
EFFECTIVENESS OF HEALTH INFORMATION MANAGEMENT POLICY AND PROCEDURE IN NIGER DELTA UNIVERSITY TEACHING HOSPITALS, OKOLOBIRI.

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ABSTRACT

This study was aimed at assessing the effectiveness of the Health Information Management (HIM) policies and procedures of Niger Delta University Teaching Hospital (NDUTH), Okolobiri. Specifically, the study evaluated the level of awareness of HIM policies and procedures, determined the extent of compliance, evaluated the effectiveness of policy implementation, identified factors influencing policy implementation and examined the relationship between compliance and effective health information management practices. A descriptive cross sectional survey design was used. The study population was 47 Health Information Management staff and 43 were study respondents (census sampling technique). A structured questionnaire, which was expert validated and tested for reliability, was used to collect data. To answer the research objectives, descriptive statistics that included frequencies, percentages, means and standard deviations were used; and to test the hypotheses at the 0.05 level of significance, Pearson Product Moment Correlation and Multiple Linear Regression were used.

The results showed that there is a high level of awareness of HIM policies and procedures among the respondents (Grand Mean = 4.34). It was determined that the adherence to the policies was at moderate level (Grand Mean = 3.36) and the effectiveness of the execution of policies was at moderate level (Grand Mean = 3.44). Staff training, management support, ICT infrastructure, funding, supervision and leadership commitment were among the organizational factors that were found to be the major determinants of effective policy implementation. The relationships between awareness and effective policy implementation (r

= 0.624; $p < 0.05$) and compliance and effective health information management practices ($r = 0.718$; $p < 0.05$) were significant, as shown in the inferential analysis. The organizational factors also had a strong effect on the implementation of policies ($R^2 = 0.612$, $p < 0.05$). The study findings indicate that the capacity of staff, organization and policy compliance can be improved to strengthen the effectiveness of Health Information Management practices. It calls for continuous professional training, regular review of policies, better monitoring and evaluation tools, better ICT infrastructure to facilitate effective health information management and quality health services provision.

KEYWORDS: Health Information Management, Policy Implementation, Policy Compliance, Health Information Management Practices, Health Information Systems, Teaching Hospital, Nigeria.

INTRODUCTION

Health Information is now one of the most valuable assets in healthcare today. The success of every clinical encounter, treatment, administrative process, research activity, and public health action relies on the availability of accurate, complete, timely, and secure health information. Healthcare systems evolve and grow more complex over time, and hospitals must have clear policies and procedures for Health Information Management (HIM) that ensure patient information is collected, processed, stored, retrieved and disseminated in a way that adheres to professional standards and legal mandates. Effective health information management policies will help health care staff to ensure the quality, confidentiality, integrity, accessibility and security of patient information and to foster continuity of care and organizational effectiveness (World Health Organization [WHO] 2021; Meribole 2018).

Health Information Management is a specialised field of study which deals with the collection, structure, management, security and proper utilization of health information throughout its life cycle. While conventionally it has been about the organization of paper-based medical records, modern developments in information technology have led to the introduction of electronic health records (EHRs), health information exchange, clinical coding, data analytics, digital archiving and health information governance. The effectiveness of Health Information Management is heavily reliant on the presence and consistent adherence to broad policies and standardized operating procedures to guide documentation practices, record retention, access to information, confidentiality, coding guidelines, and quality assurance (Ahima, 2023; McWay, 2022).

Policies are formal statements of an organization that outline expectations, responsibilities and standards; Procedures are detailed instructions on how policies are applied in day to day practice. In healthcare organisations, Health Information Management policies and procedures guarantee uniformity in documentation, minimise differences in practice and communicate between healthcare.

As health services become more focused on quality health care, it has become even more important to the strategic role of Health Information Management. When there is full and accurate patient information, clinicians are able to make accurate diagnosis, prescribe the appropriate treatment, monitor disease progression and assess patient outcomes. Health information at the administrative level is used for budgeting, planning, resource allocation, performance monitoring, accreditation and epidemiological surveillance, as well as for policy making. This means that if there are gaps in the Health Information Management policies or non-compliance to the established procedures, it can affect the quality of healthcare, healthcare errors, delays in services delivery, legal liability of the institutions and the trust of the patients in the healthcare system (Obimba et al., 2022).

At the international level, governments and international organizations have been further developing the concept of health information governance by creating standards and policy documents. World Health Organization recommends for the development of strong health information systems that can generate trustworthy information for clinical services, health system management and health system policy. Similarly, numerous nation-states have enacted comprehensive legislation surrounding the governance of information that supports interoperability, quality, privacy, cybersecurity, and ethical stewardship of health information. The initiatives acknowledge the importance of HIM in the realization of UHC, enhancement of healthcare quality, and ultimately, support the strengthening of health systems (WHO 2021; OECD 2023).

The Federal Ministry of Health and Social Welfare in Nigeria has put in place a number of policies and strategic plans that are aimed at strengthening the National Health Management Information System (NHMIS). These include the National Health Management Information System Policy, the National Health Management Information System Strategic Plan (2021-2025), the National Health Act and a number of Standard Operating Procedures for the routine management of health data. The aim of these policy documents is to achieve better data governance, consistency in documentation practices, better data quality, confidentiality and security, interoperability, and evidence-based decision-making at all levels of healthcare delivery. Despite these, various factors including poor infrastructure, lack of trained staff, less

supervision, lack of adherence to standard operating procedures, and lack of uniform information systems have been observed to impact the effectiveness of these policies in many healthcare institutions.

This is because teaching hospitals perform several roles in the healthcare system in Nigeria, as they serve patients in specialized centers, train professionals and conduct clinical research. These various duties demand very efficient Health Information Management systems that are able to meet a variety of information demands in the organization, while maintaining high levels of data quality and confidentiality. In teaching hospitals, where there is an increase in the number of patients and large volumes of patient records are generated every day across multiple clinical departments and specialized units, the role of effective implementation of Health Information Management policies and procedures is even more critical (AbouElnaga et al., 2015).

One of the major tertiary health care institutions in the Niger Delta region of Nigeria is the Niger Delta University Teaching Hospital (NDUTH), Okolobiri, Bayelsa State. The hospital offers full-scale specialist healthcare services and is a teaching and research base for medical and allied health professions. NDUTH, like many tertiary hospitals, creates a huge amount of patient information through patient clinics, emergency, inpatient wards, operating theatres, diagnostic units and other special departments. Well-defined Health Information Management policies and procedures that support registration, documentation, clinical coding, filing, retrieval, record retention, confidentiality, information sharing and digital information management are essential to effective management of this information.

Although institutional policies and national policies are available, anecdotal evidence from many Nigerian tertiary hospitals indicate that there are gaps between the formulation and implementation of the policies. Issues in documentation practices, patient record retrieval, clinical documentation, non-standard coding practices, inadequate staff orientation, lack of documentation review process, and lack of documentation compliance monitoring are all common concerns. These vulnerabilities can have detrimental impacts on health care delivery, hospital management, research integrity, compliance with medico-legal standards, and organizational performance (Obimba et al., 2022; Meribole, 2018).

It is therefore crucial to measure the effectiveness of the Health Information Management policies and procedures to identify strengths, gaps in implementation, and opportunities for ongoing enhancements. This kind of evaluation provides evidence on how health information management professionals are aware of the existence of those policies, how they are implemented consistently throughout the departments, how often they are reviewed, and how

they meet national and international standards. It also helps hospital management discover institutional obstacles that impact policy compliance and design interventions to bolster information governance, capacity of staff, and service delivery.

In addition, the current digital transformation of healthcare has added more requirements to Health Information Management systems. It is important to have policies in place for the gradual adoption of electronic medical records, digital health platforms, interoperability standards, clinical decision support systems, and health information exchanges to consider, including policies for electronic documentation, cybersecurity, user authentication, audit trails, data backup and disaster recovery, interoperability, and ethical use of digital health information. Without consistent review and revision of Health Information Management policies, hospitals can face an uphill battle with data breaches, system failures, poor interoperability, and diminished quality of patient care. National efforts that encourage interoperability, like standards like FHIR, also underscore the importance of continually improving a healthcare institution's information governance practices.

While several studies have addressed electronic health records, health information systems, documentation practices and data quality in Nigerian health care institutions, few studies have specifically examined the effectiveness of Health Information Management policies and procedures at the institutional level, especially in the Niger Delta region of the country, particularly in tertiary level health care institutions. This gap in knowledge restricts the ability of obtaining empirical evidence that can assist in policy improvement and development of sound Health Information Management practice in the region.

In this context, the present study aims at assessing the effectiveness of Health Information Management policies and procedures in Niger Delta University Teaching Hospital, Okolobiri. To specifically evaluate the awareness of staff members and adherence to current policies, the study aims to determine the effectiveness of policy implementation, to understand factors that affect effective implementation and to recommend evidence-based recommendations to strengthen Health Information Management practices. The outcome of this study will help in the improvement of patient information management, healthcare service quality, institutional governance and the development of Health Information Management practice in Nigeria.

MATERIALS AND METHODS

Study Area

The study was carried out at Niger Delta University Teaching Hospital (NDUTH), Okolobiri, Bayelsa State, Nigeria. NDUTH is a tertiary healthcare institution, set up to offer specialized

healthcare services, medical education and clinical research. The hospital is a referral hospital to all the neighbouring states and Bayelsa state in the Niger Delta region. It includes a number of clinical departments, diagnostic units, administrative divisions and a well-established Department of Health Information Management (HIM) that manages patient registration, management of the medical records, clinical coding and health data management, retrieval of medical records, health information governance and documentation quality assurance.

Study Design

This study used a descriptive cross sectional survey design. It was felt that the design was appropriate as it would enable the researcher to evaluate the effectiveness of the current Health Information Management policies and procedures as they were during the time of the study. It also allowed the gathering of data on staff awareness, compliance, practices and organizational factors affecting the effectiveness of the policy without any manipulation of any of the study variables.

Study Population

The study population consisted of all forty-seven (47) HIM staff in Health Information Management Department of Niger Delta University Teaching Hospital (NDUTH), Okolobiri, Bayelsa state, Nigeria. The staff members are also those who directly implement the Health Information Management (HIM) policies and procedures within the hospital.

Sample Size

The study used a census approach since the entire population (47) comprised Health Information Management personnel. Thus, the sample size for this study was 47 respondents that equated to 100% of the accessible population. This method allowed all Health Information Management staff to have their perspective and experiences about the effectiveness of the policies and procedures of Health Information Management reflected.

Sampling Technique

This study used total population sampling technique (census sampling). Total population sampling is defined as a sampling method that involves the selection of all the members of the target population who can be included according to the inclusion criteria (Etikan & Bala, 2017).

The decision toward using census sampling was driven by the relatively small population that was being studied as well as the desire to gather all information from all personnel in the Health Information Management profession. Moreover, the census approach allows for

greater external validity in the studied context, as all eligible respondents are included in the policy awareness, compliance, implementation and institutional obstacles assessment.

Instrument for data collection

Data for this study was gathered through a structured, self-administered questionnaire that the researcher created after a thorough review of literature on Health Information Management policies, information governance, health records management and organizational policy implementation (McWay, 2022; AHIMA, 2023).

The questionnaire aimed to collect quantitative information about the awareness, compliance, implementation practice, perceived effectiveness, and organizational factors affecting the implementation of Health Information Management policies and procedures of the respondents.

Method for Data Analysis

Completed questionnaires were checked for completeness, coded and entered into the IBM Statistical Package for the Social Sciences (SPSS) version 27.0 for analysis. Study variables and respondents' characteristics were presented in the table forms as descriptive statistics. For socio-demographic data, frequencies and percentages were used, and means and standard deviations were used to describe the responses to items regarding awareness, compliance, effectiveness and organizational factors. The criterion mean of the 5-point Likert scale. A score of 3.00 or higher was then considered to indicate agreement/positive assessment and a score less than 3.00 indicated disagreement/negative assessment. The study hypotheses were tested using inferential statistical techniques at 95% level of confidence with $p < 0.05$ level of statistical significance. Pearson Product Moment Correlation was used to measure the strength and direction of relationship among continuous variables and multiple linear regression was used to find the significant variables influencing effective implementation of Health Information Management policies and procedures.

Ethical Consideration

This study received ethical clearance from the Health Research Ethics Committee of Niger Delta University Teaching Hospital (NDUTH), Okolobiri prior to data collection. Administrative permission was also granted by the Head of the Health Information Management Department to make it possible for the participants to access the study. Before the administration of questionnaires, written informed consent was obtained from all participants. The confidentiality and anonymity were not compromised during the research process. No names or other personal information were asked on questionnaires. The data was only used for academic and research purposes and only reported in aggregate form to avoid

identifying individual respondents. This included informing participants that they could refuse to participate or withdraw from the study at any point without penalty or adverse consequences. The study was conducted in accordance with the universally accepted ethical guidelines for research involving human subjects which include, but are not limited to, respect for persons, beneficence, non-maleficence, justice and confidentiality as stated in the Declaration of Helsinki (2013) and as reflected in the National Code of Health Research Ethics of Nigeria.

RESULTS

The study shows that 26 (60.5%) of the respondents were female, 16 (37.2%) respondents were between 40 and 49 years, 18 (41.9%) respondents possessed a Higher National Diploma (HND). The study indicates that the highest proportion of respondents, 13 (30.2%), had 11–15 years of work experience, and 37 (86.0%) of the respondents were registered with the Health Records Officers Registration Board of Nigeria (HRORBN).

Table 4.1: Mean Ratings on the Level of Awareness of Health Information Management Policies and Procedures among Health Information Management Personnel. (n = 43)

Statement	SA	A	U	D	SD	Mean (X)	SD	Decision
I am aware of the Health Information Management policies operating in this hospital.	22	18	2	1	0	4.42	0.69	High
I am familiar with the hospital's Standard Operating Procedures (SOPs).	20	19	3	1	0	4.35	0.71	High
I understand the institutional policy on patient confidentiality.	25	16	2	0	0	4.53	0.59	Very High
I am aware of policies guiding the release of patients' information.	21	18	3	1	0	4.37	0.71	High
I understand the hospital's record retention policy.	18	20	4	1	0	4.28	0.73	High
I am aware of policies regulating clinical coding practices.	19	19	4	1	0	4.30	0.74	High
I have received orientation on Health Information Management policies.	17	20	5	1	0	4.23	0.75	High
Policy documents are readily accessible whenever needed.	16	21	5	1	0	4.21	0.74	High
Management regularly communicates updates on Health Information Management policies.	18	19	5	1	0	4.26	0.76	High
I understand my responsibilities regarding policy implementation.	23	17	2	1	0	4.44	0.70	High
Grand Mean						4.34		

Source: Field Survey, (2025)

Decision Rule: 4.50–5.00 = Very High, 3.50–4.49 = High, 2.50–3.49 = Moderate, 1.50–2.49 = Low, 1.00–1.49 = Very Low

The findings in Table 4.1 indicate that Health Information Management personnel at Niger Delta University Teaching Hospital, Okolobiri demonstrated a high level of awareness of Health Information Management policies and procedures, with an overall grand mean of 4.34 (SD = 0.71). The highest-rated item was *"I understand the institutional policy on patient confidentiality"* ($\bar{X}$ = 4.53, SD = 0.59), indicating a very high level of awareness. All other items recorded mean scores ranging from 4.21 to 4.44, which are above the criterion mean of 3.00, suggesting that respondents generally possess substantial knowledge of the hospital's Health Information Management policies and procedures. These findings imply that awareness of institutional policies among Health Information Management personnel is high and is likely to support effective policy implementation within the hospital.

Table 4.2: Mean Ratings on the Extent of Compliance with Established Health Information Management Policies and Procedures among Health Information Management Personnel. (n = 43)

Statement	SA	A	U	D	SD	Mean ($\bar{X}$)	SD	Decision
I comply with patient registration procedures.	12	17	8	5	1	3.79	1.02	High
I always maintain confidentiality of patients' information.	10	16	9	6	2	3.60	1.11	High
I adhere to approved documentation standards.	9	15	10	7	2	3.51	1.13	High
I follow established procedures for releasing patient information.	8	14	11	8	2	3.42	1.13	Moderate
I comply with records retention and disposal policies.	7	14	11	9	2	3.35	1.13	Moderate
I consistently apply approved clinical coding standards.	7	13	12	8	3	3.30	1.16	Moderate
I adhere to electronic health information security procedures.	6	13	12	9	3	3.23	1.16	Moderate
I follow departmental Standard Operating Procedures during my daily duties.	8	13	11	9	2	3.37	1.15	Moderate
I promptly report policy violations whenever they occur.	5	12	12	10	4	3.09	1.19	Moderate
I consistently comply with Health Information Management policies	4	11	12	11	5	2.95	1.22	Moderate

Statement		SA	A	U	D	SD	Mean (X̄)	SD	Decision	
irrespective of workload.										
	Grand Mean							3.36	1.14	Moderate Compliance

Source: Field Survey, (2025)

Decision Rule: 4.50–5.00 = Very High, 3.50–4.49 = High, 2.50–3.49 = Moderate, 1.50–2.49 = Low, 1.00–1.49 = Very Low

Table 4.2 shows the ratings given by the respondents to the level of adherence to the existing Health Information Management policies and procedures. The overall results of the compliance showed moderate compliance at the grand mean = 3.36 (SD = 1.14). Compliance was good for three items: compliance with patient registration procedures ($\bar{X}$ = 3.79), maintenance of patient confidentiality ($\bar{X}$ = 3.60) and adherence to documentation standards ($\bar{X}$ = 3.51), suggesting relatively better compliance in patient registration, patient confidentiality, and documentation. The mean scores of the seven remaining items, however, ranged from moderate to high (2.95 to 3.42), indicating inconsistencies in release of information, records retention, clinical coding, information security, standard operating procedures, reporting of violations of the policies and compliance during heavy workload.

In summary, the findings indicated that adherence to institutional policies amongst Health Information Management staff is at a relatively high level however there is a need to monitor and supervise these staff members more often, provide continuous staff development and training as well as to provide the appropriate staffing. This is as has been seen before, having a high level of awareness of the policy does not always translate to full compliance in general practice.

Table 4.3: Mean Ratings on the Effectiveness of the Implementation of Health Information Management Policies and Procedures in Supporting Efficient Health Information Management Practices. (n = 43)

S/N	Statement	SA	A	U	D	SD	Mean ($\bar{X}$)	SD	Decision
1	Health Information Management policies improve documentation quality.	18	17	5	2	1	4.14	0.93	High
2	The policies enhance confidentiality of patient information.	20	16	4	2	1	4.21	0.92	High
3	The policies improve the accuracy and	15	16	7	4	1	3.93	1.02	High

S/N	Statement	SA	A	U	D	SD	Mean ($\bar{X}$)	SD	Decision
	completeness of health records.								
4	The policies facilitate timely retrieval of patients' records.	11	14	10	6	2	3.60	1.12	High
5	Implementation of the policies reduces documentation errors.	9	14	11	7	2	3.49	1.13	Moderate
6	The policies support efficient health information service delivery.	8	13	12	8	2	3.40	1.14	Moderate
7	The policies improve accountability among Health Information Management personnel.	7	12	12	9	3	3.26	1.18	Moderate
8	The policies contribute to better clinical and administrative decision-making.	6	11	13	10	3	3.16	1.17	Moderate
9	The policies are regularly monitored and evaluated for effectiveness.	3	8	12	13	7	2.70	1.18	Moderate
10	Overall, Health Information Management policies are effectively implemented in the hospital.	2	7	10	15	9	2.49	1.16	Low
	Grand Mean						3.44	1.10	Moderate Effectiveness

Source: Field Survey, (2025)

Decision Rule

4.50–5.00 = Very High, 3.50–4.49 = High, 2.50–3.49 = Moderate, 1.50–2.49 = Low, 1.00–1.49 = Very Low

Table 4.3 shows the opinions of the respondents on the effectiveness of the implementation of Health Information Management policies and procedures for supporting efficient health information management practices at Niger Delta University Teaching Hospital, Okolobiri. The overall level of effectiveness was found to be moderate, having a grand mean score of 3.44 (SD = 1.10).

Four aspects of implementation were rated high, namely enhancement of patient confidentiality ($\bar{X}$ = 4.21), improvement in the documentation quality ($\bar{X}$ = 4.14), improvement in the accuracy and completeness of the health records ($\bar{X}$ = 3.93) and facilitation of timely retrieval of the patients' health records ($\bar{X}$ = 3.60). The results indicated that the policies of Health Information Management had a positive impact on the main activities that took place in the department.

Moderate effectiveness was recorded in five items (mean scores between 2.70 and 3.49) indicating implementation of the policies has not achieved full effectiveness in reducing

documentation errors, service delivery, staff accountability, decision making, and monitoring policies. The overall low rating ($\bar{X} = 2.49$) for the statement, 'Health Information Management policies are effectively implemented in the hospital overall,' is noteworthy in this regard; it indicates that respondents believed there is significant room for improvement regarding the implementation of existing policies across the whole hospital.

The overall results showed that while HIR policies have brought positive outcomes to various functional areas, there are still significant gaps in policy monitoring, policy evaluation and institutionalizing the policy that need to be addressed by managers for the policies to function optimally.

Table 4.4: Mean Ratings on Factors Influencing the Effective Implementation of Health Information Management Policies and Procedures. (n = 43)

S/N	Statement	SA	A	U	D	SD	Mean ($\bar{X}$)	SD	Decision
1	Adequate staff training enhances effective implementation of Health Information Management policies.	24	16	2	1	0	4.47	0.67	High
2	Management support promotes effective implementation of Health Information Management policies.	23	17	2	1	0	4.44	0.67	High
3	Availability of policy manuals and Standard Operating Procedures improves policy implementation.	22	17	3	1	0	4.40	0.70	High
4	Adequate funding enhances effective implementation of Health Information Management policies.	21	18	3	1	0	4.37	0.70	High
5	Availability of adequate ICT infrastructure improves policy implementation.	20	18	4	1	0	4.33	0.72	High
6	Regular supervision enhances compliance with Health Information Management policies.	19	19	4	1	0	4.30	0.71	High
7	Periodic review of Health Information Management policies improves their implementation.	18	19	5	1	0	4.26	0.73	High
8	Adequate staffing facilitates effective implementation of Health Information Management policies.	23	15	4	1	0	4.40	0.73	High
9	Continuous professional education improves policy implementation.	22	16	4	1	0	4.37	0.74	High
10	Organizational culture influences effective implementation of Health Information Management policies.	18	17	6	2	0	3.98	0.86	High
11	Leadership commitment promotes compliance with Health Information Management policies.	21	17	4	1	0	4.35	0.72	High
12	Availability of modern health information	22	17	3	1	0	4.40	0.70	High

S/N	Statement	SA	A	U	D	SD	Mean ($\bar{X}$)	SD	Decision
	technologies enhances policy implementation.								
	Grand Mean						4.34	0.72	High

Source: Field Survey, (2025)

Decision Rule

4.50–5.00 = Very High, 3.50–4.49 = High, 2.50–3.49 = Moderate, 1.50–2.49 = Low, 1.00–1.49 = Very Low

Table 4.4 shows the respondents' perception of the factors that affects the effective implementation of Health Information Management policies and procedures in Niger Delta University Teaching Hospital, Okolobiri. All the organizational factors identified recorded high mean ratings, with a grand mean of 4.34 (SD = 0.72), which represent strong agreement that these are important for successful implementation of the policies identified.

Means scores of 4.47, SD = 0.67 were obtained for adequate staff training, followed by management support with mean score of 4.44 and SD = 0.67; while availability of policy manuals and Standard Operating Procedures, adequate staffing and modern health information technologies obtained mean scores of 4.40, SD = 0.67. High ratings were also given to other contributing factors such as sufficient funding, regular supervision, periodic review of policy, organizational culture, leadership commitment, and continuous professional education, and to ICT infrastructure.

The results indicate that the respondents felt that the following issues had a significant impact on the effective implementation of Health Information Management policies and procedures: lack of staff training, management commitment, policy documentation, funding, ICT infrastructure, supervision, staffing and leadership. Therefore, strengthening of these organizational support systems is likely to positively influence policy adherence and the overall health information management in the hospital.

Table 4.5: Mean Ratings on the Relationship between Compliance with Health Information Management Policies and Effectiveness of Health Information Management Practices. (n = 43)

S/N	Statement	SA	A	U	D	SD	Mean ($\bar{X}$)	SD	Decision
1	Compliance with Health Information Management policies improves the quality of health information generated in the hospital.	18	18	5	2	0	4.21	0.82	High
2	Compliance with established policies	17	17	6	2	1	4.09	0.94	High

S/N	Statement	SA	A	U	D	SD	Mean ($\bar{X}$)	SD	Decision
	enhances completeness of patients' health records.								
3	Compliance with HIM policies promote timely retrieval of patients' medical records.	15	18	7	3	0	4.05	0.86	High
4	Compliance improves the confidentiality and security of patients' health information.	20	16	5	2	0	4.26	0.84	High
5	Compliance with policies reduces errors in health records documentation and processing.	12	17	9	4	1	3.81	1.01	High
6	Compliance with HIM policies improve communication between the Health Information Management Department and other hospital units.	11	16	10	5	1	3.72	1.04	High
7	Compliance with HIM policies support effective clinical decision-making among healthcare professionals.	10	15	11	6	1	3.63	1.07	High
8	Compliance contributes to improved healthcare service delivery in the hospital.	9	15	12	6	1	3.56	1.06	High
9	Higher compliance with HIM policies results in better overall health information management practices.	8	14	13	7	1	3.51	1.09	High
10	Effective health information management practices are adequately achieved through consistent compliance with existing policies.	7	13	12	9	2	3.33	1.16	Moderate
	Grand Mean						3.82	1.00	High Relationship

Source: Field Survey, (2025)

Decision Rule

4.50–5.00 = Very High, 3.50–4.49 = High, 2.50–3.49 = Moderate, 1.50–2.49 = Low, 1.00–1.49 = Very Low

Table 4.5 shows the respondents' opinion of how compliance to Health Information Management policies relates to the effectiveness of health information management practices at Niger Delta University Teaching Hospital, Okolobiri. The results revealed the overall high perceived relationship with the grand mean score = 3.82 (SD = 1.00).

The item with the highest rating was compliance increases the confidentiality and security of health information provided by patients, with a mean score of $\bar{X} = 4.26$, SD = 0.84, followed by compliance results in better health information is produced in the hospital, $\bar{X} = 4.21$, SD =

0.82. The respondents also reported that compliance improves the completeness of patient records ($\bar{X} = 4.09$), timely retrieval of medical records ($\bar{X} = 4.05$), and decreases documentation errors ($\bar{X} = 3.81$). The second statement, however, about the effect of regular adherence to the existing policies to achieve effective health information management practices was rated as moderately good ($\bar{X} = 3.33$, $SD = 1.16$). This indicates that while compliance plays an important role in better health information practices, other factors like manpower, hardware, surveillance, technological readiness and management support can have a bearing on the overall effectiveness.

The results suggest that enforcement of the Health Information Management policies is expected to enhance the quality of information, its confidentiality, accessibility and services delivery in Niger Delta University Teaching Hospital (NDUTH), Okolobiri.

Test of Hypotheses

Appropriate inferential statistical techniques were used for testing the hypotheses at the 0.05 level of significance. The decision rule was that the null hypothesis would be rejected if the p-value is less than 0.05 ($p < 0.05$) and accepted if the p-value is greater than 0.05 ($p > 0.05$).

Hypothesis One

H_{01} : There is no significant relationship between the level of awareness of Health Information Management policies and procedures with respect to effective implementation in Niger Delta University Teaching Hospital, Okolobiri.

The Pearson Product Moment Correlation Analysis procedure was used for statistical testing. Pearson correlation was used because the hypothesis is related to the relationship between two continuous variables namely Awareness of Health Information Management policies (Independent Variable) and Effective implementation of Health Information Management policies (Dependent Variable).

Table 4.6: Pearson Correlation between Awareness of Health Information Management Policies and Effective Implementation. (n = 43)

Variables	Mean	SD	r-value	p-value	Decision
Awareness of HIM policies	4.34	0.71			
Effective implementation of HIM policies	3.44	1.10	0.624**	0.000	Reject H_{01}

Significant at $p < 0.05$

The result in Table 4.6 shows that there was a positive and statistically significant relationship between awareness of Health Information Management policies and effective implementation of such policies ($r = 0.624$, $p = 0.000$). This means that increased awareness of HIM policies among HIM workers is linked to better performance when it comes to implementing HIM policies. Since the p-value (0.000) is less than the significance level of 0.05, the null hypothesis (H_{01}) is rejected.

Thus, there was a very high level of association between the awareness of Health Information Management policies and the effective implementation of the policies at Niger Delta University Teaching Hospital, Okolobiri.

Hypothesis Two

The null hypothesis, H_{02} states that there is no significant relationship between compliance with Health Information Management policies and procedures with the effectiveness of health information management practices in Niger Delta University Teaching Hospital, Okolobiri.

Statistical Test: Pearson Product Moment Correlation Analysis

Table 4.7: Pearson Correlation between Compliance with HIM Policies and Effectiveness of Health Information Management Practices. (n = 43)

Variables	Mean	SD	r-value	p-value	Decision
Compliance with HIM policies	3.36	1.14			
Effectiveness of HIM practices	3.82	1.00	0.718**	0.000	Reject H_{02}

Significant at $p < 0.05$

Table 4.7 shows that the correlation between compliance of Health Information Management policies and effectiveness of health information management practices are strong and statistically significant $r = 0.718$ $p = 0.000$. This indicates that the quality of documentation, confidentiality, the availability of records, as well as the accuracy of records and service delivery is associated with increased compliance with policies and procedures in relation to HIM. The calculated p value (0.000) is less than 0.05 and so the null hypothesis (H_{02}) is accepted.

In view of this, adherence to the Health Information Management (HIM) policy definitely has a great impact on the effective implementation of Health Information Management (HIM) practices in Niger Delta University Teaching Hospital (NDUTH), Okolobiri.

Hypothesis Three

H₀₃: The organizational factors are not significant enough to have an impact on the effective realization of Health Information Management policies and procedures in Niger Delta University Teaching Hospital (NDUTH), Okolobiri.

The data consists of multiple linear regression analysis. Multiple regression was used because the hypothesis is interested in determining the predictive influence of several organizational factors on effective implementation.

Table 4.8: Multiple Regression Analysis Showing Influence of Organizational Factors on Effective Implementation of HIM Policies. (n = 43)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error
1	0.782	0.612	0.589	0.692

ANOVA Table

Model	Sum of Squares	df	Mean Square	F-value	p-value
Regression	18.426	7	2.632	5.496	0.001
Residual	16.760	35	0.479		
Total	35.186	42			

Regression Coefficients

Organizational Factors	Beta (β)	t-value	p-value	Decision
Staff training	0.286	2.441	0.020	Significant
Management support	0.251	2.182	0.036	Significant
Availability of policy manuals	0.218	2.004	0.053	Not Significant
ICT infrastructure	0.294	2.531	0.016	Significant
Supervision and monitoring	0.231	2.117	0.041	Significant
Adequate staffing	0.196	1.876	0.069	Not Significant
Funding availability	0.207	1.962	0.058	Not Significant

Table 4.8 shows regression analysis, which indicated that there is significant relationship between organizational factors and effective implementation of Health Information Management policies.

The R² value obtained was 0.612 which means that about 61.2% of the variance in effective implementation of HIM policies were accounted by the organizational factors included in the

model. The remaining 38.8% of the total may be attributed to other factors not included in this study.

The ANOVA test revealed that the regression model was statistically significant with $F = 5.496$ and $p = 0.001$ which means the overall effect of organizational factors on policy implementation is significant.

Among the organizational factors, ICT infrastructure ($\beta = 0.294$, $p = 0.016$), staff training ($\beta = 0.286$, $p = 0.020$), management support ($\beta = 0.251$, $p = 0.036$), and supervision and monitoring ($\beta = 0.231$, $p = 0.041$) significantly influenced effective implementation.

As the overall regression model is significant ($p < 0.05$), then the null hypothesis (H_{03}) is rejected.

Thus, the organizational factors have an important role in the successful implementation of the Health Information Management policies and procedures in Niger Delta University Teaching Hospital, Okolobiri.

DISCUSSION OF FINDINGS

The results from the study are discussed in relation to the study aims and compared to the empirical and theoretical results from literature.

To raise awareness of health information management policies and procedures. Objective One: Awareness of health information management policies and procedures.

The study revealed that, the Health Information Management (HIM) personnel of Niger Delta University Teaching Hospital (NDUTH), Okolobiri, were aware of the Health Information Management policies and procedures (HIM) to a large extent, with a Grand Mean of 4.34. This means that most of the respondents were aware of some policy regarding patient confidentiality, documentation, records and release of health information at the institution. There is a need for awareness, since this will provide the knowledge on how to implement the health information policies appropriately and respect for professional and ethical standards can be encouraged.

This is in accordance with Hersh (2008) who narrated that a health information professional with competency and enough knowledge of the policies of the organization assumes a critical role in the effective management of health information and delivery of quality healthcare. Similarly, Ghalavand et al. (2024) noted that the scope of health information standards knowledge and awareness held by staff members has a significant effect on health information systems data quality dimensions that include accuracy, completeness, consistency and timeliness.

The extent to which health information management policies and procedures are implemented.

The results showed that the level of compliance of the respondents regarding the use of Health Information Management policies and procedures was at a moderate score (Grand Mean = 3.36). While good compliance was reported on patient registration, confidentiality and documentation, compliance with records retention, information security and reporting of violations of the policy was only moderate.

Does not indicate a full compliance level. Problems within the institution such as workload, insufficient supervision, resources, lack of monitoring etc., can interfere with the regular implementation of the policies.

This discovery resonates with Francke et al. 2008 that implementation of healthcare guidelines is an on-going process, that involves ongoing training, supportive supervision, management commitment and adequate organisational resources. Likewise, research on implementation during the last several years has found that support from the organization, staff training and institutional leadership are important factors in successful implementation of health information initiatives.

The main purpose of the health information management policies and procedures is to be effective.

The study revealed that the implementation of Health Information Management policies and procedures moderately effective (Grand Mean = 3.44). The respondents endorsed the policy implementation and the noticeable enhancement in the documentation process, confidentiality of patient data and retrieval of patient data, while they felt the monitoring, evaluation and institutionalization of the policy was not as effective.

The results indicated that the current policies have had a positive impact on HIMPs, but ongoing monitoring and evaluation is needed for best results.

The result is consistent with that of Ghalavand et al. (2024) who conducted a systematic review and found that the indicators of the quality of health information systems are accuracy, completeness, access, timeliness, consistency, and security. The authors reported that continued monitoring and quality assurance for continuous effective implementation of the policy is needed. Similarly, a comprehensive and systematic research effort by JMIR Medical Informatics has documented the need for robust structures of governance, periodic measurement, and organization to support good health data quality.

Objective Four: Elements that may contribute to the effective implementation of Health Information Management policies and procedures.

Some of the many factors identified in the study that had an impact on the implementation of the Health Information Management policy were: staff training, management support, sufficient funding, ICT infrastructure, leadership support, supervision, policy manuals and staffing.

The results in this paper indicate that effective policies are not merely a function of existing written policies but are also dependent on the readiness of the organization and institutional factors.

The results are consistent with recent systematic reviews, which highlighted the following factors for the successful implementation of health information systems: organizational culture, leadership support, access to information, stakeholder involvement, technological infrastructure, and ongoing staff training. Moreover, health data governance research has identified that organizational structures, limited management commitment and lack of policy support are significant challenges to health data management.

Objective 5: Relationship between Compliance with Health Information Management Policies and the Effectiveness of Health Information Management Practices

The findings showed that the compliance of Health Information Management policies and effectiveness of Health Information Management practices was highly positive correlated with Grand Mean of 3.82. The respondents agreed that it is beneficial to improve documentation, confidentiality, completeness of patient records, retrieval of patient records, communication between health care professionals and the delivery of services if there is compliance.

The finding shows that implementing institutional policies can enhance the quality and dependability of health information, thus helping clinicians to make informed decisions and promoting efficient healthcare delivery.

This finding is similar to that of Weiskopf and Weng (2013) which indicated that standardized health information procedures enhance the completeness, correctness, concordance and timeliness of health information. Likewise, recent systematic reviews have demonstrated that health information quality, patient safety and healthcare management are closely inter-related, and that as healthcare organizations become more compliant and govern more effectively, they also see positive outcomes in patient care.

Hypothesis One

H₀₁: There is no significant relationship between the level of awareness of Health Information Management policies and procedures to the effective implementation of the policies and procedure in Niger Delta University Teaching Hospital, Okolobiri.

The Pearson Product Moment Correlation was used to find the significant positive relationship between the level of awareness of Health Information Management (HIM) policies and procedures and their effective implementation, $r=0.624$, $p<0.05$. Thus, the null hypothesis was rejected. The results imply that the more Health Information Management personnel know about HIM policies at the institutions, the better HIM policies are implemented. Awareness ensures staff has the knowledge needed to be aware of policy expectations, undertake their role appropriately and meet professional and organisational standards.

The result is in line with the conclusion of Hersh (2008) that an appropriately trained and educated health informatics workforce is a key to successful implementation of health information systems and policies. If workers are familiar with institutional policies and concepts of information governance, they are more likely to implement good health information management, Hersh said.

The conclusions of the study are consistent with the findings of Francke, Smit, de Veer and Mistiaen (2008) which were: Knowledge and understanding of organizational guidelines play a significant part in successful implementation and compliance with professional standards from healthcare professionals. In their systematic review they have concluded that awareness and ongoing education and organizational communication plays an important role in the effective implementation of the policy.

From these findings it is implied that in-service training, dissemination of policies and continuing orientation programmes must be emphasized in the hospital management to ensure high level of awareness of policies and good implementation of the Health Information Management policies.

Hypothesis Two: H₀₂: Effectiveness of health information management practices in Niger Delta University Teaching Hospital, Okolobiri is not affected when compliance with Health Information Management policies and procedures is observed.

The results showed a significant positive correlation ($r = 0.718$, $p < 0.05$) between compliance in the Health Information Management policies and effectiveness of health information management practices. It was thus accepted that the null-hypothesis was rejected. The result implies that the institutional policies compliance plays a significant role in the

quality of documentation, patient confidentiality, data accuracy, record availability and health information service delivery.

This is in line with Weiskopf and Weng's (2013) report that following a standardized approach to health information management can result in more complete, accurate, consistent, and timely EHR data, which ultimately can lead to better healthcare quality and facilitate evidence-based clinical decisions.

Likewise, Hersh (2008) argued that health information systems are not only about technology but also the following process of information collection, storage, retrieval, security and utilization must be standardized for effective implementation. Compliance mechanisms are correlated with health information and organization performance with strong mechanisms being correlated with high quality health information and organizational performance.

Hence, the current finding strengthens the need to enhance the compliance of institutions through regular auditing, supervision, continuous professional education and enforcing Health Information Management policies.

Hypothesis Three: H₀₃: The organizational factors had no significant influence on effective implementation of Health Information Management policies and procedures in Niger Delta University Teaching Hospital, Okolobiri.

The result of the multiple regression analysis however revealed that organizational factors had a significant impact on the implementation of Health Information Management policies and procedures with $R^2 = 0.612$, $F = 5.496$ and $p \text{ value} < 0.05$. So, the null hypothesis was rejected. It was also identified that staff training, management support, ICT infrastructure and supportive supervision were important factors that were associated with the effective implementation of the policy.

The results indicate that the execution of Health Information Management policies is not a simple task as organizational capacity, leadership commitment, competence of the staff and technological readiness are also important.

The study by Francke et al. 2008 determined that factors that influence successful implementation of healthcare policies and clinical guidelines include leadership support, staff education, organizational culture and adequate institutional resources, which are similar to the result shown here.

Likewise, Hersh (2008) noted that a well-trained workforce, efficient organizational setup and on-going professional development are critical to the successful adoption of health information technologies and institutional information management policies. He said investments in capacity building of the health information systems workforce and

infrastructure are needed to improve the quality and sustainability of health information systems.

The results also resonate with implementation science, which acknowledges that policy implementation is a complex organizational process that calls for good leadership, resources and supervision and ongoing evaluation. This will result in better health information services and organizational support systems will have a strong impact on Health Information Management policy compliance.

CONCLUSION

This study assessed the effect of Health Information Management (HIM) policies and procedures in Niger Delta University Teaching Hospital (NDUTH), Okolobiri. The results showed that the awareness of Health Information Management staff towards institutional policies and procedures was high. Even though the level of awareness was high, the compliance to the policies and their implementation was only moderately effective, showing some implementation gaps.

The study also determined that organizational factors including staff training, management support, ICT infrastructure, adequate funding, supervision and leadership commitment are very significant in the effective implementation of the Health Information Management policies. Moreover, the hypotheses tested had significant relationships among policy awareness and implementation, and policy compliance and effective Health Information Management practices. Organizational factors were also shown to significantly predict the implementation of the policy.

The study finds that the capacity of staff, the organizational support and compliance with policies will be useful for enhancing the effectiveness of the Health Information Management practices which in turn will lead to quality healthcare delivery at the Niger Delta University Teaching Hospital, Okolobiri.

RECOMMENDATIONS

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

1. Hospital management should organize regular training and continuing professional education to improve staff knowledge and implementation of Health Information Management policies.
2. Effective monitoring, supervision, and periodic compliance audits should be instituted to ensure adherence to established policies and procedures.

3. Adequate ICT infrastructure, funding, and updated policy manuals should be provided to support effective Health Information Management practices.
4. The hospital should strengthen leadership commitment and provide sufficient qualified Health Information Management personnel to improve policy implementation.
5. Health Information Management policies and procedures should be reviewed regularly to align with current professional standards and healthcare best practices.
6. Collaboration with the Health Records Officers Registration Board of Nigeria (HRORBN) and the Association of Health Records and Information Management Practitioners of Nigeria (AHRIMPN) should be strengthened to promote compliance with professional standards and continuous quality improvement.

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Conflict of interest

No conflict of interest was declared.

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