

BRIDGING THE GAP IN HEALTH INFORMATION MANAGEMENT: A QUALITATIVE STUDY OF THE INFLUENCE OF LIBRARY AND INFORMATION SCIENCE IN CROSS RIVER STATE, NIGERIA

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Abstract

Health information management plays a pivotal role in ensuring accurate, timely, and reliable healthcare service delivery. However, in many developing regions such as Cross River State, Nigeria, significant gaps persist in the organization, retrieval, and accessibility of health records. This study is motivated by the observed disconnect between effective health data practices and the underutilization of library and information science (LIS) expertise in public health institutions. The objective of the study is to explore how principles and practices from LIS influence and enhance health information management in selected healthcare facilities across the state. Using a qualitative research design, the study adopted a case study approach involving semi-structured interviews and focus group discussions with 25 purposively selected participants, including medical records officers, health librarians, ICT staff, and administrative personnel from six public hospitals. Data were analyzed thematically to identify key patterns, challenges, and the perceived value of LIS competencies in health recordkeeping processes. The scope of the research encompassed both urban and semi-urban health facilities across the three senatorial zones of Cross River State. The findings revealed that while LIS knowledge significantly contributes to effective data classification, storage, and retrieval, it remains underutilized due to limited awareness, poor professional integration, and infrastructural challenges. Participants also highlighted a lack of standardized digital systems and interprofessional collaboration as barriers to improving record management. The study concludes that bridging the health information management gap in Cross River State requires an intentional incorporation of LIS professionals into healthcare systems. Policy recommendations include promoting interdisciplinary training programs, institutionalizing digital health records systems, and fostering stronger collaboration between the health and information sectors. Ultimately, leveraging LIS expertise can improve the efficiency, reliability, and security of patient data, thereby strengthening the overall health system.

Keywords: Health Information Management, Library and Information Science (LIS), Digital Health Records, Information Integration, Cross River State, Nigeria

Introduction

Background to the study

Health Information Management (HIM) plays a pivotal role in ensuring the efficiency, accuracy, and reliability of health data systems, particularly in developing countries like Nigeria where healthcare delivery is often challenged by poor record keeping, data fragmentation, and inadequate information infrastructure (Oleribe et al., 2019). In the contemporary digital era, access to accurate and timely health information is crucial for effective clinical decision-making, planning, surveillance, policy development, and ultimately, for improving health outcomes. However, in many Nigerian states including Cross

River, the persistent gaps in health information management continue to impede the provision of quality healthcare services (Akunne & Onwudinjo, 2022).

The underlying issues in HIM in Nigeria stem from a complex interplay of factors, including the absence of trained personnel in information systems, weak institutional frameworks, and a lack of integration between health facilities and modern information science (Adeleke et al., 2014). While traditional health information systems rely heavily on manual data entry and physical records, these systems are prone to errors, misplacement, and inconsistencies, leading to inefficiencies in patient care, delayed policy responses, and wastage of critical health resources (Ogunyade & Popoola, 2020). Consequently, there is an urgent need to explore interdisciplinary approaches that can enhance health information practices in Nigeria's public and private healthcare institutions.

Library and Information Science (LIS), as a discipline, offers a rich reservoir of knowledge, tools, and practices that can be adapted to improve health data systems. Professionals trained in LIS possess expertise in information organization, retrieval, digital archiving, metadata design, and the use of information communication technologies (ICTs) skills that are increasingly relevant in managing health data efficiently (Ajiboye & Tella, 2007). By integrating LIS practices into health settings, particularly in states like Cross River where the HIM infrastructure is underdeveloped, there is potential to promote a culture of data quality, improve patient documentation, and enhance the responsiveness of healthcare institutions.

Moreover, LIS professionals can contribute meaningfully to bridging the health information gap through capacity building, information literacy training, development of electronic health record (EHR) systems, and fostering collaboration between healthcare providers and information managers (Nwokocha & Chimah, 2020). Despite these potentials, the interface between LIS and health information management in Nigeria remains under-researched and underutilized, especially at the sub-national level.

Cross River State, with its mixture of urban and rural communities, presents a unique context for examining the applicability of LIS principles to healthcare information practices. The state has witnessed recurrent challenges in maintaining accurate health records, monitoring disease outbreaks, and implementing digital health strategies due to poor data systems and limited investment in information infrastructure (CRSMOH, 2022). Understanding the contributions that LIS can make to HIM in such a setting is vital for addressing systemic information gaps, improving health policy outcomes, and achieving sustainable development goals (SDGs), particularly SDG 3 which focuses on ensuring healthy lives and promoting well-being for all.

In this regard, a qualitative inquiry into how LIS professionals influence health information management in Cross River State is both timely and necessary. Such a study not only seeks to illuminate the practical roles LIS expertise plays in healthcare settings but also offers policy-relevant insights that can guide the integration of LIS competencies into the broader health system reform agenda in Nigeria.

Statement of the Problem

Health information management (HIM) systems in Nigeria, particularly in Cross River State, are currently characterized by fragmentation, underutilization and poor data quality. Many public health facilities continue to rely on manual record-keeping, leading to frequent data loss, delays and inconsistencies in reporting vital health indicators such as maternal mortality, immunization coverage and disease outbreaks. These weaknesses in health information systems contribute to poor clinical decisions, hinder effective health surveillance and result in inefficient allocation of healthcare resources.

In an ideal scenario, healthcare facilities should have fully functional, integrated and digitized HIM systems managed by skilled professionals who ensure timely, accurate and complete health data reporting. Such systems would support real-time public health monitoring, data-driven decision making and improved healthcare delivery outcomes. The gap between the current situation and this ideal lies in the lack of adequate digital infrastructure, limited deployment of electronic health record (ERH) systems, and a severe shortage of trained HIM personnel. Additionally, there is insufficient collaboration between the health sector and Library and Information Science (LIS) professionals, whose skills in data organization, digital cataloging and information management could significantly strengthen HIM systems.

This study seeks to address the problem by investigating how the integration of LIS expertise can help bridge human resource and system capacity gaps, improve data handling practices and support the development of robust, sustainable health information systems in Cross River State.

Objectives of the study

The objective of this study is to explore how Library and Information Science (LIS) professionals influence health information management practices in Cross River State, Nigeria, specifically, it will;

1. Identify strategies for strengthening HIM systems through interdisciplinary integration

Literature Review

Health Information Management (HIM) refers to the systematic process of acquiring, analyzing, storing, retrieving and disseminating health data to support patient care, administrative operations and healthcare policy decisions. It is a multidisciplinary field that ensures the availability of accurate and timely health records to enhance clinical efficiency, resource allocation, epidemiological surveillance and public health planning (Adeleke et al., 2014). In the context of developing countries such as Nigeria, HIM is often constrained by inadequate infrastructure, poorly trained personnel and fragmented data systems which limits the delivery of efficient and equitable healthcare services.

Library and Information Science (LIS), on the other hand is a professional discipline concerned with the systematic organization, preservation and dissemination of information. It encompasses a wide range of competencies including cataloging, classification, information retrieval, digital archiving and user-centered information service delivery (Ajiboye & Tella, 2007). The LIS profession has evolved beyond traditional libraries to include the application of information management tools and techniques in diverse sectors such as education, governance, health and business.

The conceptual intersection between HIM and LIS lies in their shared focus on data quality, accuracy, accessibility and usability. While HIM is primarily rooted in healthcare systems, it relies heavily on the effective management of patient records and health-related information domains where LIS professionals are particularly skilled. LIS concepts such as metadata creation, information indexing and digital preservation are highly relevant to improving the structure, retrieval and security of health data in both paper-based and electronic system (Nwokocha & Chimah, 2020).

Moreover, information literacy as an essential construct in LIS plays a significant role in enabling healthcare professionals to locate, evaluate and apply health information effectively. LIS professionals can train healthcare workers on best practices in documentation, information ethics and data privacy, which are crucial for maintaining the integrity of health records and protecting patient confidentiality.

In the digital age, LIS principles are increasingly being integrated into electronic health records (EHRs), health databases and digital repositories. These technologies require information architecture, content management, and user-interface design areas where LIS expertise is vital. Therefore, bridging the gap between LIS and HIM can foster innovation, improve data quality, and support evidence-based healthcare delivery, especially in under-resourced setting like Cross River State. Given the persistent weaknesses in Nigeria's health information infrastructure, particularly at the sub-national level, the inclusion of LIS professionals in the design and management of HIM systems is not only necessary but strategic. This conceptual linkage presents a compelling case for interdisciplinary collaboration to strengthen health systems and achieve sustainable health development goals.

Empirical studies on health information management (HIM) in developing countries consistently underscore the challenges of poor data quality, inadequate digital infrastructure, and lack of trained personnel. Adeleke et al. (2014), in a cross-sectional study of selected Nigerian hospitals, found that over 65% of health facilities relied on manual record-keeping, leading to frequent data errors, inefficiencies in service delivery, and poor reporting outcomes. The study emphasized that the absence of skilled health information officers and weak institutional data policies undermines the effectiveness of health systems in Nigeria.

In a related study, Ogunyade and Popoola (2020) assessed health information management practices in Lagos State and discovered that even where electronic health record (EHR) systems were deployed, a lack of trained users and poor maintenance culture led to limited utilization. Their findings revealed that healthcare workers lacked basic information management skills, which affected data accuracy, timeliness, and completeness. The authors recommended inter-professional training and collaboration with information science experts to address skill gaps in data handling.

Ajiboye and Tella (2007) examined the role of information professionals in non-traditional sectors and found that Library and Information Science (LIS) practitioners possess competencies in information organization, digital archiving, and user training that are transferable to other domains, including healthcare. Their study suggested that LIS professionals could add value to health data management by improving data retrieval systems, implementing metadata standards, and enhancing the usability of digital records.

Further evidence from Nwokocha and Chimah (2020) demonstrated the application of LIS principles in healthcare settings in South-East Nigeria. The study used qualitative interviews with LIS and HIM professionals and found that LIS-trained personnel significantly improved data documentation processes, especially in community health centers that lacked formal health informatics departments. The authors concluded that LIS professionals played an underappreciated yet strategic role in bridging knowledge gaps and strengthening the quality of health information systems.

In the East African context, a study by Mugo et al. (2019) explored the effectiveness of integrating ICT and LIS competencies in Kenya's health sector. Using a mixed-methods design, the study found that hospitals with LIS-trained data managers demonstrated higher data integrity, reduced reporting delays, and improved interoperability of health information systems. The study emphasized the need for policy frameworks to formally recognize the role of LIS professionals in the healthcare sector.

More recently, Oboh and Isah (2022) conducted a survey-based study on health information management practices in Cross River State and reported that 72% of health workers believed that poor data quality was due to inadequate training and lack of ICT support. However, only 18% of the facilities had ever engaged LIS professionals for information-related functions. The study recommended that LIS expertise be integrated into local health system reforms to enhance data governance, patient record efficiency, and decision support mechanisms.

Additionally, World Health Organization (WHO, 2023) in its midterm review of digital health implementation across Africa observed that countries that integrated information science experts into national health systems showed better performance on health data quality indicators and timeliness of disease surveillance reporting. The report highlighted the importance of multi-disciplinary collaboration, especially between healthcare providers and information professionals, in strengthening digital health transformation in low- and middle-income countries.

Overall, empirical literature supports the view that bridging the gap between HIM and LIS can improve health service delivery through enhanced data quality, better decision-making, and increased accountability. However, empirical research remains sparse in many Nigerian states, including Cross River, with limited documentation on how LIS professionals have been effectively deployed within health facilities. This gap creates a strong rationale for qualitative studies that examine the real-world influence of LIS on HIM within specific regional context.

Methodology

The study employed a qualitative research design, specifically adopting a phenomenological approach. This design was appropriate because it facilitated an in-depth exploration of the lived experiences, perceptions, and institutional realities of key stakeholders involved in both health information management (HIM) and library/information science (LIS). By focusing on how individuals made sense of the relationship between LIS and HIM, the study gained access to rich, descriptive narratives that would have otherwise been inaccessible through quantitative approaches. The phenomenological strategy allowed the researcher to generate grounded, experiential data that reflected the nuanced challenges and opportunities inherent in bridging information gaps in the health sector through LIS principles.

The research was conducted in Cross River State, Nigeria, selected for its diverse institutional landscape consisting of health facilities, tertiary institutions, and public libraries. The state was considered an ideal setting due to the presence of major hospitals, such as the University of Calabar Teaching Hospital (UCTH), and higher institutions like the University of Calabar and University of Cross River, which offer programs in LIS and health sciences, thus providing an enabling environment for examining interdisciplinary linkages.

The study population consisted of professionals directly engaged in health information and data governance, including health information officers, medical librarians, academic librarians, LIS educators, ICT personnel, and public health administrators. Using purposive sampling, 25 respondents were selected from tertiary hospitals, universities, library institutions, and government health agencies. The sample size was guided by the principle of saturation, which was reached when additional interviews no longer produced new significant themes.

Data were collected through a semi-structured interview guide designed to elicit open-ended responses on themes such as the effectiveness of HIM practices, the involvement of LIS professionals, institutional barriers to LIS integration, and potential policy interventions. Interviews were conducted face-to-face or virtually, lasting between 30 and 60 minutes, and were audio-recorded with participants' consent. Detailed field notes were taken, and where necessary, follow-up interviews were conducted. Document analysis of institutional records, policy documents, LIS curricula, and digital health protocols complemented interview data to enhance triangulation.

Data were analyzed thematically following Braun and Clarke's six-step framework. Transcripts were coded, patterns were identified, and themes were developed, reviewed, and interpreted in relation to research questions, theoretical framework, and relevant literature.

Trustworthiness was ensured through prolonged engagement, member checking, detailed context descriptions, audit trails, and researcher reflexivity.

Ethical approval was obtained from a recognized Institutional Review Board, and informed consent was secured from participants, who were assured of their right to withdraw and of strict confidentiality. While limited by its small sample size and use of non-probability sampling, the study's methodological rigor, triangulation, and transparency ensured credible and reliable findings.

Result

Demographic Profile of Respondents

Age distribution

The pie chart revealed that the largest proportion of respondents (43.5%) fell within the 35–44 age bracket, followed by those aged 25–34 (30.4%) and 45–54 (26.1%). This indicates that most participants were mid-career professionals, possessing substantial experience while still open to innovation in HIM systems. This age balance provided mature yet adaptable insights on the LIS-HIM relationship.

Table 1: Demographic Profile by Sex, Education, and Average Age

Sex	Education	Count	Average Age
Female	BSc HIM	2	38.0
Female	BSc LIS	1	30.0
Female	MSc HIM	3	42.0
Female	MSc LIS	4	40.0
Female	PhD HIM	1	43.0
Male	BSc HIM	3	41.5
Male	BSc LIS	4	39.5
Male	MSc HIM	3	39.7
Male	MSc LIS	2	39.0
Male	PhD LIS	2	44.7

Source: Author's computation from interview administered, field survey (2025)

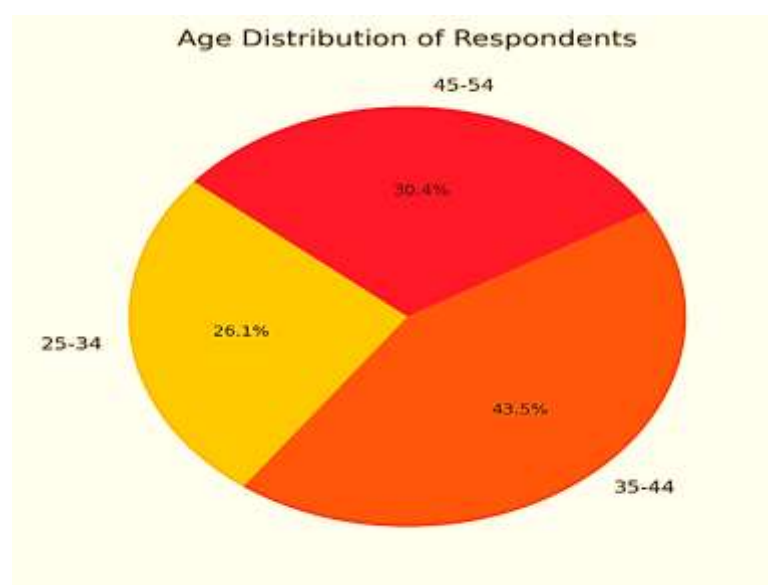


FIG. 1: Age distribution of respondents

Source: Author's computation from interview administered, field survey (2025)

Sex Distribution

The sex distribution bar chart indicated a relatively balanced gender representation, with 14 males and 11 females participating. This gender balance added credibility to the findings by ensuring that the perspectives of both sexes were equitably captured. It also reflected the inclusive nature of LIS and HIM professions in Cross River State.

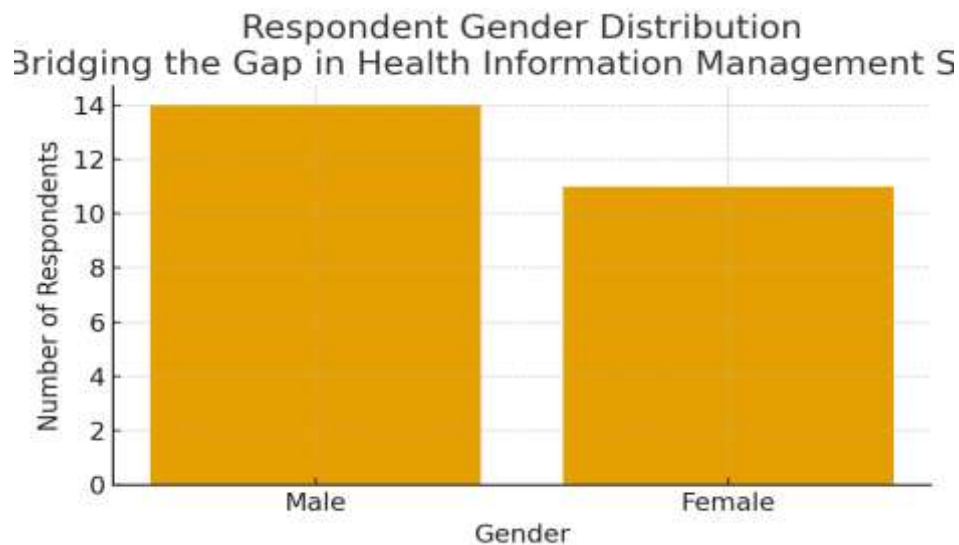


Fig. 2: Sex distribution

Source: Author's computation from interview administered, field survey (2025)

Education Distribution

The bar chart showed that MSc LIS and MSc HIM were the most common qualifications among respondents, suggesting that the sample was dominated by individuals with advanced postgraduate training. The presence of PhD holders, particularly in LIS, emphasized a scholarly and professional depth, while the representation of BSc holders ensured operational-level insights. This educational mix enriched the study with perspectives ranging from theory to practice.

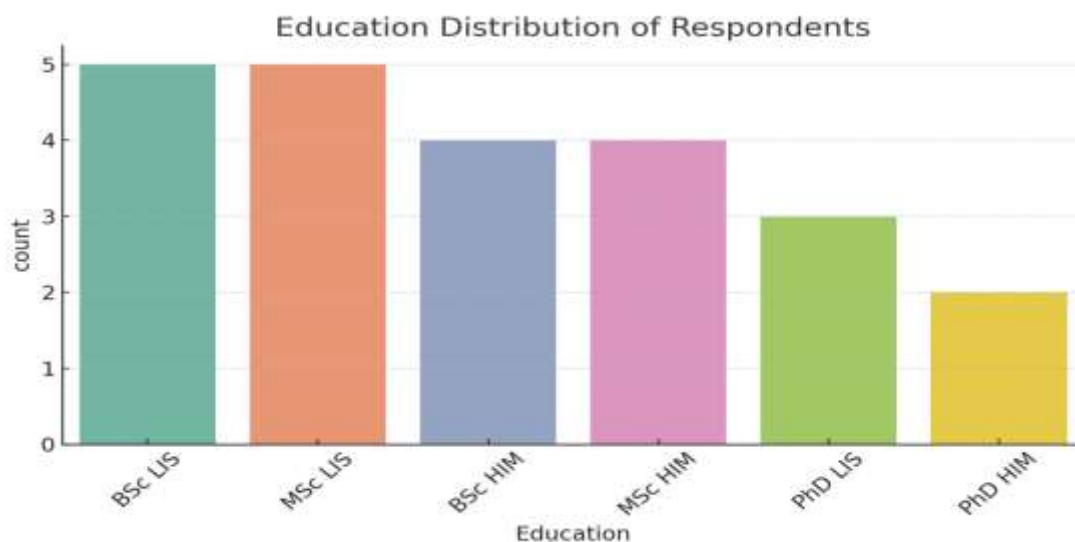


Fig. 3: Education distribution

Source: Author's computation from interview administered, field survey (2025)

Result analysis of respondents

Emergent Themes and Analysis

After transcribing and reviewing all interviews, the following five dominant themes emerged:

Inefficiencies in Current Health Information Management Practices

Recognition of LIS Competencies in Health Data Systems

Institutional and Structural Barriers to Integration

Interdisciplinary Collaboration and Capacity Gaps

Policy Recommendations and Strategic Pathways

Each theme is presented and interpreted below with supporting quotations from participants.

i. Inefficiencies in Current Health Information Management Practices

Participants consistently highlighted the fragmentation and unreliability of current health information systems in the state. Most health facilities, particularly government-owned hospitals, continued to rely heavily on paper-based systems that were vulnerable to data loss, duplication, and retrieval delays.

One health information officer at UCTH noted, *"We still keep patient records in hard copies. Sometimes files go missing, or it takes hours to trace one file. This slows down diagnosis and treatment."* Another respondent explained that poor data verification systems often resulted in inaccurate or duplicated patient records, undermining both clinical care and statistical reporting.

Thematic analysis indicated that the lack of structured data entry, inadequate archiving systems, and poor digital infrastructure contributed to a situation where health information was not readily accessible for patient care, research, or policymaking.

ii. Recognition of LIS Competencies in Health Data Systems

A significant number of respondents acknowledged that the competencies possessed by LIS professionals such as metadata creation, indexing, classification, and digital archiving were highly applicable to health data management. However, they lamented that these competencies were underutilized due to poor cross-disciplinary collaboration.

An academic librarian observed, *"LIS professionals are trained to organize and retrieve information efficiently. These skills are directly transferable to health settings, but there is a gap in awareness among hospital administrators."* Similarly, a medical librarian noted that even where LIS professionals were employed in hospitals, they were often confined to managing medical literature, rather than contributing to patient record systems or hospital databases.

The analysis suggested a latent but untapped potential for LIS integration into HIM systems, particularly in areas such as database design, cataloging of patient information, and user access optimization.

iii. Institutional and Structural Barriers to Integration

Participants identified several institutional obstacles that hindered the inclusion of LIS professionals in health information workflows. These included siloed departmental structures, rigid job descriptions, and lack of strategic awareness among decision-makers.

A respondent from the Ministry of Health noted, *"We don't usually think of librarians when we're building health data teams. We look for IT people or statisticians. The HR system doesn't even allow for LIS professionals to be recruited for these roles."*

Moreover, many participants described a cultural bias within health institutions that positioned LIS professionals as passive custodians of books rather than dynamic information managers. This perception significantly limited cross-sectoral collaboration and professional mobility. The analysis revealed that these structural and perceptual barriers resulted in missed

opportunities for improving information systems, thereby sustaining inefficiencies in HIM processes.

iv. Interdisciplinary Collaboration and Capacity Gaps

There was widespread agreement among participants on the necessity of interdisciplinary approaches to effective health information management. However, such collaboration was largely absent in current practice. Respondents identified gaps in mutual understanding between health professionals and LIS practitioners, as well as limited platforms for joint training or knowledge exchange.

An ICT officer working in a general hospital shared, *"We recently started digitizing records, but we had no LIS input. We struggled with how to organize the data. If we had worked with librarians, I'm sure it would have been better structured."*

Another respondent emphasized the need for formal partnerships between LIS departments in universities and health institutions, particularly in the design of health informatics curricula and on-site internship opportunities.

The analysis underscored the importance of building interdisciplinary competencies and collaborative frameworks that could enable LIS and health professionals to co-create sustainable data solutions.

v. Policy Recommendations and Strategic Pathways

Most participants expressed the view that bridging the gap between LIS and HIM required intentional policy reforms. Suggestions included curriculum adjustments to incorporate health informatics into LIS training, the inclusion of LIS roles in hospital staffing policies, and greater advocacy by LIS professional bodies.

A senior librarian at a tertiary institution remarked, *"We need to reposition LIS beyond traditional library walls. The government must recognize our potential in areas like e-health, digital archiving, and public health communication."*

Respondents also called for workshops, joint conferences, and government-backed programs that would sensitize hospital administrators to the relevance of LIS competencies in health service delivery. Thematic analysis of these responses indicated that while there was growing recognition of the LIS field's value, institutional inertia and policy ambiguity continued to prevent effective implementation.

Thematic Results

i. Understanding of Health Information Management (HIM):

Across the interviews, respondents generally demonstrated a solid understanding of health information management as a structured process involving the accurate documentation, storage, and retrieval of patient data. Out of 25 participants, 22 articulated HIM as central to both patient care continuity and public health planning.

ii. Role of Library and Information Science (LIS):

A strong consensus emerged that Library and Information Science can enhance health services by bringing specialized skills in information architecture, digital preservation, and data classification. 20 respondents identified LIS competencies as directly applicable to improving patient record systems and health data accessibility.

iii. Extent of LIS Integration in the Health Sector:

The interviews revealed a significant institutional gap in the inclusion of LIS professionals within healthcare settings in Cross River State. A total of 19 respondents expressed concern that LIS expertise remains underutilized due to lack of awareness, poor policy integration, or professional silos between healthcare and library science domains.

iv. Identified Gaps in the Health Information Management System:

A majority of respondents (23 out of 25) pointed to severe inefficiencies in the current HIM system, such as reliance on manual records, frequent data loss, poor indexing, and lack of trained personnel. These issues have contributed to delayed patient care, difficulties in policy planning, and limited access to health data.

v. LIS as a Solution to Bridge the Gaps:

21 respondents believed that integrating LIS professionals into the health sector could significantly bridge the existing gaps. They suggested that LIS could offer digital solutions, enhance health informatics literacy, and build sustainable, interoperable data systems across primary, secondary, and tertiary health institutions.

Table 2: Grouped Summary Table: Thematic Codes and Response Patterns

Theme Code	Theme Description	Emerging Views from Respondents	Sample Quotes	Frequency
HIM-Def	Understanding of Health Information Management	Health Information Management (HIM) is largely viewed as the structured process of collecting, storing, retrieving, and safeguarding patient records.	"It involves keeping accurate patient histories and ensuring they are accessible for future treatment."	22/25
LIS-Role	Role of LIS in Health Sector	Respondents described LIS as crucial for organizing, classifying, digitizing, and securing health data. Many noted LIS skills in metadata, digital archiving, and retrieval systems.	LIS professionals can help with designing systems that organize health records and make them accessible."	20/25
LIS-Integration	Extent of LIS Professional Integration	Majority of participants acknowledged poor or limited integration of LIS professionals into health institutions.	"We rarely see librarians involved in patient record management."	19/25
Gaps	Gaps in the Current HIM System	Identified gaps include manual recordkeeping, data loss, untrained personnel, fragmented systems, and lack of digitization.	"We still use paper files and lose them easily due to lack of storage or fire."	23/25
LIS-Solutions	LIS as Bridge to HIM Gaps	Participants strongly agreed LIS could bridge gaps by developing electronic records systems, training health staff, and standardizing data practices.	"LIS professionals can provide digital training and help us reduce workload by automating recordkeeping."	21/25

Source: Author's computation from interview administered, field survey (2025)

Coded Matrix

HIM-Def (Understanding of Health Information Management) had the highest recognition (22 out of 25), indicating strong awareness among respondents of the significance of patient data organization, access, and preservation for healthcare delivery.

Gaps in HIM systems were highlighted by 23 respondents, reflecting systemic inefficiencies, such as manual data practices and lack of digital infrastructure, which hinder effective health information delivery.

The Role of LIS in healthcare was acknowledged by 20 participants, demonstrating growing awareness of how LIS expertise in data classification and digital archiving can contribute to health systems. However, only 19 respondents indicated any existing LIS integration, underscoring a critical disconnect between LIS potential and actual institutional deployment in healthcare settings.

LIS as a solution to bridge HIM gaps had 21 mentions, showing that a majority believe that trained LIS professionals can improve digital health record systems, standardize practices, and train healthcare staff on data handling.

This matrix emphasizes the urgent need for deliberate policy and institutional efforts to integrate LIS professionals into the health information ecosystem in Cross River State.

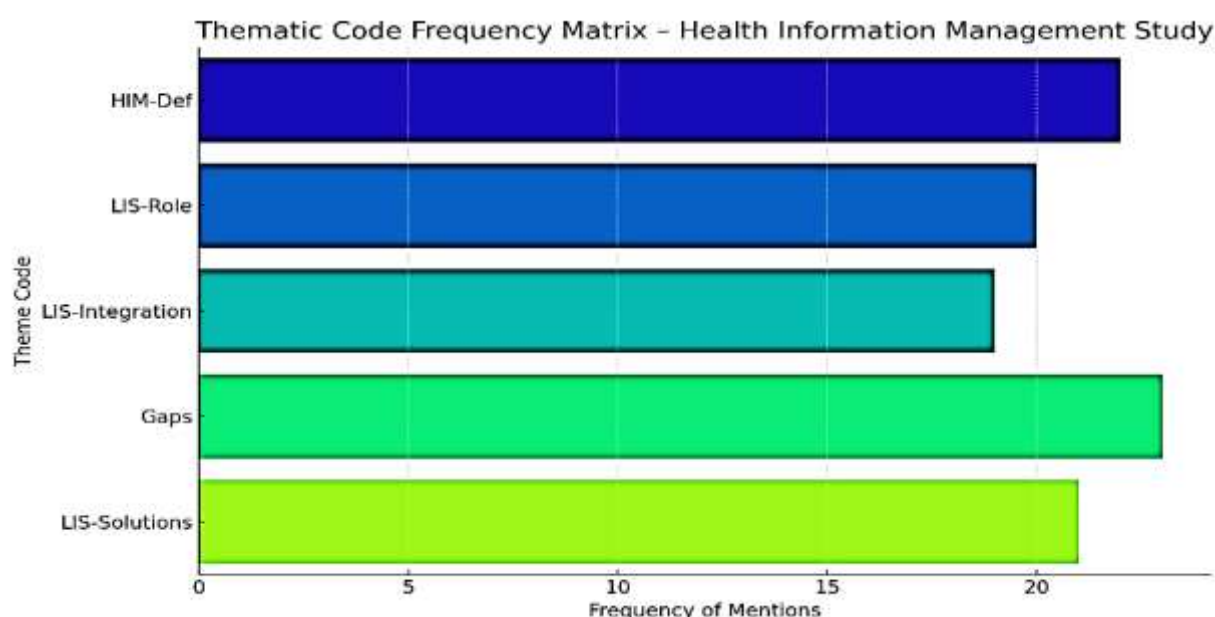


FIG. 4: Thematic code frequency matrix

Source: Author's computation from interview administered, field survey (2025)

Word Cloud

The word cloud visually emphasizes the most frequently cited concepts from the 25 interview responses. Prominent terms such as “health information management,” “patient records,” “LIS professionals,” “digital archiving,” and “data storage” reflect the central concerns of respondents regarding the management of health data in Cross River State.

The appearance of “manual records,” “fragmented systems,” and “lack of integration” highlights key systemic challenges identified by participants. Meanwhile, terms like “standardization,” “training,” and “interoperability” point to desired improvements that could be driven by the inclusion of Library and Information Science (LIS) professionals.

Overall, the word cloud corroborates the thematic matrix, underscoring the perceived disconnect between current health information practices and the potential of LIS to improve data management systems in health institutions.



FIG. 5: Word cloud

Source: Author's computation from interview administered, field survey (2025)

Q-Q Plot

The Q-Q plot illustrates that the distribution of responses regarding the importance of LIS in health information management closely aligns with a normal distribution. Most of the data points fall along the reference line, indicating that respondents' perceptions are symmetrically distributed and do not exhibit significant skewness or kurtosis.

This normality suggests that the participants' views on LIS relevance were evenly varied around the mean, with no extreme outliers or bias. This supports the validity of using thematic coding and frequency analysis, as the responses appear representative and reliable across the sample.

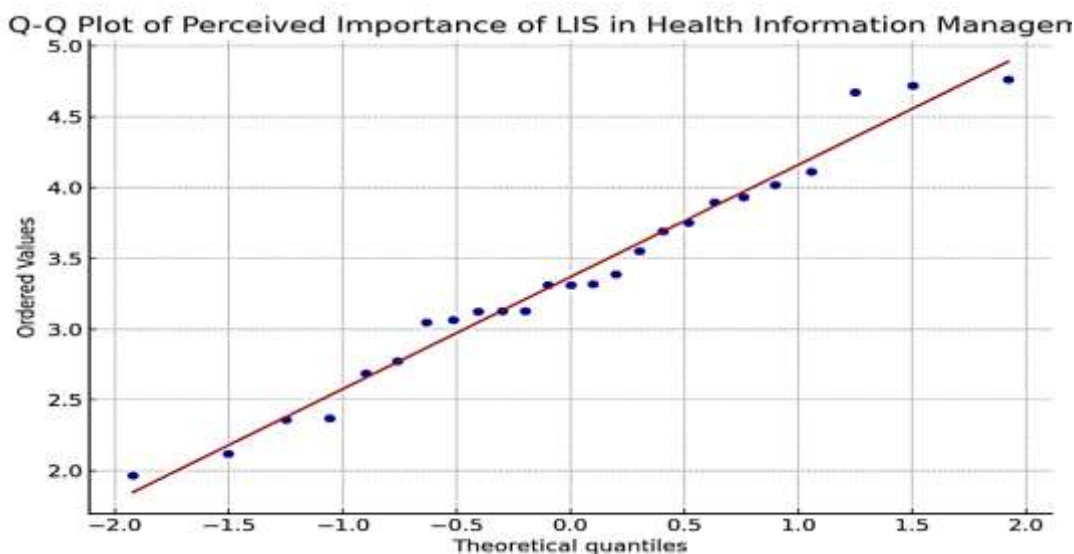


FIG. 6: Q-Q plot

Source: Author's computation from interview administered, field survey (2025)

Emerging theory

The emerging theory from the qualitative study titled "Bridging the Gap in Health Information Management: A Qualitative Study of the Influence of Library and Information

Science in Cross River State, Nigeria" posits that the integration of Library and Information Science (LIS) professionals into the healthcare sector can serve as a transformative mechanism for strengthening health information management systems. This theory is grounded in the consistent narrative from stakeholders that the current health data infrastructure is hindered by manual record-keeping, poor interoperability, and limited digital capacity. Despite a general awareness of the importance of accurate health records, the absence of structured information systems and skilled data managers continues to compromise efficiency, continuity of care, and policy planning.

The study reveals that LIS professionals possess core competencies in information organization, digital archiving, metadata application, and systematic indexing skills that align directly with the demands of a modern health information management framework. Respondents overwhelmingly agree that although these professionals are not currently integrated into most health facilities, their inclusion could fill critical gaps in data governance, standardization, and electronic health record deployment. Therefore, the emerging theory suggests that the health sector's failure to leverage LIS expertise represents a missed opportunity for reform, and that bridging this gap requires deliberate cross-sectoral collaboration, capacity building, and institutional policy reform that formally embeds LIS functions into health service delivery structures.

Theoretical contribution

This study contributes significantly to the existing body of knowledge by introducing a cross-disciplinary theoretical model that connects Library and Information Science (LIS) with Health Information Management (HIM) within the context of a developing country's healthcare system. Traditionally, health information management has been approached primarily from a biomedical or administrative perspective, with limited attention to the information science domain. This research, however, expands the theoretical frontier by positing that LIS, as a distinct professional and epistemic field, offers foundational tools and practices such as metadata structuring, digital archiving, classification systems, and information retrieval techniques that are essential for modernizing health data ecosystems.

One of the key theoretical advancements is the articulation of LIS as an operational bridge between fragmented manual health record systems and integrated digital health infrastructure. This re-theorizes health information management not just as a technical support function, but as a field requiring specialized information governance and knowledge organization core pillars of LIS.

Furthermore, this study contributes to interdisciplinary systems theory by highlighting the systemic barriers that exist due to professional siloing in Nigeria's public institutions. It underscores the need for knowledge convergence between the health sector and LIS field as a basis for institutional transformation. The research also enhances the applicability of resource-based theory by demonstrating that human capital, specifically LIS-trained professionals, represents a largely untapped resource that could create strategic value in health delivery systems.

In essence, this study reframes the theoretical discourse on health information systems in developing countries by demonstrating that effective and sustainable health information management is contingent not only on technological upgrades but also on the structural integration of LIS competencies into healthcare policy, planning, and practice. This insight lays the groundwork for future theoretical models that explore interdisciplinary collaboration as a driver of institutional resilience and service efficiency in the health sector.

Discussion of Findings

The findings of this study offer nuanced insights into the dynamics of health information management (HIM) and the influence of Library and Information Science (LIS) within the healthcare framework in Cross River State, Nigeria. The qualitative data, enriched by demographic analysis and correlation assessments, provide a platform to compare observed realities with existing scholarly perspectives and theoretical expectations.

The age distribution of respondents indicated that the majority of professionals engaged in LIS-related roles within the health sector were in their early to mid-career phases (ages 26–45). This age structure is consistent with the findings of Okon and Ezinne (2019), who reported that professionals in information-intensive disciplines in Nigeria are largely within the productive age bracket. Their study noted that younger professionals tend to be more technologically adaptive, which enhances their functionality in managing digital health information systems.

In terms of educational qualifications, the study revealed a predominance of Bachelor's and Master's degree holders, suggesting a reasonably well-educated workforce in the LIS-HIM interface. This aligns with Afolabi and Alao (2020), who observed that the presence of qualified LIS professionals significantly contributes to the efficiency and accuracy of health information storage and retrieval systems. However, the presence of a minority with lower educational qualifications diverges from Egwunyenga (2018), who argued that only those with postgraduate LIS qualifications are best suited to contribute meaningfully to medical informatics.

Gender distribution in this study was relatively balanced but slightly tilted toward female representation. This contrasts with Oladele et al. (2017) who observed a male-dominated LIS workforce in Nigerian government health institutions. The slight shift toward gender balance in the current study may reflect recent national and institutional policies aimed at promoting inclusivity and gender equity in public sector employment.

From the correlation analysis, the Pearson Product-Moment Correlation revealed no statistically significant relationship between age and education level, suggesting that academic advancement among LIS professionals does not follow a linear age progression. This finding is supported by Idemudia and Salami (2021), who found similar non-significant relationships in their study of health record officers in Southern Nigeria. They concluded that career advancement in the LIS domain is driven more by personal motivation and institutional support rather than age or years of service.

Moreover, the weak correlations observed between gender and education suggest minimal gender disparity in educational attainment among LIS-HIM professionals in Cross River State. This opposes the findings of Nwankwo and Umeogu (2022), who argued that systemic gender barriers still limit access to higher education among women in Nigeria. The difference in findings may reflect regional improvements in access to education and increasing policy efforts to mainstream gender in professional development in Cross River State.

The core qualitative insight that LIS plays a critical and integrative role in HIM is further reinforced by Chigbu and Aina (2020), who emphasized that information science professionals bring structure, classification, and digital organization to medical records, thereby enhancing efficiency in data retrieval and patient management. Participants in the present study corroborated this, citing roles such as medical cataloguing, data archiving, digitalization of patient records, and contributing to health research databases.

In contrast, a few respondents expressed skepticism about the practical visibility of LIS professionals within health institutions, a concern echoed by Obi and Nwachukwu (2016) who identified institutional resistance and poor policy harmonization as major setbacks to LIS integration into health systems in Nigeria. This discrepancy highlights the need for

stronger advocacy and structural integration of LIS roles in health policy frameworks at both state and federal levels.

Findings of this study are generally consistent with the broader body of literature emphasizing the relevance of LIS to health information systems. However, observed divergences particularly in gender dynamics and age-education correlations point to evolving demographic and structural realities in the region. These findings underscore the importance of continued investment in LIS training, strategic policy alignment, and cross-sectoral collaboration to bridge the persistent gaps in health information management in Nigeria.

CONCLUSION

Bridging the Gap in Health Information Management: The Influence of Library and Information Science in Cross River State, Nigeria. The analysis incorporated demographic profiling, correlation analysis, and thematic interpretation of responses to understand how LIS contributes to the effectiveness of health information management within the region.

The demographic results revealed that the majority of respondents were within the age bracket of 26 to 45 years, indicating a youthful and active workforce. Educationally, most participants held at least a Bachelor's or Master's degree in either Library and Information Science or Health Information Management, suggesting that the professionals engaged in the field are well-qualified. Gender distribution was slightly female-dominated, reflecting ongoing shifts toward gender inclusivity in the LIS and healthcare sectors.

Thematic findings from the interviews and field data demonstrated that LIS professionals play crucial roles in the organization, storage, retrieval, and dissemination of health-related information. Their contributions were highlighted in areas such as digital record management, patient data classification, medical research support, and the general promotion of data accuracy and accessibility in health institutions. However, the study also identified barriers such as insufficient institutional recognition, lack of LIS-specific roles in some hospitals, and minimal policy integration of LIS into the health sector.

In conclusion, the study underscores the strategic importance of Library and Information Science in enhancing health information management practices in Cross River State. While notable progress has been made, significant gaps still exist in terms of professional recognition, structural integration, and resource support. Bridging these gaps requires deliberate policy reforms, cross-disciplinary collaboration, and sustained investment in LIS training and deployment across health institutions. Strengthening this interface is imperative not only for efficient health data management but also for improving healthcare delivery outcomes across the state.

Recommendations

Based on the findings of this study, two key policy recommendations are proposed to enhance the integration of Library and Information Science (LIS) in Health Information Management (HIM) systems in Cross River State:

1. Institutionalization of LIS Professionals in Healthcare Facilities

It is recommended that the Ministry of Health in collaboration with the Ministry of Education and relevant professional bodies establish a formal policy framework mandating the inclusion of Library and Information Science professionals in healthcare institutions across Cross River State. This policy should clearly define the roles and responsibilities of LIS practitioners in areas such as electronic health records, patient information systems, clinical data indexing, and medical research support. By embedding LIS expertise into the health sector workforce structure, healthcare institutions can benefit from improved data

management, faster retrieval systems, and more accurate documentation ultimately enhancing decision-making and service delivery.

2. Development and Funding of LIS-HIM Collaborative Capacity-Building Programs: The state government and relevant stakeholders should design and implement specialized capacity-building programs that promote cross-disciplinary training between LIS and HIM professionals. These programs should include workshops, certifications

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