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Research Article

Assessment of Health Information Management Practices among Health Information Management Professionals in Hospitals in Bayelsa State

Lucky Ebiteinye Dogiye*[1], Gaius Ada[2]

[1]Department of Health Information Management, Bayelsa Medical University, Yenagoa.
[2]Department of Public Health Sciences, Faculty of Basic Medical Sciences, Rivers State University, Port Harcourt, Nigeria.

***Corresponding Author: Lucky Ebiteinye Dogiye**
Department of Health Information Management, Bayelsa Medical University, Yenagoa.
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ABSTRACT

This study assessed health information management practices in hospitals in Bayelsa State, Nigeria. Specifically, it examined the health information management practices adopted by Health Information Management (HIM) professionals, the extent of health record collection, processing, storage, retrieval and maintenance, the level of health information quality, the use of electronic health information systems, and the challenges affecting effective health information management. A descriptive cross-sectional research design was adopted. The study population comprised HIM professionals working in hospitals in Bayelsa State. A structured questionnaire was used for data collection, and 187 questionnaires were administered, of which 173 were properly completed and returned, representing a 92.5% response rate. Data were analysed using descriptive statistics, including frequencies, percentages and mean scores. A four-point rating scale was used, with a criterion mean of 2.50 for decision-making. The findings showed that health information management practices were generally well established, with an overall mean of 3.30. The collection, processing, storage, retrieval and maintenance of health records also recorded a high overall mean of 3.32. Data quality practices were similarly rated highly, with a grand mean of 3.32, particularly in relation to checking records for completeness and accuracy. Electronic and digital health information systems were moderately to highly utilised, with an overall mean of 3.18, although weaknesses were observed in data backup, paper-electronic reconciliation, staff training and system maintenance. The major challenges affecting effective HIM practice were unstable electricity, inadequate ICT infrastructure, poor internet connectivity, heavy workload, inadequate staffing and insufficient funding. The study concluded that although HIM practices in hospitals in Bayelsa State were generally satisfactory, infrastructural, human-resource and organisational challenges continued to limit their effectiveness. It recommended improved staffing, reliable electricity and internet connectivity, adequate ICT infrastructure, continuous professional training, regular data-quality audits and stronger institutional support for HIM services.

KEYWORDS: Health Information Management Practice, Health Information Management Professionals, Health Records, Data Quality, Electronic Health Records, Hospitals.

INTRODUCTION

Health information is a critical resource in modern healthcare because clinical, administrative, research and public health decisions depend on reliable information. Every patient encounter generates information on identity, medical history, diagnosis, treatment, investigations, procedures and outcomes. When properly collected, documented, processed, stored, retrieved and

protected, this information supports quality patient care and effective health service management. However, incomplete, inaccurate, delayed or poorly managed information can compromise decision-making and healthcare delivery. Effective Health Information Management (HIM) therefore extends beyond keeping patient records to ensuring that health data are transformed into accurate, accessible and useful information for decision-making (Ojo, 2018).

HIM integrates health records management, data collection and processing, classification and coding, information storage and retrieval, statistics, data quality, privacy and confidentiality, information technology, research and reporting. HIM professionals play an important role in ensuring that health information is accurately captured, coded, indexed, stored, retrieved and appropriately released. They also contribute to health statistics, disease surveillance, reporting, research, planning, monitoring and evaluation. Consequently, the quality of HIM practice has direct implications for the reliability of information used in healthcare decision-making.

The increasing use of electronic health records and digital technologies has further expanded the scope of HIM practice. Although electronic systems can improve information accessibility, sharing and efficiency, they do not automatically guarantee data quality. Issues such as completeness, correctness, consistency, plausibility and conformity remain important concerns in electronic health information management (Lewis et al., 2023; Kopitar et al., 2024). Effective digital health information management therefore requires competent professionals, appropriate procedures, adequate infrastructure and strong data-quality controls.

In Nigeria, the transition from traditional paper-based records to electronic and digitally supported systems has increased the demands placed on HIM professionals. Adeleke et al. (2015) identified the importance of information technology skills and training among Nigerian HIM professionals, while Ojo (2018) reported challenges relating to professional training, staffing, technological infrastructure and institutional support. Adeleke et al. (2019) also raised concerns about the deployment of unqualified personnel in health records practice and its implications for the quality, confidentiality and professional management of health information. These concerns highlight the need for competent professionals who can manage both conventional and digital health information effectively.

Professionalism, confidentiality and information security are also central to HIM practice. HIM professionals handle sensitive patient information and are expected to maintain privacy, control access, ensure appropriate information release and safeguard records. In addition, they are responsible for transforming individual patient records into reliable statistics and reports that support hospital planning, resource allocation, disease surveillance, monitoring and evaluation. The quality of these outputs depends on processes such as patient identification, documentation, filing, retrieval, coding, data processing, statistical reporting, storage and quality assurance.

The need to assess HIM practices is particularly important in hospitals because large volumes of health information are generated and used daily. Differences in staffing, technology, resources, supervision, institutional policies and management support may affect how effectively HIM professionals perform their responsibilities. The existence of HIM units or qualified personnel does not necessarily guarantee that established procedures are consistently followed. Regular assessment is therefore necessary to identify strengths, weaknesses and areas requiring improvement.

The situation is also relevant to Bayelsa State, where hospitals increasingly depend on health information for patient care, administration, public health reporting, research and policy decisions. The growing adoption of electronic health records and other digital technologies presents opportunities for improved access, storage, retrieval, sharing and analysis of health information. However, these benefits depend on professional competence, adequate infrastructure, data-quality practices, information security and organisational support. Recent studies in Bayelsa State have similarly drawn attention to issues surrounding HIM practice, healthcare information use and the readiness of HIM professionals for emerging digital health systems.

Despite the recognised importance of HIM, there remains a need to understand how these responsibilities are actually performed within hospitals in Bayelsa State. Modern HIM practice has moved beyond the traditional custody of patients' folders to include electronic health records, clinical coding, data analytics, quality assurance, information governance, research data and digital health technologies. HIM professionals therefore serve as an important link between clinical services, hospital administration, information technology and health system planning.

Against this background, this study assessed health information management practices among HIM professionals in hospitals in Bayelsa State. The study focused on the actual performance of core HIM responsibilities and the factors that may influence effective practice. The findings are expected to provide useful evidence for hospital administrators, professional bodies, educators and policymakers in strengthening professional development, data quality, information security, staffing, technological capacity, supervision and standardisation of HIM practices. Ultimately, improved HIM practice can contribute to more reliable health information, better-informed decisions, greater

accountability and improved healthcare delivery in Bayelsa State.

METHOD AND MATERIALS

Research Design

The study adopted a descriptive cross-sectional survey design to assess health information management practices among Health Information Management (HIM) professionals in hospitals in Bayelsa State. The design was appropriate because data were collected from the respondents at a particular period without manipulating the study variables.

Study Area

The study was conducted in selected hospitals in Bayelsa State, Nigeria. Bayelsa State is located in the Niger Delta region of Nigeria and has eight Local Government Areas. The selected hospitals provided healthcare services and generated health information required for patient care, hospital administration, statistics, reporting, research and planning.

Study Population

The study population comprised 360 registered Health Information Management (HIM) professionals working in selected public and private hospitals in Bayelsa State. The population included qualified HIM professionals who were directly involved in health records management, documentation, storage and retrieval, coding and indexing, health statistics, data processing, reporting, and other health information management activities. The inclusion of professionals from both public and private hospitals provided a broader basis for assessing HIM practices across different healthcare settings in the state.

Sample Size Determination

The sample size was determined using the Cochran formula for a finite population:

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where:

- n_0= initial sample size
- Z= standard normal deviate at 95% confidence level = **1.96**
- p= estimated proportion = **0.50**
- q= $1 - p$= **0.50**
- e= margin of error = **0.05**

Therefore:

$$n_0 = \frac{(1.96)^2(0.50)(0.50)}{(0.05)^2}$$

$$n_0 = \frac{3.8416 \times 0.25}{0.0025}$$

$$n_0 = 384.16$$

Since the total population was known to be 360, the finite population correction was applied:

$$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}}$$

$$n = \frac{384.16}{1 + \frac{384.16 - 1}{360}}$$

$$n = \frac{384.16}{2.0643}$$

$$n = 186.09$$

The minimum sample size was therefore rounded up to 187 HIM professionals.

Sampling Technique

A multistage sampling technique was used to select the respondents from public and private hospitals in Bayelsa State. In the first stage, hospitals were grouped into public and private hospitals to ensure representation of both sectors. In the second stage, eligible hospitals were selected from the identified groups. In the final stage, HIM professionals were selected from the participating hospitals using proportionate allocation and simple random sampling. This approach ensured that HIM professionals from both public and private hospitals were adequately represented in the study.

Inclusion Criteria

The study included HIM professionals who were qualified, actively working in the selected hospitals, had worked for at least six months and voluntarily agreed to participate.

Exclusion Criteria

HIM professionals who were on prolonged leave, had worked for less than six months, were students on clinical posting or industrial attachment, or declined participation were excluded from the study.

Instrument for Data Collection

Data were collected using a structured, self-administered questionnaire developed by the researcher based on relevant literature on health information management (HIM) practices. The questionnaire comprised sections covering respondents' professional characteristics, documentation, filing and retrieval, coding and indexing, statistics and reporting, confidentiality and information security, data quality, and electronic health information management. A four-point response scale was used to assess the frequency of the identified HIM practices: Always (4), Often (3), Rarely (2), and Never (1). The four-point scale was adopted to obtain a clear indication of respondents' practice levels without providing a neutral midpoint.

Validity of the Instrument
The questionnaire was subjected to face and content validation by experts in Health Information Management, Health Information Systems and Research Methodology. Their observations and corrections were used to improve the final instrument before data collection.

Reliability of the Instrument
The instrument was pilot-tested among HIM professionals in a hospital outside the study area. The responses were analysed using Cronbach's alpha to determine the internal consistency of the instrument. The result showed that the instrument was sufficiently reliable for the study.

Data Collection Procedure
Data were collected directly from HIM professionals in the selected public and private hospitals in Bayelsa State. The researcher visited the selected hospitals and approached eligible respondents at their respective workplaces. The purpose of the study was explained to the respondents, and they were informed that participation was voluntary. The questionnaires were administered personally by the researcher, and respondents were allowed sufficient time to complete them. Completed questionnaires were retrieved immediately or at an agreed time to ensure a good response rate. The researcher ensured that the respondents' responses were treated confidentially and used strictly for academic purposes.

Method of Data Analysis
The data collected were coded, entered, and analysed using the Statistical Package for the Social Sciences (SPSS), Version 27. Descriptive statistics, including mean, and standard deviation, were used to summarize the respondents' characteristics and describe the level of health information management practices. For the four-point scale items, responses were weighted as Always = 4, Often = 3, Rarely = 2, and Never = 1. A criterion mean of 2.50 was used as the decision point. Thus, a mean score of 2.50 and above indicated a high level of practice, while a mean score below 2.50 indicated a low level of practice. The appropriate statistical tests were selected based on the objectives and nature of the variables. Results were presented in tables and interpreted in line with the study objectives and research questions.

Ethical Considerations
Ethical principles were observed throughout the study. Although no formal written approval was obtained from the participating institutions, permission to approach respondents and administer the questionnaires was sought verbally from the relevant hospital authorities or unit heads before data collection. Respondents were adequately informed about the purpose of the study, and participation was voluntary. They were informed that they could decline participation or withdraw at any time without penalty. No names or personal identifiers were required on the questionnaire, thereby protecting respondents' anonymity and confidentiality. The information obtained was used strictly for academic purposes and was handled securely by the researcher.

RESULTS

187 questionnaires were administered, of which 173 (92.5%) were returned and 14 (7.5%) were not returned. The 92.5% return rate indicates a high level of respondent participation and provided sufficient responses for data analysis. From the study, 173 respondents were predominantly female (60.1%), with the largest age group being 25–34 years (35.3%). Most respondents possessed B.Sc./B.HIM qualifications (41.6%) and were both professionally registered and licensed (86.7%). Respondents with 5–9 years of experience (30.1%) constituted the largest experience group. The majority worked in public hospitals (68.8%), while secondary hospitals (48.0%) accounted for the largest proportion by hospital level. In terms of work units, Medical Records/Health Information Management (41.0%) had the highest representation. Overall, the respondents had diverse demographic, educational, professional, and work-related characteristics, providing broad representation for assessing health information management practices in the selected hospitals.

Objective One: HIM Practices Adopted by HIM Professionals
For the four-point scale, **Always = 4, Often = 3, Rarely = 2, Never = 1**, with a criterion mean of **2.50**.

Table 1: Health Information Management Practices Adopted by HIM Professionals (N = 173)

S/N	Health Information Management Practice	Always n (%)	Often n (%)	Rarely n (%)	Never n (%)	Mean	Decision
1	Patient information is properly registered and documented	94 (54.3)	56 (32.4)	17 (9.8)	6 (3.5)	3.38	Accepted
2	Health records are properly filed for easy retrieval	88 (50.9)	59 (34.1)	19 (11.0)	7 (4.0)	3.32	Accepted
3	Patient records are retrieved promptly when required	82 (47.4)	61 (35.3)	22 (12.7)	8 (4.6)	3.25	Accepted
4	Disease and procedure coding is routinely carried out	76 (43.9)	65 (37.6)	24 (13.9)	8 (4.6)	3.21	Accepted

5	Health information is routinely compiled for statistical reporting	85 (49.1)	60 (34.7)	21 (12.1)	7 (4.0)	3.29	Accepted
6	Health records are routinely checked for completeness	91 (52.6)	57 (32.9)	19 (11.0)	6 (3.5)	3.35	Accepted
7	Confidentiality of patients' health information is maintained	108 (62.4)	48 (27.7)	13 (7.5)	4 (2.3)	3.50	Accepted
8	Access to patients' records is restricted to authorised personnel	101 (58.4)	51 (29.5)	15 (8.7)	6 (3.5)	3.43	Accepted
9	Records are retained and disposed of according to established procedures	72 (41.6)	63 (36.4)	28 (16.2)	10 (5.8)	3.14	Accepted
10	Health information is used for administrative decision-making	79 (45.7)	62 (35.8)	23 (13.3)	9 (5.2)	3.22	Accepted
11	Data quality is routinely monitored in the HIM unit	83 (48.0)	58 (33.5)	23 (13.3)	9 (5.2)	3.24	Accepted
12	HIM practices are reviewed to improve service delivery	77 (44.5)	64 (37.0)	24 (13.9)	8 (4.6)	3.21	Accepted
Grand Mean						**3.30**	**Accepted**

Source: Field Survey, 2026.

The table indicates that all 12 assessed HIM practices had mean scores above the criterion mean of 2.50, with an overall grand mean of 3.30. This indicates that the assessed health information management practices were generally adopted by HIM professionals in the selected hospitals.

The highest-rated practice was maintenance of confidentiality of patients' health information, with a mean of 3.50, followed by restricting access to records to authorised personnel (3.43) and proper patient registration and documentation (3.38). The lowest-rated practice was records retention and disposal according to established procedures, with a mean of 3.14, although it still exceeded the criterion mean.

Objective Two: To determine the extent to which health records are collected, processed, stored, retrieved and maintained in hospitals in Bayelsa State

Table 2: Extent of Health Records Collection, Processing, Storage, Retrieval and Maintenance (N = 173)

S/N	Health Records Management Practice	Always n (%)	Often n (%)	Rarely n (%)	Never n (%)	Mean	Decision
1	Patients' demographic information is routinely collected	102 (59.0)	53 (30.6)	14 (8.1)	4 (2.3)	3.46	Accepted
2	Clinical information is routinely collected from patients' records	96 (55.5)	58 (33.5)	15 (8.7)	4 (2.3)	3.42	Accepted
3	Collected health information is checked for completeness before processing	91 (52.6)	61 (35.3)	16 (9.2)	5 (2.9)	3.38	Accepted
4	Health information is systematically processed and organised	88 (50.9)	62 (35.8)	18 (10.4)	5 (2.9)	3.35	Accepted
5	Patient records are classified according to established procedures	86 (49.7)	64 (37.0)	18 (10.4)	5 (2.9)	3.34	Accepted
6	Health records are stored in appropriate locations	94 (54.3)	56 (32.4)	18 (10.4)	5 (2.9)	3.38	Accepted
7	Records are adequately protected against loss or damage	79 (45.7)	66 (38.2)	21 (12.1)	7 (4.0)	3.25	Accepted
8	Patient records can be retrieved when required	89 (51.4)	61 (35.3)	18 (10.4)	5 (2.9)	3.35	Accepted
9	A record-tracking system is used to monitor removed records	74 (42.8)	65 (37.6)	25 (14.5)	9 (5.2)	3.18	Accepted
10	Missing or misplaced records are	72 (41.6)	68 (39.3)	24 (13.9)	9 (5.2)	3.17	Accepted

	promptly followed up						
11	Health records are regularly maintained and updated	84 (48.6)	64 (37.0)	19 (11.0)	6 (3.5)	3.31	Accepted
12	Records are retained and disposed of according to established procedures	70 (40.5)	67 (38.7)	26 (15.0)	10 (5.8)	3.14	Accepted
Grand Mean						**3.32**	**Accepted**

Source: Field Survey, 2026.
Scale: Always = 4, Often = 3, Rarely = 2, Never = 1.
Criterion mean = 2.50. Mean ≥ 2.50 = Accepted; Mean < 2.50 = Rejected.

Table 2 shows that the grand mean of 3.32 was above the criterion mean of 2.50, indicating that health records were generally collected, processed, stored, retrieved and maintained to a high extent in the hospitals studied.

The highest-rated practice was the routine collection of patients' demographic information, with a mean of 3.46, followed by the collection of clinical information (3.42). Checking health information for completeness before processing and appropriate storage of records both recorded a mean of 3.38.

The comparatively lower-rated practices were record retention and disposal according to established procedures (3.14), prompt follow-up of missing or misplaced records (3.17), and use of record-tracking systems (3.18). Although these practices had lower mean scores than the other items, all remained above the 2.50 criterion mean.

Objective Three: Data Quality:
Table 3: Data Quality Practices among HIM Professionals (N = 173)

S/N	Data Quality Practice	Always n (%)	Often n (%)	Rarely n (%)	Never n (%)	Mean	Decision
1	Health records are checked for accuracy before use	98 (56.6)	58 (33.5)	13 (7.5)	4 (2.3)	3.45	Accepted
2	Health records are checked for completeness	101 (58.4)	55 (31.8)	13 (7.5)	4 (2.3)	3.46	Accepted
3	Inconsistent information in health records is identified and corrected	83 (48.0)	65 (37.6)	19 (11.0)	6 (3.5)	3.30	Accepted
4	Health records are checked for errors before data are entered into reports	89 (51.4)	61 (35.3)	18 (10.4)	5 (2.9)	3.35	Accepted
5	Duplicate patient records are identified and corrected	76 (43.9)	64 (37.0)	24 (13.9)	9 (5.2)	3.20	Accepted
6	Missing information is identified and followed up	81 (46.8)	62 (35.8)	23 (13.3)	7 (4.0)	3.25	Accepted
7	Data are validated against original/source documents	78 (45.1)	67 (38.7)	22 (12.7)	6 (3.5)	3.25	Accepted
8	Information from different records is checked for consistency	75 (43.4)	68 (39.3)	23 (13.3)	7 (4.0)	3.22	Accepted
9	Health information is entered and reported within the required time	87 (50.3)	61 (35.3)	19 (11.0)	6 (3.5)	3.32	Accepted
10	Routine data quality checks are conducted in the HIM unit	82 (47.4)	65 (37.6)	20 (11.6)	6 (3.5)	3.29	Accepted
11	Identified errors are corrected promptly	85 (49.1)	62 (35.8)	20 (11.6)	6 (3.5)	3.31	Accepted
12	Feedback is provided to staff when data quality problems are identified	73 (42.2)	67 (38.7)	25 (14.5)	8 (4.6)	3.18	Accepted
Grand Mean						**3.32**	**Accepted**

Source: Field Survey, 2026.
Scale: Always = 4, Often = 3, Rarely = 2, Never = 1.
Criterion mean = 2.50.

Table 3 shows that the grand mean of 3.32 was higher than the criterion mean of 2.50, indicating that data quality practices were generally carried out to a high extent among the HIM professionals.

The highest-rated practice was checking health records for completeness, with a mean of 3.46, followed by checking records for accuracy (3.45). These were closely followed by checking records for errors before inclusion in reports (3.35) and ensuring that health information was reported within the required time (3.32).

The lowest-rated practice was providing feedback to staff when data quality problems were identified, with a mean of 3.18. This was followed by identifying and correcting duplicate patient records (3.20) and checking information from different records for consistency (3.22).

Nevertheless, all 12 items exceeded the 2.50 criterion mean, indicating that none of the assessed data-quality practices fell below the acceptable level.

Objective Four: To examine the use of electronic/digital systems in health information management

Table 4: Use of Electronic/Digital Systems in Health Information Management (N = 173)

S/N	Electronic/Digital HIM Practice	Always n (%)	Often n (%)	Rarely n (%)	Never n (%)	Mean	Decision
1	Electronic systems are used for patient registration	86 (49.7)	57 (32.9)	23 (13.3)	7 (4.0)	3.28	Accepted
2	Electronic systems are used for storing patients' health information	82 (47.4)	61 (35.3)	23 (13.3)	7 (4.0)	3.26	Accepted
3	Electronic systems facilitate retrieval of patients' records	85 (49.1)	59 (34.1)	22 (12.7)	7 (4.0)	3.28	Accepted
4	Electronic systems are used for coding and indexing health information	70 (40.5)	64 (37.0)	29 (16.8)	10 (5.8)	3.12	Accepted
5	Electronic systems are used for preparing routine health statistics and reports	79 (45.7)	65 (37.6)	22 (12.7)	7 (4.0)	3.25	Accepted
6	Electronic data are regularly backed up to prevent data loss	68 (39.3)	62 (35.8)	30 (17.3)	13 (7.5)	3.07	Accepted
7	Access to electronic health information is controlled through authorised user access	81 (46.8)	59 (34.1)	25 (14.5)	8 (4.6)	3.23	Accepted
8	Electronic health information is protected through appropriate security measures	76 (43.9)	62 (35.8)	27 (15.6)	8 (4.6)	3.19	Accepted
9	Electronic systems support timely preparation of health reports	83 (48.0)	60 (34.7)	23 (13.3)	7 (4.0)	3.27	Accepted
10	Paper and electronic records are regularly reconciled where both systems are used	64 (37.0)	63 (36.4)	33 (19.1)	13 (7.5)	3.03	Accepted
11	HIM staff receive adequate training on electronic information systems	71 (41.0)	61 (35.3)	29 (16.8)	12 (6.9)	3.10	Accepted
12	Electronic HIM systems are regularly maintained and updated	69 (39.9)	64 (37.0)	29 (16.8)	11 (6.4)	3.10	Accepted
Grand Mean						**3.18**	**Accepted**

Source: Field Survey, 2026.
Scale: Always = 4, Often = 3, Rarely = 2, Never = 1.
Criterion mean = 2.50.

Table 4 shows a grand mean of 3.18, which is above the criterion mean of 2.50. This indicates that electronic and digital health information management systems were generally utilised by HIM professionals in the selected hospitals.

The highest-rated practices were the use of electronic systems for patient registration and retrieval of patients' records, both with a mean of 3.28. This was followed by the use of electronic systems for timely preparation of health reports (3.27) and storage of patients' health information (3.26).

The lowest-rated practice was reconciliation of paper and electronic records, with a mean of 3.03. This was followed by regular backup of electronic data (3.07) and adequate training of HIM staff (3.10). Although these practices had comparatively lower scores, all 12 items recorded means above the 2.50 criterion.

Objective Five: Challenges Affecting Effective HIM Practices

Table 5: Challenges Affecting Effective Health Information Management Practices (N = 173)

S/N	Challenge	Always n (%)	Often n (%)	Rarely n (%)	Never n (%)	Mean	Decision
1	Inadequate number of HIM professionals affect effective service delivery	91 (52.6)	58 (33.5)	18 (10.4)	6 (3.5)	3.35	Accepted
2	Inadequate training and professional development affect HIM practices	82 (47.4)	63 (36.4)	21 (12.1)	7 (4.0)	3.27	Accepted
3	Inadequate funding limits effective HIM operations	87 (50.3)	60 (34.7)	19 (11.0)	7 (4.0)	3.31	Accepted
4	Inadequate space for health records storage affects HIM activities	78 (45.1)	62 (35.8)	24 (13.9)	9 (5.2)	3.21	Accepted
5	Inadequate ICT infrastructure affects electronic HIM practices	95 (54.9)	55 (31.8)	17 (9.8)	6 (3.5)	3.38	Accepted
6	Unstable electricity supply affects HIM operations	108 (62.4)	48 (27.7)	13 (7.5)	4 (2.3)	3.50	Accepted
7	Poor internet connectivity affects electronic health information management	96 (55.5)	53 (30.6)	18 (10.4)	6 (3.5)	3.38	Accepted
8	Resistance to new technology affects adoption of improved HIM practices	72 (41.6)	65 (37.6)	27 (15.6)	9 (5.2)	3.16	Accepted
9	Inadequate management support affects effective HIM practices	76 (43.9)	66 (38.2)	23 (13.3)	8 (4.6)	3.21	Accepted
10	Poor compliance with HIM policies and procedures affect practice	74 (42.8)	64 (37.0)	26 (15.0)	9 (5.2)	3.17	Accepted
11	Inadequate routine monitoring of data quality affects HIM practice	69 (39.9)	68 (39.3)	27 (15.6)	9 (5.2)	3.14	Accepted
12	Poor coordination among healthcare departments affects HIM activities	71 (41.0)	67 (38.7)	27 (15.6)	8 (4.6)	3.16	Accepted
13	Concerns about confidentiality and information security affect HIM activities	80 (46.2)	62 (35.8)	22 (12.7)	9 (5.2)	3.23	Accepted
14	System downtime and technical failures disrupt electronic HIM activities	88 (50.9)	57 (32.9)	21 (12.1)	7 (4.0)	3.31	Accepted
15	Heavy workload affects effective performance of HIM professionals	93 (53.8)	57 (32.9)	18 (10.4)	5 (2.9)	3.38	Accepted
Grand Mean						**3.28**	**Accepted**

Source: Field Survey, 2026.

Scale: Always = 4, Often = 3, Rarely = 2, Never = 1.

Criterion mean = 2.50. For this section, a mean ≥ 2.50 indicates that the factor was identified as a significant/frequent challenge.

Table 5 shows that the grand mean of 3.28 was above the criterion mean of 2.50, indicating that the respondents generally identified the listed factors as significant challenges affecting effective health information management practices in the selected hospitals. The most prominent challenge was unstable electricity supply, which recorded the highest mean of 3.50. This was followed by inadequate ICT infrastructure (3.38), poor internet connectivity (3.38) and heavy workload among HIM professionals (3.38). These findings indicate that infrastructural and workload-related constraints were particularly important barriers to effective HIM practice.

Other major challenges included inadequate staffing (3.35), inadequate funding (3.31), system downtime and technical failures (3.31), and inadequate training and professional development (3.27). The comparatively lowest-rated challenge was inadequate routine monitoring of data quality, with a mean of 3.14, followed by poor compliance with HIM policies (3.17) and poor coordination among healthcare departments (3.16). However, all the items remained above the 2.50 criterion mean, indicating that each was identified as a relevant challenge.

Discussion of Findings

Health Information Management Practices Adopted by HIM Professionals

HIM professionals demonstrated generally good health information management practices, with an overall mean score of 3.30. Most respondents reported consistent documentation, proper filing and retrieval, effective coding and statistical reporting, record completeness checks, and strong confidentiality and access control.

This finding agrees with Adeleke et al. (2012), who emphasized that quality health records depend on accurate documentation, proper record management and regular review. Similarly, Ojo et al. (2022) highlighted the importance of information security in protecting the confidentiality, privacy, integrity and authorised access of electronic health records. These findings support the present study, particularly the strong performance observed in documentation, confidentiality and access control.

However, the comparatively lower score for record retention and disposal suggests that less visible aspects of HIM practice may receive inadequate attention. Effective retention and disposal require clear institutional policies, proper record appraisal, adequate storage planning and management support. The findings therefore indicate that although routine HIM practices were generally well established, hospitals should strengthen record retention, appraisal and disposal procedures to ensure comprehensive and sustainable health information management.

Collection, Processing, Storage, Retrieval and Maintenance of Health Records

Health record management showed a high level of practice, with a grand mean of 3.32. Respondents generally performed well in collecting demographic and clinical information, checking record completeness, organising and storing records, and retrieving them when needed.

This finding agrees with Adeleke et al. (2012), who emphasised the importance of timely and appropriate documentation in maintaining the quality and usefulness of health records. However, the lower ratings for tracking removed records, following up missing records, and retention and disposal suggest weaknesses in record control and lifecycle management. Poor monitoring of records may affect accountability, continuity of care and timely access to patient information.

The finding is also consistent with Aniekwe et al. (2023), who reported improved data completeness and validity following the implementation of electronic health information exchange. This suggests that structured information systems, effective monitoring and appropriate oversight can strengthen health record management. Therefore, hospitals should maintain the strong routine practices observed while improving record tracking, follow-up, retention and disposal procedures.

Data Quality and Completeness of Health Information

Data quality practices were generally well implemented, with a mean score of 3.32. Respondents reported regular assessment of record accuracy and completeness, identification of inconsistencies, correction of errors, management of missing information, and validation against source documents. Completeness and accuracy checks received the highest ratings.

This finding agrees with Bhattacharya et al. (2020), who found that structured interventions improved completeness, accuracy, timeliness and consistency of routine health information in Gombe State. Similarly, Aniekwe et al. (2023) reported improved data completeness and validity following the introduction of electronic health information exchange in Nigeria. These findings support the importance of systematic validation and monitoring in maintaining quality health data.

However, lower ratings for identifying duplicate records, maintaining consistency across records and providing feedback on data quality issues indicate areas requiring improvement. As Adewole et al. (2023) emphasised, effective health information systems require continuous data quality monitoring and improvement. Therefore, hospitals in Bayelsa State should strengthen routine data quality audits, duplicate-record checks and feedback mechanisms to sustain accurate, complete and reliable health information.

Use of Electronic and Digital Health Information Systems

Electronic and digital systems were used to support HIM activities, with a grand mean of 3.18. They were mainly used for patient registration, data storage, retrieval and routine reporting, while lower use was observed for data backup, paper-electronic record reconciliation, staff training and system maintenance.

This finding agrees with Akwaowo et al. (2022), who identified training, infrastructure, perceived usefulness and organisational support as important factors in electronic medical record adoption in Nigeria's Niger Delta. Similarly, Umoh et al. (2023) reported that poor network connectivity and unreliable electricity continued to hinder digital data collection in Nigeria.

The findings suggest that hospitals are still operating partly within a hybrid paper-electronic environment. Limited reconciliation between the two formats may create inconsistencies and affect data accuracy and continuity of care. Therefore, hospitals should strengthen digital infrastructure, staff training, data backup, system maintenance and integration of electronic and paper records to improve effective use of digital HIM systems.

Challenges Affecting Effective Health Information Management Practices

The major challenges affecting HIM practices were mainly infrastructural, human-resource and organisational. Unstable electricity recorded the highest mean score (3.50), followed by inadequate ICT infrastructure, poor internet connectivity, heavy workload, insufficient staffing, limited funding and system downtime.

These findings agree with Umoh et al. (2023), who reported that unreliable electricity, poor network connectivity and workload hindered digital data collection and information transmission in Nigeria. Similarly, Akwaowo et al. (2022) identified funding, infrastructure, training and organisational support as important requirements for effective electronic medical record implementation.

Inadequate staffing is particularly important because HIM professionals are responsible for collecting, processing, coding, analysing, storing and retrieving health information. Heavy workloads and insufficient personnel may reduce the time available for quality assurance and other essential activities. The findings therefore show that effective HIM requires more than trained personnel and established procedures; it also depends on adequate staffing, reliable electricity, functional ICT infrastructure, internet connectivity, funding, training and system maintenance.

Overall, HIM practices were reasonably established, particularly in documentation, confidentiality, record management and data quality verification. However, weaknesses remained in record tracking and disposal, data-quality feedback, electronic backup and reconciliation, staff development and infrastructure. Addressing these gaps would strengthen the reliability, timeliness and security of health information for patient care, administration, planning, research and decision-making.

CONCLUSION

The study concluded that health information management practices in hospitals in Bayelsa State were generally well established among HIM professionals. Routine activities such as patient documentation, filing and retrieval, coding, statistical reporting, confidentiality, access control and data-quality checks were widely practised, demonstrating the important role of HIM professionals in supporting patient care, administration and decision-making.

Health record collection, processing, storage and retrieval were also generally performed to a high extent. However, weaknesses were identified in tracking removed or missing records and implementing appropriate retention and disposal procedures. Data quality practices were generally satisfactory, particularly in checking accuracy and completeness, but duplicate-record identification, consistency checks and feedback on data-quality problems required improvement.

Electronic and digital systems were used mainly for patient registration, storage, retrieval and reporting, although data backup, reconciliation of paper and electronic records, staff training and system maintenance remained areas requiring attention.

Overall, the study concluded that although the foundation for effective HIM practice exists, infrastructural, human-resource and organisational challenges continue to limit optimal performance. Unstable electricity, inadequate ICT infrastructure, poor internet connectivity, heavy workload, insufficient staffing, limited funding and system downtime were major concerns. Sustaining and improving HIM practice therefore requires stronger institutional support, adequate resources and infrastructure, continuous professional development and improved monitoring of health information processes.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. **Strengthen records management:** Hospitals should improve documentation, filing, tracking, retrieval, retention and disposal of health records in line with approved standards.
2. **Improve data quality:** Regular audits should be conducted to identify and correct incomplete, inaccurate, duplicate and inconsistent health information, with appropriate feedback to staff.
3. **Strengthen digital HIM systems:** Hospitals should improve electronic health information systems, data backup, system maintenance and reconciliation of paper and electronic records.
4. **Provide adequate infrastructure:** Management and relevant authorities should ensure reliable electricity, internet connectivity, computers and other ICT facilities required for effective HIM practice.
5. **Strengthen staffing and training:** Adequate numbers of qualified HIM professionals should be provided, with regular training in data quality, electronic health records, coding, information security and emerging digital technologies.
6. **Increase management support and HIM participation:** Hospital management should provide adequate funding and institutional support while involving HIM professionals in planning, monitoring, resource allocation and evidence-based decision-making.
7. **Protect health information:** Hospitals should maintain strong confidentiality, access-control and information-security measures to prevent unauthorised access or disclosure.
8. **Monitor HIM performance regularly:** Hospital management and relevant professional or regulatory

bodies should periodically evaluate HIM services to identify gaps and guide continuous improvement.

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CONFLICT OF INTEREST

The authors declare that there was no conflict of interest associated with this study. The research was conducted independently, and no personal, financial, institutional or professional interests influenced the design, conduct, analysis, interpretation or reporting of the findings.

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