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INFLUENCE OF HEALTH INFORMATION MANAGEMENT SERVICES AS A DETERMINANT OF QUALITY PATIENT CARE

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ABSTRACT

Quality patient care depends fundamentally on the availability, accuracy, and effective management of health information, yet institution-specific empirical evidence on how Health Information Management (HIM) Services shape care quality remains limited in Nigerian tertiary hospitals. This study examined the influence of Health Information Management Services on Quality Patient Care at the Federal Medical Centre (FMC), Owo, Ondo State, Nigeria. Specifically, it assessed the role of HIM Services in supporting quality patient care, examined medical records management practices, and determined the relationship between HIM Services and quality patient care. A quantitative, descriptive cross-sectional survey design was adopted. The target population comprised 922 staff across six professional categories (medical doctors, nurses, Health Information Managers, medical laboratory scientists, pharmacists, and top administrators), from which a sample of 279 was determined using the Taro Yamane (1967) formula and proportionately allocated using Bowley's allocation formula. Data were collected using a structured, expert-validated questionnaire covering HIM Services, Medical Records Management, Quality Patient Care, and General Opinion (Cronbach's alpha = 0.784 overall); all 279 questionnaires were returned complete (100% response rate) and analysed in SPSS version 27.0 using descriptive statistics, Pearson Product-Moment Correlation (PPMC), multiple regression analysis, and the Chi-square test at the 0.05 significance level.

Findings showed generally favourable perceptions across all study constructs: HIM Services recorded an aggregate mean of 4.26, Medical Records Management 4.39, Quality Patient Care 4.45, and General Opinion the highest aggregate mean of 4.58. PPMC analysis revealed

a significant positive relationship between HIM Services and Quality Patient Care ($r = 0.273$, $p < 0.01$). Multiple regression analysis showed that HIM Services made a significant positive contribution to Quality Patient Care ($\beta = 0.120$, $p = 0.044$), alongside Medical Records Management ($\beta = 0.232$, $p < 0.001$) and General Opinion ($\beta = 0.247$, $p < 0.001$), with the overall model statistically significant ($F(3,275) = 22.312$, $p < 0.001$; $R^2 = 0.196$). The Chi-square test confirmed a statistically significant association between HIM Services and Quality Patient Care ($\chi^2 = 187.050$, $df = 9$, $p < 0.001$). Efficient storage of patient records was the single weakest-rated item across the entire instrument (mean = 3.43), despite otherwise strong agreement.

The study concludes that Health Information Management Services significantly influence Quality Patient Care at FMC Owo, and that effective management and utilization of health information, adequate staffing and infrastructure, appropriate implementation of electronic health records, continuous professional training, improved medical records storage, and protection of patient information are central to strengthening healthcare delivery. The findings provide institution-specific, statistically grounded evidence to guide hospital management, Health Information Management professionals, and policymakers seeking to strengthen HIM Services and improve patient care quality in comparable Nigerian tertiary hospitals.

KEYWORDS: Health Information Management Services; Medical Records Management; Quality Patient Care; Health Information Systems; Donabedian Model; Nigeria.

1. INTRODUCTION

The delivery of quality healthcare services depends largely on the availability, accuracy, accessibility, and effective management of health information. Patient information has become one of the most valuable resources for clinical decision-making, healthcare planning, policy formulation, research, and continuous quality improvement, and Health Information Management (HIM) has evolved into a specialised profession responsible for ensuring that health information is collected, processed, stored, protected, retrieved, and utilised efficiently to support quality healthcare delivery (Johns, 2020; LaTour & Eichenwald-Maki, 2021). The American Health Information Management Association (AHIMA, 2020) defines HIM as the acquisition, analysis, protection, and application of health information to improve patient care, support healthcare administration, and facilitate evidence-based decision-making, while the International Federation of Health Information Management Associations (IFHIMA,

2021) similarly emphasises the profession's role in maintaining the integrity, quality, and security of health information across its lifecycle.

The rapid advancement of Information and Communication Technology (ICT) has transformed traditional paper-based medical record systems into electronic health information systems. Modern healthcare institutions increasingly rely on Electronic Health Records (EHRs), Electronic Medical Records (EMRs), and Hospital Information Systems to improve the efficiency, accessibility, and quality of healthcare services, facilitating real-time access to patient information, strengthening inter-professional communication, reducing medical errors, and supporting continuity of care (Wager et al., 2022; Bates et al., 2001; Shortliffe & Cimino, 2021). Medical records, the foundation of HIM, contain comprehensive demographic, clinical, diagnostic, and treatment information; proper management ensures continuity of care, patient safety, medico-legal compliance, and reliable data for planning, whereas poor documentation and weak information management may result in diagnostic errors, delayed treatment, and reduced patient satisfaction (WHO, 2018).

Quality patient care remains the primary goal of every healthcare system. The World Health Organization defines quality healthcare as care that consistently improves desired health outcomes while being safe, effective, timely, efficient, equitable, integrated, and people-centred (WHO, 2018), and the Donabedian model holds that healthcare quality should be evaluated through the interaction of structure, process, and outcome, positioning effective HIM Services as a critical organisational process capable of influencing healthcare quality through improved documentation, communication, and evidence-based decision-making. Developed countries have recorded measurable improvements in healthcare quality through comprehensive Health Information Systems, standardised documentation, and effective data governance (Wager et al., 2022), whereas many developing countries, including Nigeria, continue to experience inadequate ICT infrastructure, shortages of qualified HIM professionals, inconsistent documentation practices, and weak information governance that may compromise the quality of health information available for care and decision-making.

Nigeria has introduced initiatives such as the National Health Management Information System and the National Digital Health Strategic Framework to strengthen HIM nationally (Federal Ministry of Health, 2022), yet implementation across healthcare institutions remains uneven, making institution-level evaluation necessary. Federal Medical Centre (FMC) Owo, a tertiary healthcare institution serving Ondo State and neighbouring states, depends on efficient HIM Services to support patient registration, clinical documentation, medical records management, disease coding, health statistics, and information retrieval, functions

whose effectiveness may directly influence patient safety, clinical decision-making, continuity of care, and patient satisfaction. This study therefore examines HIM Services as a determinant of Quality Patient Care at FMC Owo, with the specific objectives of: (i) examining the influence of HIM Services on the quality of patient care; (ii) assessing the influence of Medical Records Management, Health Information Systems, and clinical documentation practices on the quality of patient care; and (iii) examining the relationship between HIM Services and the quality of patient care at FMC Owo.

2. Literature Review and Theoretical Framework

2.1 Health Information Management, Medical Records Management, and Quality Patient Care

Health Information Management integrates medical science, information technology, statistics, legal principles, and management science to ensure the availability of complete, accurate, reliable, and confidential patient information (Johns, 2020). The profession has evolved from clerical medical-records administration into a strategic healthcare function encompassing health informatics, clinical coding, data governance, health analytics, and information security (Johns, 2020; Shortliffe & Cimino, 2021), a trajectory paralleled, though at a slower pace, in Nigeria through the establishment of hospital medical records departments, structured training programmes, and national digital health policy (Federal Ministry of Health, 2022).

Medical Records Management, one of the core components of HIM, involves the systematic creation, organisation, storage, retrieval, preservation, and disposal of patients' health records in accordance with professional, legal, and institutional standards (Johns, 2020; LaTour & Eichenwald-Maki, 2021). Complete and accurate medical records are fundamental to patient safety because they enable informed clinical decisions; poorly maintained records may result in delayed diagnosis, medication errors, duplicated investigations, and poor outcomes (WHO, 2018). The transition from paper-based to electronic records has improved accessibility, accuracy, and security of patient information, while strengthening inter-provider communication and evidence-based decision-making (Wager et al., 2022; Shortliffe & Cimino, 2021).

Health Information Systems (HIS) provide the technological and organisational framework for collecting, processing, storing, and disseminating health information required for clinical decision-making, administration, research, and policy formulation (WHO, 2021). They encompass EMRs, EHRs, Clinical Decision Support Systems, Computerised Physician Order

Entry, and Laboratory, Radiology, and Pharmacy Information Systems (Shortliffe & Cimino, 2021), and their effective implementation reduces medication errors, improves patient safety, and strengthens continuity of care (Bates et al., 2001), though implementation in developing countries continues to be constrained by inadequate funding, unreliable power supply, limited connectivity, and workforce shortages (Wager et al., 2022).

Quality Patient Care is internationally understood through six dimensions, safety, effectiveness, patient-centredness, timeliness, efficiency, and equity (Institute of Medicine, 2001), and HIM Services intersect these dimensions primarily through the Donabedian process component: accurate documentation, timely information retrieval, and effective records management directly shape diagnostic accuracy, treatment appropriateness, and continuity of care (Johns, 2020). Empirical studies across Africa and Nigeria consistently associate effective HIM Services with improved patient satisfaction, reduced waiting time, enhanced continuity of care, and fewer medical errors, while also identifying inadequate infrastructure, workforce shortages, and limited EHR implementation as persistent constraints (Omokanye & Adepoju, 2024; Isaruk et al., 2024; Igbinlade et al., 2024; Babatope et al., 2024; Abioye et al., 2024).

2.2 Research Gap

Existing studies have predominantly examined individual HIM components, such as EHR implementation, clinical coding, or Health Information Manager perception, in isolation, or have focused on chronic-disease care rather than the combined influence of Medical Records Management, Health Information Systems, and clinical documentation on overall Quality Patient Care within a single tertiary institution (Isaruk et al., 2024; Igbinlade et al., 2024; Babatope et al., 2024). Furthermore, empirical evidence specific to Federal Medical Centre Owo, as distinct from more frequently studied institutions such as OAUTHC Ile-Ife or teaching hospitals in Lagos and Rivers State, remains limited. This study addresses these empirical, methodological, and institutional knowledge gaps.

2.3 Theoretical Framework: The Donabedian Model of Healthcare Quality

This study is anchored on the Donabedian Model of Healthcare Quality (Donabedian, 1988), which proposes that healthcare quality is determined through the interaction of three components: Structure, Process, and Outcome (the SPO model). Structure refers to the relatively stable characteristics of the healthcare organisation, including facilities, equipment, personnel, and information technology infrastructure; in this study, structural components include the availability of qualified HIM professionals, EHR/EMR infrastructure, computer hardware and software, and institutional HIM policy. Process refers to the activities involved

in delivering healthcare; for this study, the process component is operationalised as HIM Services themselves, patient registration, medical records management, clinical documentation, disease coding, health statistics, and information retrieval. Outcome represents the effects of healthcare on patients and the organisation, operationalised here as Quality Patient Care, encompassing patient safety, satisfaction, clinical effectiveness, timeliness, continuity of care, and healthcare efficiency.

The model's central proposition, that good structures enable effective processes, which in turn produce better outcomes, provides the theoretical basis for this study's independent-dependent variable relationship: HIM Services (the independent variable, situated within Donabedian's Process component) are hypothesised to significantly and positively influence Quality Patient Care (the dependent variable, situated within the Outcome component), conditional upon the adequacy of institutional structure. The model is well suited to this study because it has been extensively validated across healthcare quality, nursing, and health information management research, and because it accommodates the multi-dimensional operationalisation of both HIM Services and Quality Patient Care adopted here; its principal limitation, an assumption of a largely linear structure-process-outcome pathway that may understate the influence of external factors such as patients' socioeconomic circumstances, is acknowledged but does not diminish its suitability as the study's guiding framework.

3. MATERIALS AND METHODS

3.1 Research Design and Setting

A quantitative, descriptive cross-sectional survey design was adopted, permitting data collection from multiple professional groups at a single point in time to describe existing conditions and examine the relationship between HIM Services and Quality Patient Care without manipulating either variable. The study was conducted at Federal Medical Centre (FMC), Owo, Ondo State, Nigeria, a tertiary healthcare institution established in 1993 with a 350-bed capacity, approximately 1,400 staff, 22 clinical and 8 non-clinical departments, and a structured Health Information Management Department operating a mixed medical-records system comprising approximately 20% paper-based and 80% electronic health records.

3.2 Population, Sample Size, and Sampling Technique

The target population comprised 922 staff of FMC Owo across six professional categories directly involved in the delivery, management, or administration of healthcare services (Table 1).

Table 1. Distribution of the target population.

Category of Respondents	Population
Medical Doctors	211
Nurses	428
Health Information Managers	87
Medical Laboratory Scientists	135
Pharmacists	54
Top Administrators	7
Total	922

Source: Human Resource Department, Federal Medical Centre, Owo (2026).

The sample size was determined using the Taro Yamane (1967) formula for finite populations: $n = N / [1 + N(e)^2]$, where $N = 922$ (total population) and $e = 0.05$ (5% precision level). Substituting, $n = 922 / [1 + 922(0.05)^2] = 922 / [1 + 2.305] = 922 / 3.305 = 279.0$. The required sample size was therefore 279 respondents, applied without further adjustment for non-response.

A proportionate stratified sampling technique was employed, with the six professional categories serving as strata. Allocation followed Bowley's proportionate allocation formula, $n_h = (N_h/N) \times n$, where n_h is the sample allocated to a given category, N_h is that category's population, N is the total population (922), and n is the total sample size (279) (Table 2). Within each stratum, respondents were selected based on availability and willingness to participate until the allocated quota was attained.

Table 2. Population and proportionate sample allocation by professional category.

Professional Category	Population (N_h)	Percentage (%)	Sample Allocation (n_h)
Medical Doctors	211	22.88	64
Nurses	428	46.42	130
Health Information Managers	87	9.44	26
Medical Laboratory Scientists	135	14.64	41
Pharmacists	54	5.86	16
Top Administrators	7	0.76	2
Total	922	100.00	279

Source: Researcher's proportionate allocation from the Human Resource nominal roll, Federal Medical Centre, Owo (2026).

3.3 Research Instrument, Validity, and Reliability

Data were collected using a structured, self-administered questionnaire comprising five sections: Section A (socio-demographic characteristics), Section B (HIM Services, 7 items), Section C (Medical Records Management, 8 items), Section D (Quality Patient Care, 8

items), and Section E (General Opinion, 3 items). Items in Sections B–E were measured on a five-point Likert scale (Strongly Agree = 5 to Strongly Disagree = 1), coded so that higher scores represented stronger agreement. A criterion mean of 3.00 was adopted as the decision benchmark for both individual items and composite constructs.

Face and content validity were established through expert review by the research supervisors and specialists in Health Information Management and Measurement and Evaluation, whose observations on clarity, relevance, and coverage were incorporated into the final instrument. Reliability was assessed through a pilot study among 28 respondents at the Federal University of Technology Akure Teaching Hospital (FUTATH), a comparable institution not included in the main study; Cronbach's alpha analysis in SPSS version 27.0 yielded an overall coefficient of 0.784, exceeding the 0.70 threshold recommended by Nunnally (1978) (Table 3).

Table 3. Reliability (Cronbach's alpha) of the research instrument.

Construct	Items	No. of Items	Cronbach's Alpha	Decision
Health Information Management Services	Q1–Q7	7	0.580	Moderately reliable (acceptable)
Medical Records Management	Q8–Q15	8	0.643	Moderately reliable (acceptable)
Quality Patient Care	Q16–Q23	8	0.709	Reliable
General Opinion	Q24–Q26	3	0.577	Moderately reliable (acceptable)
Overall Instrument	Q1–Q26	26	0.784	Reliable

Source: Researcher's pilot study, FUTATH, Akure (2026), n = 28. Subscale coefficients below 0.70 remain usable in exploratory social-science research given the satisfactory overall reliability ($\alpha = 0.784$).

3.4 Data Collection Procedure

Following ethical approval from the Health Research Ethics Committee of FMC Owo and an introductory letter from the Achievers University Research Ethics Committee, questionnaires were administered personally by the researcher, with the assistance of trained research assistants where necessary, to respondents selected via the proportionate stratified technique. Informed consent was obtained from all participants; confidentiality, anonymity, and voluntary participation were assured throughout, and completed questionnaires were retrieved immediately or within an agreed period not exceeding one week. A semi-structured Key Informant Interview (KII) guide had been planned for selected top administrative staff to

complement the quantitative findings; however, this component could not be completed due to the demanding schedules and limited availability of the intended interviewees, and the reported findings are therefore based solely on the 279 valid questionnaires.

3.5 Data Analysis

Data were coded, entered into Microsoft Excel, and exported to SPSS version 27.0 for analysis. Descriptive statistics (frequencies, percentages, means, and standard deviations) summarised demographic characteristics and construct responses. Inferential analysis comprised Pearson Product-Moment Correlation (PPMC), used to test the relationship between HIM Services and Quality Patient Care; multiple regression analysis, used to determine the joint and individual contribution of HIM Services, Medical Records Management, and General Opinion to Quality Patient Care; and the Chi-square test, used to examine the association between HIM Services and Quality Patient Care. All hypotheses were tested at the 0.05 significance level, with the null hypothesis rejected where $p < 0.05$.

3.6 Ethical Considerations

Ethical approval was obtained from the Health Research Ethics Committee (HREC) of FMC Owo prior to data collection, with an introductory letter from the Achievers University Research Ethics Committee (AUREC) presented to hospital management. Participation was voluntary, informed consent was obtained from all respondents, no personal identifiers were collected, and data were securely stored on password-protected devices for academic purposes only.

4. RESULTS

4.1 Response Rate and Demographic Characteristics

All 279 questionnaires distributed were duly completed and returned, representing a 100% response rate. Respondents were most commonly aged 20–29 years (32.6%), Nurses by profession (46.6%), holders of 5–10 years of working experience (36.2%), and holders of a B.Sc./HND qualification (42.7%) (Table 4).

Table 4. Demographic characteristics of respondents. (N = 279)

Variable	Category	Frequency	Percentage (%)
Age (years)	20–29	91	32.6
	30–39	85	30.5
	40–49	76	27.2
	50 and above	27	9.7
Professional Category	Nurses	130	46.6
	Medical Doctors	64	22.9
	Medical Laboratory Scientists	41	14.7
	Health Information Managers	26	9.3
	Pharmacists	16	5.7
	Top Management Team	2	0.7
Years of Working Experience	5–10 years	101	36.2
	11–15 years	82	29.4
	Less than 5 years	50	17.9
	Above 15 years	46	16.5
Highest Educational Qualification	B.Sc./HND	119	42.7
	Others (MBBS and other professional qualifications)	77	27.6
	M.Sc.	60	21.5
	Diploma	23	8.2

Source: Field survey (2026).

4.2 Perceptions of Health Information Management Services

Respondents held generally favourable perceptions of HIM Services (Table 5). Agreement (Strongly Agree + Agree) exceeded 85% for organisation of HIM services, documentation, and record retrieval, and reached 97.5% for the statement that HIM services improve healthcare delivery, the single highest-rated item. Efficient storage of patient records recorded markedly lower agreement (56.3%), with 36.6% of respondents disagreeing or strongly disagreeing, identifying records storage as a specific area requiring improvement.

Table 5. Responses on Health Information Management Services. (N = 279)

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean
HIM services in this facility are well organized	46.6	39.1	9.3	4.7	0.4	4.27
Patient information is properly documented	49.1	38.0	7.9	4.3	0.7	4.31
Medical records are easily retrievable when needed	51.3	38.0	8.2	1.8	0.7	4.37
There is efficient storage of patient records	27.6	28.7	7.2	32.3	4.3	3.43
HIM staff are adequately trained for their roles	57.3	37.6	2.9	1.8	0.4	4.50
Electronic health records are used effectively in this facility	48.4	35.8	14.0	1.8	0.0	4.31
HIM services improve healthcare delivery	63.4	34.1	1.8	0.0	0.7	4.60
Aggregate Mean						4.26

Source: Field survey (2026). SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree. Decision: mean ≥ 3.00 = Agree.

4.3 Medical Records Management and Quality Patient Care

Respondents strongly endorsed the contribution of Medical Records Management to patient care (Table 6). The highest agreement (99.3%) was recorded for the statement that medical records support clinical decision-making and healthcare planning, and 96.5% agreed that hospital staff rely on medical records for treatment decisions. Confidentiality of records was rated highly (93.9% agreement), and 97.1% agreed that poor record management affects patient care delivery.

Table 6. Responses on Medical Records Management. (N = 279)

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean
Medical records are accurately completed	43.4	41.9	10.0	4.7	0.0	4.23
Records are properly filed, stored and secured	48.4	39.1	7.5	4.3	0.7	4.30
There is minimal loss or misplacement of patient files	45.2	40.9	8.6	5.0	0.4	4.25
Patient records are updated regularly	47.3	39.1	10.0	2.9	0.7	4.29
Confidentiality of patient records is maintained	52.7	41.2	2.9	3.2	0.0	4.43
Hospital staff rely on medical records for treatment decisions	58.1	38.4	2.9	0.4	0.4	4.53
Poor record management affects patient care delivery	54.8	42.3	1.8	0.4	0.7	4.50
Medical records support clinical decision-making and healthcare planning	58.8	40.5	0.4	0.0	0.4	4.57
Aggregate Mean						4.39

Source: Field survey (2026).

4.4 Perceptions of Quality Patient Care

Quality Patient Care recorded the second-highest aggregate mean among the four constructs (Table 7). Ninety-nine percent of respondents agreed that proper medical records reduce medical errors, and 97.9% agreed that HIM improves communication among healthcare professionals. Patient satisfaction, while still positively rated (86.1% agreement), recorded the lowest mean within this construct (4.24).

Table 7. Responses on Quality Patient Care. (N = 279)

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean
Patients receive timely medical attention	47.0	46.6	3.2	2.9	0.4	4.37
Accurate records improve diagnosis and treatment	51.6	46.2	1.8	0.4	0.0	4.49
Healthcare services are efficient in this hospital	38.4	58.4	1.8	0.7	0.7	4.33
Patient satisfaction is high in this hospital	40.9	45.2	10.8	3.2	0.0	4.24
HIM improves communication among healthcare professionals	53.4	44.1	1.8	0.0	0.7	4.50
Quality of care depends on availability of patient information	58.1	39.8	1.1	0.4	0.7	4.54
HIM services improve patient safety	64.9	32.3	2.5	0.4	0.0	4.62
There is a reduction in medical errors due to proper records	52.0	47.0	1.1	0.0	0.0	4.51
Aggregate Mean						4.45

Source: Field survey (2026).

4.5 General Opinion on Health Information Management Services

General Opinion recorded the highest aggregate mean of all constructs (Table 8), reflecting near-unanimous agreement (98.2–99.0%) that HIM Services significantly influence quality patient care, that improving health information systems would enhance service delivery, and that further investment in HIM infrastructure is needed.

Table 8. Responses on General Opinion. (N = 279)

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean
HIM services significantly influence quality patient care	57.0	41.9	0.7	0.0	0.4	4.55
Improvement in health information systems will enhance service delivery	62.4	36.6	0.7	0.4	0.0	4.61
There is need for more investment in HIM infrastructure	61.3	36.9	1.1	0.7	0.0	4.59
Aggregate Mean						4.58

Source: Field survey (2026).

4.6 Composite Descriptive Statistics

All four constructs recorded composite mean scores well above the criterion mean of 3.00 (Table 9), with General Opinion the highest (mean = 4.58, SD = 0.40) and HIM Services the lowest, though still strongly positive (mean = 4.26, SD = 0.46).

Table 9. Descriptive statistics of the study constructs. (N = 279)

Construct	Items	No. of Items	Mean	SD	Decision
Health Information Management Services	Q1–Q7	7	4.26	0.46	Agree
Medical Records Management	Q8–Q15	8	4.39	0.39	Agree
Quality Patient Care	Q16–Q23	8	4.45	0.36	Agree
General Opinion	Q24–Q26	3	4.58	0.40	Strongly Agree

Source: Researcher's analysis of field survey data (2026).

4.7 Test of Hypotheses

Hypothesis One tested the relationship between HIM Services and Quality Patient Care. Pearson correlation analysis revealed positive, statistically significant relationships among all four study constructs, with HIM Services showing a significant positive relationship with Quality Patient Care ($r = 0.273$, $p < 0.01$), leading to rejection of the null hypothesis (Table 10).

Table 10. Pearson Product-Moment Correlation among study constructs. (N = 279)

Variable	HIM Services	Medical Records Mgt.	Quality Patient Care	General Opinion
HIM Services	1.000	0.368	0.273	0.268
Medical Records Management	0.368	1.000	0.342	0.266
Quality Patient Care	0.273	0.342	1.000	0.344
General Opinion	0.268	0.266	0.344	1.000

Source: Field survey data (2026). All correlations significant at the 0.01 level (2-tailed).

Decision: H_{01} rejected — significant positive relationship confirmed between HIM Services and Quality Patient Care.

Hypothesis Two tested the combined effect of the study constructs on Quality Patient Care using multiple regression, with Quality Patient Care as the dependent variable and HIM Services, Medical Records Management, and General Opinion as predictors. The overall model was statistically significant (Table 11).

Table 11. Multiple regression analysis predicting Quality Patient Care. (N = 279)

Predictor Variable	B	Std. Error	Beta (β)	t	Sig. (p)	Decision
(Constant)	2.095	0.288	—	7.266	<0.001	—
HIM Services	0.095	0.047	0.120	2.027	0.044	Significant
Medical Records Management	0.212	0.054	0.232	3.917	<0.001	Significant
General Opinion	0.222	0.051	0.247	4.329	<0.001	Significant

Table 11b. Regression model summary.

Statistic	Value
R	0.443
R ²	0.196
Adjusted R ²	0.187
F (3, 275)	22.312
Sig. (p)	<0.001
N	279

Source: Researcher's analysis of field survey data (2026).

The model was statistically significant, $F(3,275) = 22.312$, $p < 0.001$, with the three predictors jointly explaining approximately 19.6% of the variance in Quality Patient Care ($R^2 = 0.196$). HIM Services made a statistically significant positive contribution ($\beta = 0.120$, $p = 0.044$), as did Medical Records Management ($\beta = 0.232$, $p < 0.001$) and General Opinion, which recorded the strongest standardised contribution among the three predictors ($\beta = 0.247$, $p < 0.001$). The fitted regression equation was: Quality Patient Care = $2.095 + 0.095(\text{HIM Services}) + 0.212(\text{Medical Records Management}) + 0.222(\text{General Opinion})$. Since $p < 0.05$ for the overall model and for each predictor, the null hypothesis was rejected: HIM Services and Medical Records Management jointly have a statistically significant positive influence on Quality Patient Care at FMC Owo.

Hypothesis Three tested the association between HIM Services and Quality Patient Care using the Chi-square test of independence on the grouped construct scores. A statistically significant association was found (Table 12).

Table 12. Chi-square test of association between HIM Services and Quality Patient Care. (N = 279)

Test	χ^2	df	p-value	Decision
Pearson Chi-Square	187.050	9	<0.001	Reject H_0

Source: Field survey data (2026).

Since $p < 0.001$, which is less than the 0.05 significance level, the null hypothesis was rejected, confirming a statistically significant association between HIM Services and Quality

Patient Care: respondents' perceptions of HIM Services are significantly associated with their perceptions of Quality Patient Care at FMC Owo.

Table 13. Summary of hypotheses tested. (N = 279)

Hypothesis	Statistical Test	Result	p-value	Decision
H ₀₁ : HIM Services have no significant relationship with Quality Patient Care	Pearson Correlation	$r = 0.273$	<0.001	Rejected
H ₀₂ : HIM Services have no significant influence on Quality Patient Care	Multiple Regression	$\beta = 0.120$; $F = 22.312$	<0.001	Rejected
H ₀₃ : There is no significant association between HIM Services and Quality Patient Care	Chi-Square	$\chi^2 = 187.050$, $df = 9$	<0.001	Rejected

Source: Researcher's analysis of field survey data (2026). Level of significance: $\alpha = 0.05$.

5. DISCUSSION OF FINDINGS

This study examined HIM Services as a determinant of Quality Patient Care at Federal Medical Centre, Owo. Respondents held a favourable perception of HIM Services (aggregate mean = 4.26), a finding corroborated by the significant positive correlation between HIM Services and Quality Patient Care ($r = 0.273$, $p < 0.01$). This is consistent with Omokanye and Adepoju (2024), who found that HIM practices significantly influenced healthcare service quality at OAUTHC Ile-Ife through improved documentation, information retrieval, and continuity of care, and with Isaruk et al. (2024), who found that effective HIM significantly improved chronic patient care in Rivers State public healthcare institutions, though that study's narrower focus on chronic-disease management is extended here to the broader construct of overall Quality Patient Care within a single tertiary institution.

The comparatively lower rating for efficient storage of patient records (mean = 3.43, the weakest item across the entire instrument, with 36.6% disagreement) mirrors persistent storage and infrastructure constraints documented across the Nigerian HIM literature (Babatope et al., 2024; Igbinlade et al., 2024), and stands in some contrast to the otherwise strongly favourable perception of documentation, retrieval, and confidentiality practices, indicating that storage infrastructure specifically, rather than HIM practice broadly, is the area most in need of institutional attention. This divergence between a generally favourable overall perception and a specific storage-related weak point is consistent with Igbinlade et al.'s (2024) finding that Ogun State respondents, while broadly satisfied with HIM System implementation, identified infrastructure and funding constraints as persistent limitations.

Medical Records Management recorded the second-highest composite mean (4.39) and made the strongest statistically significant individual contribution to Quality Patient Care among the three regression predictors after General Opinion ($\beta = 0.232$, $p < 0.001$), reinforcing Omokanye and Adepoju's (2024) and Olukorode et al.'s (2024) findings that effective records management, particularly confidentiality, regular updating, and reliance on records for treatment decisions, is central to continuity of care and improved data quality. The particularly strong endorsement that medical records support clinical decision-making (99.3% agreement) and that poor record management affects patient care delivery (97.1% agreement) together indicate that respondents perceive records management not as a peripheral administrative function but as directly consequential for clinical outcomes, consistent with the Donabedian model's positioning of documentation-related processes as a direct determinant of care outcomes.

The regression findings, in which HIM Services, Medical Records Management, and General Opinion jointly explained 19.6% of the variance in Quality Patient Care, indicate that while HIM-related factors are significant and meaningful predictors, the majority of variance in perceived Quality Patient Care is explained by factors outside this model, plausibly including clinical competence, resource availability, and patient-level factors not captured by this instrument, consistent with the Donabedian model's own acknowledgement that outcomes are shaped by multiple structural and process factors beyond any single domain. That HIM Services nonetheless retained a statistically significant, independent positive contribution ($\beta = 0.120$, $p = 0.044$) even after accounting for Medical Records Management and General Opinion suggests that HIM Services contribute an effect on Quality Patient Care that is not fully subsumed by records management alone, supporting the conceptual distinction drawn between the two constructs in this study's framework.

6. CONCLUSION

This study examined the influence of Health Information Management Services on Quality Patient Care at Federal Medical Centre, Owo, and found that HIM Services, Medical Records Management, Quality Patient Care, and General Opinion were all perceived favourably by healthcare professionals, with HIM Services showing a statistically significant positive relationship with Quality Patient Care, a significant independent positive contribution to Quality Patient Care in a joint regression model alongside Medical Records Management and General Opinion, and a statistically significant association with Quality Patient Care confirmed by Chi-square analysis. At the same time, the study identified a specific, actionable

weak point, efficient storage of patient records, that stood apart from the otherwise strongly positive pattern of findings, indicating that the barrier to further improving patient care quality at FMC Owo lies less in the fundamentals of HIM practice, which respondents rate highly, and more in specific infrastructural gaps, principally records-storage capacity, that constrain HIM Services from realising their full potential. The study concludes that Health Information Management Services are a significant, empirically confirmed determinant of Quality Patient Care at FMC Owo, and that strengthening HIM Services, particularly through addressing records storage infrastructure, should be treated as an integral component of the hospital's broader healthcare quality improvement strategy.

7. RECOMMENDATIONS

Based on the findings, the following five recommendations are made, each specifying the responsible party and the corresponding action:

- 1. Federal Medical Centre Owo Management (Chief Medical Director and Head of Administration):** should prioritise the expansion and improvement of medical records storage infrastructure, including dedicated, adequately sized storage space and improved shelving/filing systems, given that efficient storage of patient records recorded the lowest mean score (3.43) and the highest disagreement (36.6%) of any item in the study.
- 2. Health Information Management Department, in collaboration with the Hospital ICT Unit:** should continue and expand the implementation of electronic health records beyond the current approximately 80% coverage, with a specific migration plan for the remaining paper-based records, given the strong positive perception of EHR effectiveness (mean = 4.31) and its contribution to Quality Patient Care.
- 3. Hospital Management and Human Resources/Training Unit:** should institute continuous professional training programmes for Health Information Management staff and other healthcare professionals on documentation standards, records confidentiality, and health information systems use, to sustain and build on the currently high perception of staff training adequacy (mean = 4.50).
- 4. Hospital Quality Improvement Unit, in collaboration with the Health Information Management Department:** should formally integrate Health Information Management professionals into hospital quality-improvement and clinical governance committees, given the statistically confirmed significant relationship, contribution, and association between HIM Services and Quality Patient Care established in this study.

5. Federal Ministry of Health and Federal Medical Centre Owo Management: should increase budgetary allocation specifically for Health Information Management infrastructure (storage facilities, computer hardware, and network capacity), given that 98.2% of respondents agreed that greater investment in HIM infrastructure is needed.

8. Implications of the Study

The findings carry several practical and policy implications. First, the statistically significant, independent contribution of HIM Services to Quality Patient Care ($\beta = 0.120$, $p = 0.044$), even after accounting for Medical Records Management and General Opinion, indicates that hospital management cannot treat HIM Services as interchangeable with, or subsumed by, records management alone; both require distinct, sustained institutional investment. Second, the sharp contrast between the strongly favourable perception of HIM practice broadly (aggregate mean = 4.26) and the markedly weaker perception of records storage specifically (mean = 3.43) implies that infrastructural investment, rather than practice or training reform, is likely to yield the most immediate improvement in perceived HIM effectiveness at FMC Owo. Third, because the joint regression model explained only 19.6% of the variance in Quality Patient Care, hospital management should recognise that HIM-focused interventions, while statistically significant and necessary, are not sufficient on their own to drive comprehensive improvements in care quality, and should be pursued alongside complementary investments in clinical staffing, equipment, and other resource domains. Fourth, for health informatics research and practice in comparable Nigerian tertiary hospitals, this study demonstrates the value of disaggregating HIM Services from Medical Records Management as distinct, separately measurable constructs, since doing so revealed that both, together with general institutional opinion, make separate, statistically significant contributions to care quality.

9. Contributions to Knowledge

1. Provision of the first institution-specific, statistically validated evidence on the influence of Health Information Management Services on Quality Patient Care at Federal Medical Centre, Owo, extending a Nigerian HIM literature previously concentrated on OAUTHC Ile-Ife, Lagos, Rivers State, and Ogun State institutions.
2. Empirical demonstration, through combined correlation, multiple regression, and Chi-square analysis, that HIM Services, Medical Records Management, and general institutional opinion are each independently and significantly associated with Quality Patient Care,

providing converging statistical evidence via three distinct analytical approaches rather than a single test.

3. Identification of a specific, actionable disparity between generally strong HIM practice perceptions and comparatively weak records-storage infrastructure perceptions, offering a more targeted diagnostic than studies reporting only aggregate HIM satisfaction or dissatisfaction.

4. Application of the Donabedian Structure-Process-Outcome model to explicitly operationalise HIM Services as the process linking institutional structure to patient-care outcomes within a Nigerian tertiary hospital, offering a replicable conceptual and measurement framework for future institution-level HIM research in comparable settings.

10. Limitations of the Study

This study has several limitations. First, it was conducted at a single tertiary healthcare institution, which may limit the generalisability of findings to other Nigerian healthcare institutions with different organisational structures, resource profiles, and HIM implementation levels. Second, data collection relied on a structured, self-administered questionnaire, and responses may be subject to social-desirability bias or variation in respondents' understanding of specific items. Third, the planned Key Informant Interviews with top administrative staff, intended to provide institutional-policy and management-level qualitative perspective to complement the quantitative findings, could not be completed due to the limited availability of the intended interviewees, so the study's conclusions rest solely on the quantitative survey data. Fourth, the cross-sectional design captures a single point in time and cannot establish causality between HIM Services and Quality Patient Care, nor track how this relationship may evolve as the hospital's EHR implementation and infrastructure develop further. Future multi-institutional, longitudinal, or mixed-methods studies incorporating the planned qualitative component are recommended to build on these findings.

Author Contributions

Olaitan Ayodele Kehinde: Conceptualisation, methodology, investigation, formal analysis, data curation, writing — original draft, writing — review and editing. T. T. Adebayo: Supervision, conceptualisation, validation, writing — review and editing. E. O. Oyekanmi: Co-supervision, methodology review, validation, writing — review and editing. All authors read and approved the final manuscript.

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Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data Availability Statement

The datasets generated and/or analysed during the current study are available from the corresponding author on reasonable request, subject to institutional ethical approval and participant confidentiality safeguards.

Ethical Approval

This study was conducted in accordance with institutional ethical guidelines. Ethical approval was obtained from the Health Research Ethics Committee (HREC) of Federal Medical Centre, Owo, and permission was obtained from hospital management. Informed consent was obtained from all individual participants included in the study.

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