2% of respondents).

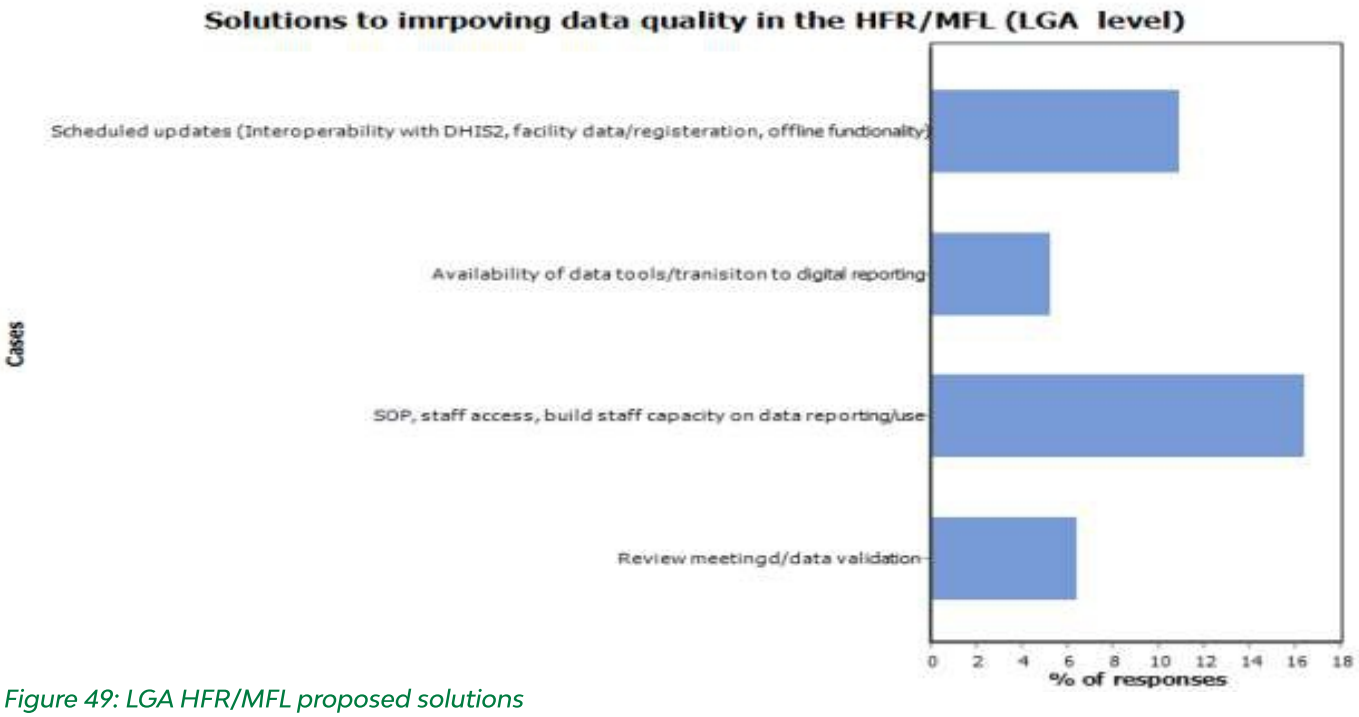


Figure 49: LGA HFR/MFL proposed solutions

Facility Level Proposed HFR/MFL Solutions

Common responses to improving data quality on the HFR/MFL by respondents at the state level include:

1. Developing Standard Operating Procedures (SOPs): Establish comprehensive SOPs that clearly delineate the roles and responsibilities of federal, state, and local government entities, as well as facility staff, regarding the reporting and utilization of data in the HFR. These SOPs should aim to streamline processes, enhance accountability, and ensure the accuracy and timeliness of data submissions.

2. Data Validation and Review Mechanisms: Implement regular data validation and review processes to maintain the integrity and reliability of information entered into the HFR. This includes conducting periodic audits, employing data quality checks, and establishing protocols for addressing discrepancies or errors promptly.

3. Utilization of Electronic Data Reporting Tools: To enhance efficiency and accuracy, the HFR framework should shift towards utilising electronic data reporting tools. This transition can improve data collection, storage, and analysis capabilities, leading to more informed decision-making and resource allocation.

4. Interoperability Enhancements with DHIS-2: Efforts should be made to improve the interoperability between the HFR and the DHIS-2. This can be achieved through scheduled upgrades, technical enhancements, and collaboration between relevant stakeholders to ensure seamless data exchange and integration between the two systems.

5. Infrastructure Improvements: Invest in infrastructure improvements, particularly focusing on simplifying processes such as editing facility information, facility registration, and data segregation within the HFR. This includes enhancing user interfaces, optimising data management functionalities, and addressing existing bottlenecks or inefficiencies.

6. Capacity Building and Stakeholder Engagement: Build the capacity of state-level stakeholders to utilise the HFR effectively. This involves providing training, workshops, and access to resources that facilitate understanding, utilisation, and meaningful engagement with the HFR platform.

7. Role of Facility Health Recorders: Recognize the role of facility health recorders as key contributors to data accuracy and completeness. Their training, support, and integration into the data reporting and validation processes should be prioritised to ensure reliable health information at the facility level.

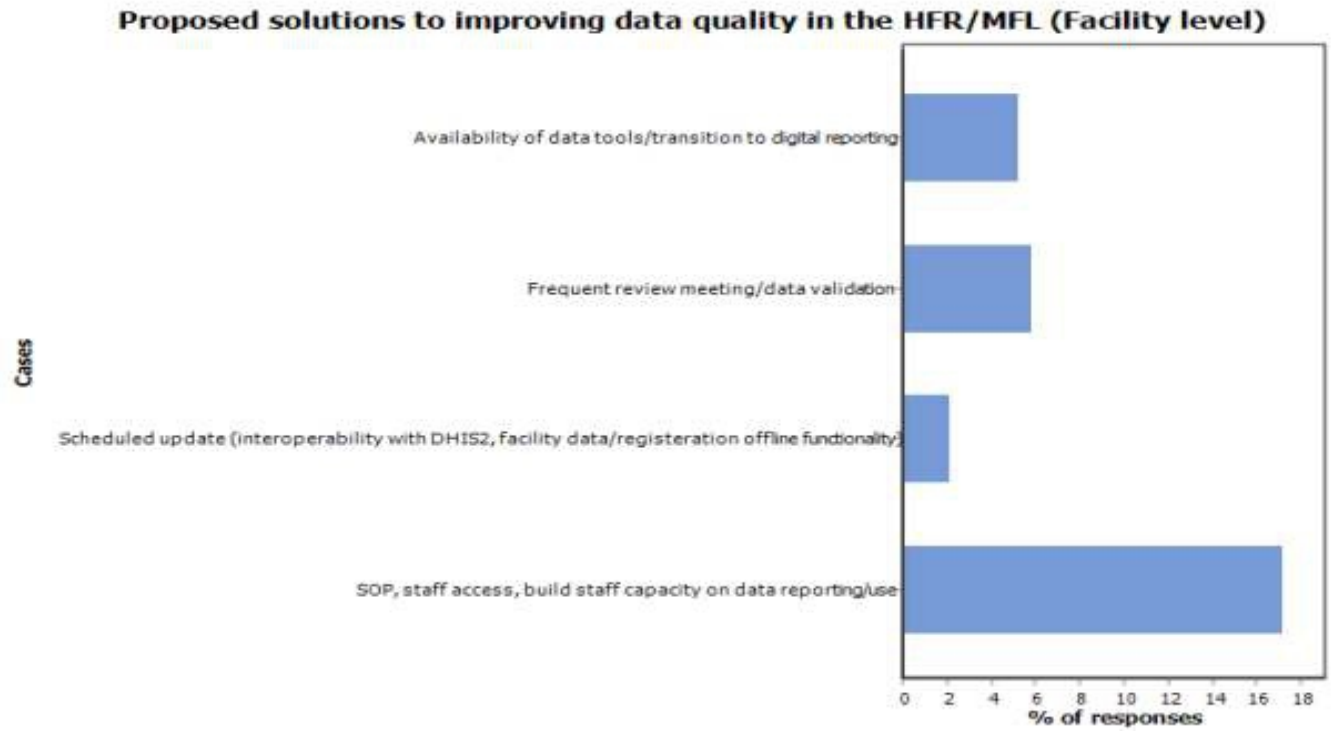


Figure 50: Proposed solution to HFR/MFL challenges by facility respondents

RESULTS SUMMARY: PROPOSED HFR/MFL SOLUTION

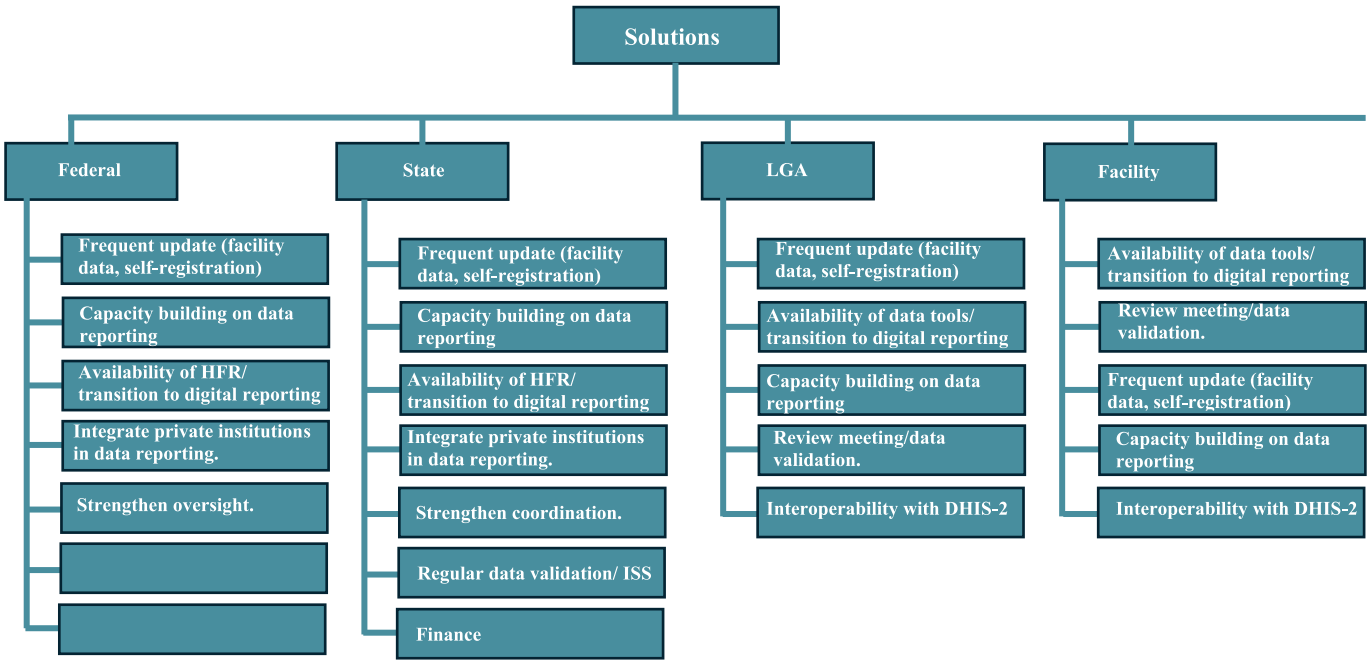


Figure 51: Proposed HFR/MFL solutions by all levels.

RECOMMENDATIONS

The following are some key recommendations to policy and decision makers on improving the NHMIS especially as it relates to some aspects of the routine system including software such as DHIS-2 and the HFR/MFL. The recommendations are quick course-corrective measures applicable at all tiers - federal, state, LGA and facility levels. Further assessments on the routine information systems such as data systems functionality, maturity and compliance will be required to ensure better understanding of the RHMIS. Similarly, assessments of periodic or non-routine arm of the NHMIS comprising of mostly population surveys are also be beneficial for robust understanding of the overall NHMIS.

Capacity building to improve knowledge and awareness of the NHMIS.

To address the knowledge and awareness gap about the NHMIS as established by the NHAct 2014 at all levels, training packages that include the definition of the NHMIS should be developed and used to build the capacity of stakeholders at all levels. Mechanisms for refresher training and continuous learning should also be instituted for health care providers who generate data and M&E/Data Officers at all levels.

Improved Access to the DHIS-2 and other RHMIS

There are defined levels of access to the DHIS-2. The DHPRS should prioritize providing access to all relevant stakeholders at the federal and state levels to improve data use for decision-making and programming. At the subnational levels, there is a need to digitize the existing process of data capturing and reporting to align with the new administration agenda.

Improving the functionality of the District Health Information System (DHIS-2) Instance

To improve the functionality of the DHIS-2, there is a need for a more in-depth assessment of the administration of the system and other complementary, competing, and conflicting systems and sub-systems that manage both patient-level data and aggregate data e.g. NDR, eTB, SORMAS, MPDSR, NHWFR, HIMIS, LMIS, National Cancer Registry etc. To improve the quality of data on the DHIS-2 national instance, there is a need to ensure interoperability with all RHMIS systems and subsystems. Importantly, to address the proliferation of data platforms, standards, guidelines, and standard operating procedures for the setting up and deployment of data systems should be developed by the Department of Health Planning Research and Statistics in the Federal Ministry of Health in line with the provision of the NHAct 2014. The Department also has the institutional responsibility to ensure the appropriate coordination and effective management of the DHIS-2 national instance, including cloud hosting and maintenance. It should, therefore, establish a systematic and detailed approach to routine DHIS-2 system upgrade and preventive maintenance with a clear communication plan as well as troubleshooting to reduce the occurrence of downtimes and other challenges faced by the platform.

Improving the Health Facility Registry and Master Facility List (HFR/MFL)

The Health Facility Registry offers a rich source of information that can be utilised for making informed decisions. Data from the HFR/MFL can then be used to allocate resources efficiently, develop effective policies, and strategically plan initiatives, ultimately leading to improved healthcare delivery and the mitigation of healthcare disparities. To address the challenge of poor awareness and utilisation amongst the healthcare community of practitioners,

There should be strong institutional data governance and accountability, synergy, coordination, and collaboration between the national and subnational institutions/units responsible for the management of the HFR/MFL through subnational leadership commitments and participatory ownership of health facility data for evidence-based decision-making

Improving Health Resources for Information Management

Appropriate human resources for data management at all levels, especially at the facility level and other service delivery points, are critical to the quality of health data for decision-making. Health records officers with the requisite training and capacity should be deployed to manage health data at facilities and service delivery points in line with their statutory responsibilities.

Also, human resources for managing community health data are critical to ensuring promotional and preventive healthcare and early notification of outbreaks. Therefore, well-trained and resourced volunteers and community health workers, including CHIP agents, should be deployed in adequate numbers to cover communities in all 774 LGAs and political wards across the country.

Improving Institutional Supervision and Accountability

Strong institutional coordination and oversight on the RHMIS at both federal and sub-national levels should exist through well-structured DQAs/Data Validation Exercises ensuring accurate triangulation between onsite facility-based data, sub-systems, and the DHIS-2 national instance. This, coupled with well-designed supportive supervision on data matters, would ensure the generation of accurate data that could be used for decision-making at all levels of healthcare and tiers of governance.

Improving Communication for Data Quality

Telephones are a cheap but effective resource for communication. Deployment of telephones at facilities and service delivery points can aid communication with the community, line facilities, LGA, and State, as well as Federal, administrative structures on data issues. Remote supervision,

data verification, and relay of challenges are some of the immediate data-related issues that may be addressed by telephone ownership.

CONCLUSION

The rapid assessment of the RHMIS highlighted significant opportunities that will necessitate a deliberate effort for a widespread improvement in various aspects of the RHMIS across all administrative tiers and levels of healthcare. The assessment by design did not provide an opportunity for detailed insight into the various components of the RHMIS. Therefore, the findings from this assessment would require further in-depth studies into the various components of the RHMIS to enable effective interventions to improve the RHMIS performance.

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