Assessment of Modern Health Information Management Practices in the Selected Hospitals in Ogun State, Nigeria

Toyin Paul, KAYODE
LCU/PG/001457

Being a Post Field Presentation to the Department of Information Management, Faculty of Communication and Information Science,
Lead City University, Ibadan, Oyo State,
Nigeria

In Partial Fulfilment of the Requirements for the Award of the Degree of Master of Science (M.Sc) in Health Information Management

2021

Certification

This is to certify that Toyin Paul KAYODE with matriculation number LCU/PG/001457 carried out this research work titled "Modern Health Information Management Practices in the Selected Hospitals in Ogun State" in the Department of Information Management, Faculty of Communication and Information Science, Lead City University, Ibadan, Oyo State, for the award of Master degree (M.Sc) in Health Information Management and that this has not been previously submitted.

Dr. T. D. Samuel _____ **Date**
Supervisor

Dr. T. E. Adenekan _____ **Date**
Head of Department

Dedication

This work is dedicated to the Almighty God.

Acknowledgement

The completion of this Master Thesis has been made possible by the assistance of many Institutions and individuals that no adequate expression of appreciation can be made here.

I would like to appreciate the Provost of Post Graduate College, Prof. A. Oredein and other members of staff of Post Graduate College for their support during the course of my Master Programme. My special appreciation goes to Dr. T. E. Adenekan, the Head of Department of Information Management for her academic and moral support towards the success of my Master Programme.

I would like to appreciate Prof. E. A. Erwat, Dr. L. Awobenu, Dr. S. V. Adeyeye, (Post Graduate Coordinator), Dr. T. Samuel, Dr. O. Tunmibi, Mrs. K. O. Popoola, Mrs. O. O. Ologbosere, Mrs. R. Oboh, and Mrs. E. O. Ibironke for their academic support, thoroughness of my Thesis supervision and all the lecturers that taught me during my course work, Dr. E. O. Omidoyin, Dr. R. Akangbe and Dr. F. Ayegbayo.

I sincerely appreciate my wife, Mrs. Kayode Oluwatosin Roseline and my children who helped me both morally and spiritually towards the actualization of this academic programme.

“Even though the above-mentioned institutions and persons have assisted in the process of this research project, I alone stand responsible for the errors, if any, found in the work.

Abstract

Assessment of Modern Health information management practices is based on using advanced technology in performing most HIM-related functions. Health Information Management practices are evolving from paper to electronic as technology advances around the globe. Observations and studies revealed that Patients express dissatisfaction with HIM practices of Hospitals which use primarily manual based methods of HIM practices. In this regard, this study deemed it fit to study Assessment of Health Information Management Practices in Selected Hospitals in Ogun State. Descriptive Survey research design was adopted for this study. The study population comprised 115 HIM professionals currently working in in selected Health facilities in Ogun State. A total enumeration sampling technique was used in this study. Data were analysed using descriptive statistics. Cronbach's Alpha reliability coefficients of the constructs ranged from 0.69 to 0.89. Findings revealed that the level of use of qualified HIM professionals was high with a mean score of 4.01 while the usage of IT which is the bedrock of Modern HIM practices was low in selected Hospitals in Ogun State. The method of HIM practices adopted in the selected Hospitals was hybrid method of practice which is more of manual system with minimal use of automation system. The study concluded that there are challenges militating against effective modern HIM practices in the selected Hospitals in Ogun State. The study recommended that Federal and State Ministry of Health and Policy makers should increase yearly budget allocation for health system to cater for training and re-training of staff, provision of good infrastructures and essentials ICT tools for effective modern health information management practices in Ogun State.

Keywords: Assessment, Health information management practices, Hospitals, Modern, Ogun state
Word Count: 266

Table of Contents

Chapter Two: Literature Review

Chapter Three: Methodology

List of Tables

List of Figures

List of Acronyms

Abbreviation		Meaning
AHIMA	-	American Health Information Management Association
CAHIM	-	Commission on the Accreditation for Health Informatics and Information Management Education
EIM	-	Enterprise Information Management
HI	-	Health Information
HIE	-	Health Information Exchange
HIM	-	Health Information Management
HIMS	-	Health Information Management System
HICT	-	Health Information and Communication Technology
HIMSS	-	Healthcare Information and Management System Society
HRO	-	Health Records Officer
HRT	-	Health Records Technicians
HIPA	-	Health Insurance Portability and Accountability Act
HIRM	-	Health Information and Records Management
HRHIS	-	Human Resources for Health Information System
HIT	-	Health Information Technology
ICT	-	Information and Communication Technology
IT	-	Information Technology
IFHIMA	-	International Federation of Health Information Management Associations
PHR	-	Personal Health Records

RHIA	-	Registered Health Information Administrator
PHC	-	Primary Health Care
HIS	-	Health Information System
PHI	-	Personal Health Information

Chapter One

Introduction

1.1 Background to the Study

The history of Health Information Management (HIM) profession dates back to early 1920s in the United States of America. HIM professionals have had an important role in healthcare quality-related activities. For decades this role primarily involved data collecting and reporting in hospital settings.

However, this roles keep on changing with the introduction of Information Technology (IT).

A well-structured, coordinated and advanced health information management practices and the use of qualified professionals have demonstrated to provide reliable health information for decision-making at different levels of healthcare delivery. This signify the importance of health information management practices to the effectiveness of a healthcare deliverysystem. The health information management profession has continued to develop in line with improvement in the health sector, while also gaining both international recognition and a clearer definition of the role that Health Information Managers play in the overall health system. Unfortunately, much of this advances in health information management practice has eluded the African continent and many research studies have drawn attention to the health information management challenges that confront the African health sector, including weak health information systems characterised by disparate health data sources with inaccuracies and uncertainties about health data quality[1].

Health Information Management (HIM) is considered the life blood of every healthcareorganization. It is the practice of acquiring, analyzing, and protecting digital and traditional medical information vital to providing quality patient care. It is a combination of business, science, and information technology[2].

Health information management (HIM) can be defined as the application of Information Managenet to health and health care. It is the process of analysing and protecting digital and manual medical information essential to provide quality patient care. With the evolution of Information Technology, traditional (paper-based) records are being converted to electronic health records (EHRs). The health informatics and health information technology tools are continously improving increasing efficiency of information management in the health care sector. Both hospital information systems and Human Resource for Health Information Systems (HRHISs) are common implementations of HIM.

The collection and use of health information will determine the effectiveness of Health information Management system in detecting health problems, defining priorities, identifying solutions and allocating resources to improve health outcome of the populace[3].

Health information management is the collection, analysis, storage and protection of the quality of patient health information. This information can be either paper-based, a combination of paper and digital (hybrid) or as is more often the case, a fully Electronic Health Records (EHR). Availability and accessibility of Health Information at the right time and right placeoften determine the quality and safety of Healthcarere. Health information must be available at the right time to support patient care and health system management decisions. Gaining consensus on essential data content and documentation standards is a necessary requirement for quality data in the healthcare system of the future. Continuous quality management of data standards and content is critical to ensuring that information is usable and actionable[4].

The provision of qualitative and effective health care, for different levels of health care system can be effectively achieved only if there is a coordinated, organized and effective health information that can be used to monitor health of the population as well as to provide reliable, accurate, adequate and timely information for management decision making at

every level within and outside the healthcare organization.Health information system consists of four interrelated components—data, information technology, process, and users. “HIM professionals’ traditional job roles make them the experts in managing data and processes in an information system. With the digitizing of information systems in healthcare organizations, the roles of HIM professionals have increased into information technology (IT) and user support, which usually are the functions of IT supporting services. HIM professionals’ training and expertise in the intersection of clinical and management sciences as well as their knowledge about data quality equip them with the capability to maintain the integrity and accessibility of health information”[5].

Modern Health information management practice involve using advanced technology in carrying out most Health Information Management functions. The HIM professionals must be equip with a wide range of knowledge, including laws that protect patient privacy data, analysis and how to harness computer system that collect data[4]. The healthcare sector is undergoing a systematic change process by aligningIT with healthcare delivery services in order to reduce costs, and enhance the effectiveness of the system. This strategy is to develop a national health information infrastructure that allows health information to be shared between providers, consumers, and payers in a patient-centric manner. The infrastructure change is taking place on three frontiers. First, providers are incentivized to use electronic health records in both inpatient and ambulatory medical practices. Second, local and nationwide health information exchange (HIE) systems are being built for providers, payers, and other health information users to access real-time health information of patients. Third, consumers are being encouraged to adopt personal health records (PHRs) as a tool to manage their longitudinal personal health information and easily share it with their providers and/or others involved in their care. HIM professionals are therefore responsible and accountable for the quality, storage, accessibility and timeliness of

retrievalof health information; they have natural role as custodian of information in healthcare delivery system.

The sensitivity of Patients Health Information has brought several challenges to managing institutions. The commonest relates to storage, access, safety, and security. Hospitals which use primarily manual based Health Information management practice experience storage and accessibility problems by the users and custodians[6]. HIM practice is essential to any health facility rendering patient's care services because patients come in contact with HIM services before other health care providers services. Observations and various researches however, shown that manual method of HIM practice cause dissatisfaction among patients/clients. Some patients are not getting the best services from HIM professionals in many Health facilities in Nigeria which has a grave implications for Health care delivery system.Missing or loss of of patient vital health records/information is an obstacle to effective clinical services with deteriorating outcome on patients care[7].

Similarly, it is disheartening to note that HIM practice has not been given its rightful position and attention by health health care facilities and individuals. In most Hospitals, Health records filing is not done regularly; hence the problem of inability to retrieve the needed records. In some health facilities, health records are not properly taken care of and deteriorate fast or even disappear as a result of exposure to the elements or through theft. It is time consuming searching forhealthrecords in the manual system which is a common scenarios in most Hospitals[8].

The introduction of Information and Communication Technologies (ICT) in different fields of endeavour such as industries, engineering and health, is influencing the way we manage information. The health care industry is not an exception to these forces of change. IT improves the quality and efficiency of healthcare delivery, increases patient safety, decreases medical errors, and strengthens the interaction between patients and healthcare

providers. The benefits of Information Technology include in healthcare are numerous. They include: Better health care by improving all aspects of patient care, including safety, effectiveness, patient-centeredness, communication, education, timeliness, efficiency, and equity.

Health information Management is the pillar of healthcare delivery. The medical record is the essential ingredient for maintaining continuity of care for the patient and the prevention of medical errors. The abstracted and aggregate data from health records is important to the financing and operation of the facility. Health information management of modern day is different from health information management of decades ago, due to influence of technology. The old world of managing paper health records is giving way to computerized records[9].

The advantages of Information Technology (IT) in Health information management are enormous.It enhances better HIM practice in modern age. Despite theseadvantages and the IT skills possessed by HIM professionals, the state of HIM practice in Nigeria is a cause for concern because ofover dependence on paper-based and fragmented health data management system and under-utilization of computer resources in the management of health information even as the world moves from paper health records to full digital health records.[10]The practice of health information however differs across levels of care, health care facilities and countries to countries due to equipment and information technology resources available and enabling laws.

1.2 Statement of the Problem

The use of of information technology has clearly shown to improve the provision of healthcare while overdependence of the Hospital on manual based method of HIM practice has continued to present cascade of problems.Several studies have noted series of

unsatisfactory services experienced by patients from HIM professionals in healthcare facilities in Nigeria to include; inefficient and inaccurate operational services such as missing files and information, damaged files, prolong patient's waiting time and delay in retrieval of information to legitimate users. However, some of the ugly experiences of patients and healthcare personnels when seeking services of HIM professionals could bebe eradicated or minized by using simple automation system for majority of the HIM functions. The kind of HIM practice adopted by a Healthcare facilitty has will determine decision accuracy, timeliness and commitment.

HIM system are developing. Some consist of handwritten notes; some are designed as highly sophisticated in electronic form such asElecronic Health Records (EHR) system. Most have combination of handwritten and electronic. HIM system must facilitate simultaneous several access to information for clinical and administrative purposes. Most health Information system must have at least some computerization.

The researcher discovered from literature that using automation system for majority of HIM functions (such as patients registration, patients index management, data collection and analysis etc) even where the Health facility is not totally computerized such as prevalent in most developing countrieswoulddefinately improve the quality and efficiency of HIM practice positively. It ishowever,worrisome to note that few HIM professionals utilized the knowledge of information technology in HIM practice especially in public health facilities in Nigeria despite their IT inclination.Based on this premise,the researcher intends to evaluate Health information management practice in the selected Hospitals with a view to proferring solutions.

1.3 Aim and Objectives of the Study

The aim of the study is to assess modern health information management practices in the selected Hospitals in Ogun State of Nigeria.

The specific objectives of the study are to:

i. examine the levels of use of qualified health information management professionals for HIM functions in the selected hospitals in Ogun State.
ii. investigate methods of health information management practiceS adopted in the selected hospitals in Ogun State.
iii. examine the challenges facing modern health information management practices in the selected hospitals in Ogun State.
iv. identify the necessary skills required to practice modern HIM in the selected hospitals in Ogun State.

1.4 Research Questions

1. What are the levels of use of Health information management professionals for HIM practice in the selected Hospitals in Ogun State?
2. What are the methods of Health Information Management practice adopted in the selected Hospitals in Ogun State?
3. What are the challenges facing modern health information management practice in the selected Hospitals in Ogun State?
4. What are the necessary skills required to practice Modern HIM in the selected Hospitals?

1.5 Significance of the Study

This study will be of benefit to healthcare institutions, health information professionals, the patients, health care administrators,government, body of Knowledge.The study will form a

base for another study. The findings of this study will also add new knowledge on the topic and serve as a base for further research in areas where other scholars will identify a gap.

Findings of this study would also assist the management of various healthcare facilities on how to effectively manage Health Information Management professionals by providing essential tool (ICT) in order to achieve a desired service delivery.

The findings of this research will serve as a guide, especially to the institutions offering Health Information Management with a particular emphasis on the pivotal roles of HIM Professionals and modern HIM practices using Information Technology (IT).Lastly, findings from this study could encourage the government to increase budgetary allocation to health institutions in order to boost the provisions of needed resources for effective HIM practices.

Findings of this study would equally be of immense benefit to Health Information Management Professionals by revealing skills gap in HIM practices and current trends in Health Information Management.

1.6 Scope of the Study

Modern Health Information Management Practices is concerned with two major components; Use of Information Technology and use of qualified Health Information Management Professionals with the required skills for modern practice.

This research intends to investigate Modern Health information Management Practices in eleven the selected Health facilities (9 government health facilities and 2 private health facilities) in Ogun State which comprises of Abeokuta North, Abeokuta South and Sagamu Local government areas. The selected Health facilities in Abeokuta North are: General Hospital, Iberekodo; Leprosy centre, Elega. The selected Health facilities in Abeokuta South are: Federal Medical Centre, Idi- Aba, State Hospital, Ijaye; Oba Ademola Maternity Hospital,Ijemo; M&E Unit (Abeokuta South); M&E Unit (Abeokuta North);General

Hospital, Iberekodo; Olikoye Ransome Kuti Memorial Hospital, Asero; Sacred Heart Hospital, Lantoro; Mercy Group of Clinics, Panseke; Leprosy Centre, Elega.The selected Health facility in Sagamu is; Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun State.

The scope of the study is limited to all current practicing health information management professionals in their various health facilities in Ogun State. The HIM Professionals are Officers and Technicians who are holders of HND/B.SC and Technicians certificates respectively.

The researcher's choice of the health facilities in the three local government areas in Ogun State is informed by the breakdown of statistical data of health facilities published inOgun State health bulletin. The three local government has the highest number of HIM professionals, health facilities (263) and two tertiary health facilities in Ogun State.

1.7 Limitations of the Study

The findings of this study have to be seen in light of some limitations. These limitations includes; time constraint which of course did not allow the expansion of the scope of the study to the entire Health Information Management professionals in Ogun State,finacial difficulty- (the research work is solely funded by the researcher without grant from any source), non-response and lateness in returning questionnaires by respondents caused delay and difficulty in data analysis.

The researcher adopted questionnaire as the instrument utilized for data collection, which may have limitation of differences in understanding and interpretation by the participants of this study. Some participants may probabaly be biased by not wanting to ventilate and express their true thoughts as per health information management practices in their selected healthcare facilities. Thus, to tackle this anticipated challenge, the researcher thoroughly and

patiently explained the content of the questionnaire to the respondents in order to achieve an objective outcome.

1.8 Operational Definitions of Terms

Assessment – This is the evaluation of modern Health Information Management Practices in the Selected Hospitals in Ogun State.

Computer Based System - The computer based system consists of all components necessary to capture, process, transfer, store, display, store, display and manage information of modern Health Information Management Practices in the Selected Hospitals in Ogun State.

Electronic Health Records - It is an electronic collection of a patient's medical history-including diagnoses, medications, treatment plans, allergies, and laboratory and test results.

Health Information Exchange (HIE) – It is the electronic movement of health-related information among organizations according to nationally recognized standards.

Health information Management - Health Information management is the collection, analysis, storage and protection of the quality of patient health information.

Health Information Management Practice - This is the process of fulfilling the ethical and legal obligations of Health Information Management Professionals in a paper-based medical records environment (such as records processing, analysis and completion, release of information,datacollection,transcription and forms management functions), electronic or hybrid environment (combition of paper-based and electronic records).

It can also be defined as the procedures that indicate the steps involved in performing health information management functions effectively.

Health Information Management Professionals - They are professionally trained and qualified personnel engaged in the management of patient's health records in health facilities.

They are custodian of patients' health information and also ensure its confidentiality and security in healthcare facilities.

Health Information Management Training - Training in the context of HIM prepares potential HIM professionals for roles in Health Information collection,clinicalcoding,analysis and reporting, release of information, privacy, electronic records development and management among others. HIM training explores relevant topics such as Health data collection and analyses, clinical coding and reimbursement system, quality management,health information system and health care planning.

Hospital - An institutions that provides medical, surgical,or psychiatric care and treatment for the sick or the injured.

Information - The meaningful and usable product that emerges from process data produced in such a form as to be useful to the recipient.

Information Technology – Is the use computers to store, retrieve, transmit and manipulate data or information.

Information and Communication Technology (ICT) - It is a broader term for Information Technology (IT), which refers to all communication technologies, including internet, wireless network, computers, software and other media applications and services.

Modern Health Information Management Practice – This invoves using advance technology in performing most HIM-related functions. It is characterized by the use of technology to collect, manipulate, process to enable efficient and timely retrieval of information in the selected Hospitals in Ogun State.

Patient - A patient is any recipient of health care services. The patient is most often ill or injured and in need of treatment by a physician, nurse, psychologist, dentist or other health care providers in the selected Hospitals in Ogun State.

Personal Health Records (PHR) – are transaction-level data on health-related events and indicators pertaining to a single, identifiable individual. PHR includes − and is often used interchangeably with − electronic medical records, patient health records, and other similar terms in the selected Hospitals in Ogun State.

Primary Health Care (PHC) – This is a term used to describe the first contact a person has with the health system when they have a health problem or issue that is not an emergency.

Endnotes

1. A. I., Ojo. *Repositioning Health Information Management Practice in Nigeria: Suggestions for Africa,* ***Health Information Journal***, 7(3), 2018.

2. American Health Information Management Association (AHIMA), 2015. www.ahima.org/certifications-overview/career-tools/career-pages/healthinformation-101

3. S. Stanfield. *Structuring Information and Incentives to Improve Health*, **Bulletin of the World Health Organization***,* 83(8), 2005, 561-640.

4. Herzing University, *What is Health Information Management?* Retrieved from www.herzing.edu./blog/what-health-information-management

5. *American Health Information Management (AHIMA) Foundation,* www.perspectives.ahima.org/redefining-role-of health-information-management-professionals

6. K., Wager, F., Lee, & I. P., Slaser. *Managing Health Care Information System*. Francisco: Jossey-bas, 2005.

7. B. K., Ayilegbe. *Electronic Health Records Use, Human Development and service delivery of Health Information Management in Government Teaching Hospitals in Nigeria,* 2020, 13.

8. T. P., Kayode. *Efficiency of Computerization of Patient Health Records at Babcock University Teaching Hospitals,* Ilishan, Remo, Ogun State, 2017.

9. G., Richard. *Health Information Technology and Management*, 1st edition, Published by Prentice Hall, 2011, XIV.

10. I. T., Adeleke. *Relevance of HIM and the roles of HIM professionals in Healthcare delivery systems*, **Research Gate Journal**, 2014.

11. J., Strausberg. *ComparingPaper-based patient Records. Lesson learned during a study on Diagnosis and procedure Codes*, **Journal AM. Medical Informatics Association**, 10(5), 2003, 470-477.

12. K. S., Osundina. *Assessment of Health Information Management Practice among Health Records Professionals in Osun State,* **Research Gate Journal**, 2017, 4, 16 https://www.academia.edu /29623033/ Assessment_of Health Information_Management_Practice_among_Health_Records_Professionals_In_Nigeria._

13. P., Awogbami. *Health Records Management Practices and patients' satisfaction in selected University medical centre in Southwest Nigeria*, **Research Gate Journal**, 2020

14. A., Ojo. & R. O., Owolabi. *Health Information Management Personnel Service Quality and Patients Satisfaction in Nigerian Tertiary Hospital,* **Global Journal of Health Science***,* 9(10), 2020.

15. M. A., Ashinda Nora. *Role of Medical Records Practice in improving decision making in University Hospital, Malaysia*, **Research Gate Journal**, 2020.

16. Institute of Medicine (IOM). *The Computer- Based Patient Records*: Revised Edition: An essential Technology for Health Care. Washington (DC): National Academies Press(US); 1997. www.ncbi.nih.gov.books

17. Ministry of Health, Ogun State. *Ogun State Health Bulletin*, 3, 2006, 2.

Chapter Two

Literature Review

This chapter presents a review of literatures relevant to the research work. The review was achieved under the following headings:

2.1 Conceptual Review

2.1.1 Overview of Health Information Management Practices

2.1.2 Models of Health Information Management Practices

2.2 Theoretical Framework

2.2.1 Utilitarianism Theory

2.2.2 Deontological Theory

2.2.3 Leadership Theory

2.3 Empirical Review

2.3.1 Health Information Practice

2.3.2 Roles of Health Information Management Professionals

2.3.3 Modern Health Information Management Professionals

2.4 Conceptual Framework

2.5 Summary of Literature Reviewed

Endnotes

2.1 Conceptual Review

2.1.1 Overview of Health Information Management Practices

Health information Management practices can trace its origin to the early 1920's in the US when healthcare professionals realized that documenting patient care benefited both providers and patients. Patient's records established the details, complication and outcomes of patient care. Documentation became widely popular and was used throughout the US after healthcare providers realized that they were better able to treat patients with complete and accurate medical history. Health records were soon recognized as being critical to the safety and quality of the patient experience.

The history of health information management practice formerly known as Health records management runs parallel with the history of medicine, records are necessary for the practice of medicine as medications are for effective treatment and they seems to have been made from the earliest antiquity[1].

Development of Health Information Management Practices coincided with the professionalization of other health care disciplines such as nursing, x-ray technology and laboratory technology. All these disciplines established registration around the same time. The change in nomenclature of HIM profession set the pace for the evolutional changes in the profession and its practice since the beginning of early 1920's in United State of America. HIM professionals grew steadily over the subsequent decades. Although the names of the association and credentials have changed several times during the past decades, the fundamental elements of the profession-formal training requirements and certification by examination have remained the same.

Health Information Management Practice changes as health care responds to healthcare re-organization, technology, and new methods of patient care. Health information management

is also regarded as the lifeblood of every healthcare organization. Health Information management (HIM) is the profession that collects, maintains, and processes patient information for the healthcare providers, payers, and the government[2].

Health Information Management is definedasthe practice of maintenance and care of health records by traditional (paper-based) and electronic means in hospitals, physician's office clinics, health departments, health insurance companies, and other facilities that provide health care or maintenance of health records[3]. Health information profession refers to an occupation that requires a specialized education, knowledge, training and ethics, hence, health information management professionals play vital roles in the health information care, maintenance and custody.

Health information management (HIM) is the practice of maintenance and care of health records by traditional and electronic means in hospitals, physician's office, clinics, health departments, health insurance companies, and other facilities that provide healthcare or maintenance of health records[4]. It is also defined as a profession that has been focused on the effective management of patient information and health care data essential in the delivery of quality treatment and care to the public[5]. It is further defined as as the practice of acquiring, analyzing and protecting digital and paper based medical and health information vital to provide quality patient care and maintaining the daily electronic health record[6]. Health Information Management is further viewed as being at the center of health care service delivery. The practice provides a means of communication between the members of health care team. Health Information Management is essential for healthcare providers and other HIPAA-covered entities to ensure patient information privacy and security. HIM involves medical coding and billing, ensuring compliance with government regulations, and handling customer requests for Personal Health Information (PHI).

Health information management (HIM) is the collection, analysis, storage, and protection of patient health information and medical records. It is a multidisciplinary field composed of technology, research, and health care experts. Although this field doesn't involve direct patient care, it is undeniably vital to the industry because health care systems rely heavily on the data innovation this expertise generates and oversees. The demand of of electronic health records (EHR) has increased a greater need for effective health information professionals. Think of it as thecentral hub of health, connecting medical professionals, the information they gather to track critical patient data, and the patients themselves. Without the intricate multitude of managed data, the healthcare delivery sector simply could not function. The data is used to influence decisions, improve patient outcomes, and work toward a better future in healthcare[7].

Health Information Management performs an essential role in the implementation of digital health records (EHRs). It ensures that healthcare providers, Health Maintenance Organizations (HMO's) and patients themselves have accessibility to certain health information when needed whilst maintaining the highest standard of data integrity, security and confidentiality. HIM has developed from laying emphasis on manual method of HIM practice (paper based medical records) to computerized method of practices. Thisplayis a significant role in ensuring effective storage and accessibility to health information which provides real time healthcare delivery and prompt health related decision making for several reasons across different organizations. However, the primary role of the practice continues to be influenced by the introduction of new technology and other ICT devices which influence the healthcare operations.

Health information management practices takes place across the entire healthcare landscape in acute care hospitals, primary care practices, long-term care or mental healthcare agencies, community care agencies, and government agencies[8]. Health information management

practice has been described as the procedural steps that is involved in performing health information management functions effectively. It is stressed further that the practice is the actual use or performance as compare with the idea, intention, or rules on which the action is based[9].

Health information management (HIM) Practice is the process of maintaining the traditional health records (paper based) and electronic health records which contain clinical, epidemiological, demographic, financial, reference and coded health data suitable for patient care, evaluation, planning and decision making. HIM as a discipline or field of study concerned with creation, storage, and maintenance of patient health records as well as collection, collation, presentation analysis, dissemination and reporting of data on diseases and health related events. Health information Management Practice involves providing accurate documentation and registration of patient health information and up-to-date health statistical information on hospital activities, both on curative and preventive services, inpatient and outpatient services, through the process of gathering and collection of patient information and manipulation for meaningful decision making.

Health information Management practice is further viewed as a practice responsible for information creation, storage, demographic information processing, analysis, retrieval and dissemination, and these are the major ingredients required to creating value-focused health care system[10]. Health information Management practices involve performing several related functions to meet the information needs of the service area. Some of these functions can be provided from a central location, some tasks can be automated, and some will be provided within each individual health care facility. The information services will be offered by a combination of HIM Professionals, Health Informatics (HI) experts and Health Information and Communications Technologies (HICT) specialists. There is considerable overlap between the three professions. HIM professionals are subject matter experts in collecting,

analysing and protecting health information with the goal of ensuring health care practices are of high quality, efficient and safe, and respect the patient's right to privacy. HI experts provide generalised services in these areas with a focus on researching, developing, and analysing information systems and technology. HICT specialists also provide general information services, but focus on using technology and tools to store and manage health data securely[11].

Health Information Management practices are processes of fulfilling the ethical and legal obligations of Health Information Management Professionals either in a in a paper-based medical record environment (such as record processing, analysis and completion, release of information, medical transcription, and forms management functions), the electronic environment or hybrid environment (combition of paper-based and electronic records). The Health Information Management Practice will ensure that: Master Patient Index contains accurate and correct information and updated regularly; health data are complete, accurate, legible, and free from corruption; each document within the health record contains all the information that is required by medical treatment, jurisdictions, professional colleauges, and the facilityhealth records are stored in a safe place to avoid alteration after signature; only authorized individuals have access to health records; all personal health information is kept confidential and secured from misuse; aggregated and anonymised health information is made available to health care providers, planners and researchers to learn from the past and provide better health care services in the future.

Health information management practices is highly essential in any healthcare organization rendering healthcare delivery services to patients in ensuring effective, quality service delivery. Health information is among the required tools needed by an hospitals to realize its missions and visions. Health information management ensure that Patients and Healthcare providers have accessibility to quality, accuracy, authenticity and security of information in

both manual and digital systems.Having reliable data on the performance of different parts of the health system is the only way to devise, execute, and measure health interventions which is the main objective of health information management practice.

The art of preservation and management of Health Information is an issue that has generated series of concern over time. This is so because of his role in supporting health care as well as a platform for monitoring the health history of patients. However, the state of health information management in Nigeria and most African countries, call for concern. Observation and past studies have shown the challenges facing the practices of health information management in Africa to be centred around the quality of professional training, inadequately qualified practitioners, unethical practice, government's indifference towards the practice, lack of policies and inadequate technological infrastructure among others[1]. Health information management practice has demonstrated almost all the basic qualities of a profession in Nigeria, yet, there is still room for improvement in the following specific areas of the practice: Non publication from time to time the list of registered health information practitioners as stipulated in part 1 section 2(b) of Act 39 of 1989, Lack of full professionalization of some health institutions' department of health records, which is not in the best interest of the practice, Irregular conduct of professional continuing education programmes, for knowledge advancement among professionals, Stagnated career progression, due to poor implementation of the enabling scheme of service for Health Records Officers, Non recognition of health information professionals for top managerial positions in the health industry, Limited number of degree awarding institutions in health information management in Nigeria. Lack of special remuneration package for health information practitioners like their counter-parts in other professions[12].

In the case of paper-based records, it is established that the greatest issue is lack of space for the increasing number of health records. Physical storage space for paper health records is

one of the common peoblems experienced by many Health Institutions Hospitals producing hundreds to thousands of records each day means that after a given period of time the records accumulate huge volumes of paper records. This may bring about difficulty in filing and retreiving records before they are disposed. This poses a major challenge for paper records. For electronic records many challenges have been identified. These challenges include high costs of installation, system failure, cyber-crime, lack/inadequate skill by HIM Professionals. Unlike paper based Health Records, loss of electronic records is guaranteed unless actively managed[13].

Challenges Facing Health Information Management Practices

Health information management practices in Nigeria are facing myriad of challenges despite the fact that the practice is almost as old as the country itself. The HIM profession is facing many challenges that need to be considered and addressed in order for the profession to remain relevant, be responsive to change, and continue to add value to the healthcare system. A number of challenges and problems are associated with the implementation of health information management practices in developing countries such as Africa as a continent. Some of these challenges/problems are peculiar to most developing countries which are further influenced by economic factor. While the challenges facing the HIM profession in different countries are likely to be similar, there are also likely differences due to the state of the healthcare system in the country, specific health information workforce challenges, and the positioning of the profession within the country[14].

Inadequate Funding

Many governments, policy makers and opinion leaders in developing countries are unable to offer as much funding, policies as is needed to establish or maintain HIM practice, support personnel and success of the system[10]. Electronic projects are quite expensive. Electronic

Health Records requires huge funds to implement and maintain. It requires frequent hardware and software upgrades, and increasing cost of subscription to Internet services[15].

eHealth and mHealth information management implementation

Generally, Information and Communication Technologies (ICTs) have become a Critical success factor needed for accomplishment of set goals and tasks in every Organisation and human endeavours. Information and communication technology (ICT) tools drive information management across all sectors of the economy. The multifarious technical resources are both old and new tools used to acquire, process, store, edit, retrieve, transfer and disseminate information and knowledge of various formats. The said Technological tools and resources consists of telephony, cable, satellite, television, Radio, computer-mediated conferencing, video conferencing; digital technologies, information networks, Internet, World Wide Web, intranets and extranets and Software applications, among many others. Generally, Information and Communication Technologies (have become a Critical success factor needed for accomplishment of set goals and tasks in every Organisation and human endeavours. Generally, Information and Communication Technologies (ICTs) have become a Critical success factor needed for accomplishment of set goals and tasks in every Organisation and human endeavours.

The term eHealth could be described as the use of ICT in hospitals. eHealth is defined as the use of ICT in provision of health care services. This means ICT can be used in various health care functions such as clinical, educational, research and administrative regardless of geographical settings. mHealth extends the efficiency and accuracy of the already available health systems through the use of electronic devices such as PDAs and mobile telephone networks to improve functions (such as reporting procedure) of the health system[16].

Individuals in poor and developing countries have the least access to health services due to low financial resources, lack of infrastructure and other barriers in accessing the needed services. In addition, the dearth of competent health care professionals and low health education has contributed to the need for a shift in paradigm and innovative solutions in health workforce development. The popularity and growth of the Internet and mobile wireless technologies have assisted in changing the face of healthcare delivery and health education for health professionals in many countries. There has been an increasing number of developed and developing countries with e-health strategies, and as of 2015, Bangladesh, Paraguay, Qatar, and Rwanda were the most recent group of countries with official adoption of e-health strategies out of the 73 countries with e-health adoption[1].

The term e-health refers to the application of ICT in the health sector, and ICT has also been adopted for the purpose of Managing Health Information. Appreciable number of e-health implementations, particularly electronic health records (EHR) have been implemented in African Countries, however, the report on the involvement of health information management professionals are scanty[17].

According to various researches in Nigeria in the field of health information management, there are more HIM professionals who are less equipped in ICT skills needed to function effectively in their Health Information Management System (HIMS) roles[18,1,4]. Information Technology products and services are scarce and expensive in African countries, and are often characterised by gross inadequacy of technical supports, telecommunications, training and IT equipment. Southern Africa, for example, accounts for 68.5 % of the total Internet usage in Africa, while West Africa, which includes Nigeria, has the least usage rate of 11.9 % and access to IT products like the Internet remain a major challenge in Nigeria. This digital inadequacy has had a negative influence on healthcare services; there is little access

to a health information system of a sufficiently high standard to support informed decision making in Nigeria as the existing system is mostly paper-based[19].

Quality of HIM Professionals and Training

Previous researches have shown that there is scanty reports on Health Information Management professionals training programmes at an undergraduate and postgraduate level in Africa. The reports of qualified health information management practitioners is scanty in district hospitals in Ghana and Sierra Leone and also mentioned that the state of affairs was particularly unsatisfactory in Uganda, as there were no formalised training programmes in general for health information management practitioners, regardless of their level in the health system. There was also report technologically unskilled health information management personnel cited in different studies of hospital facilities in South Africa[1].

HIM Professionals lack adequate recognition as part of clinical team and clear cut career progression just like other health professionals in developing countries due to lack of standard global education and training. In Nepal, HIM functions was placed under the control of the management division at the department of Health without any qualified HIM Professional working in Health Management Information System. For developing countries to achieve the goal of better health requires better creation, capture and utilization of health information. In turn this requires the right people to be trained at the right time with the right skill sets[20].

In Barbados, HIM Professionals play a vital role in the continuum of care in the health sector. They are regarded as the gate keepers of patient's health information. The profession is one of the oldest and fastest growing healthcare professions, yet it is often overlooked. It lacked the deserved the recognition and awareness it deserves[21].

Also, various studies in Nigeria revealed that HIM professional training need to be improved upon due to the skills gap identified in the form of existing training of HIM Professionals at ordinary National Diploma and Higher National Diploma level. This form of training do not include the necessary needed skills[35,36]. Quackery and unethical practices are twin problems that characterized HIM practices in developing countries with grave consequences as witnessed in our various health facilities. Despite the essential roles of HIM in healthcare delivery, non-qualified persons (Quacks) are recruited to health information system.

The activities of quacks such as breach of confidentiality and patient privacy including rudeness to patient, unauthorized disclosure and access which results in patient's dissatisfaction contributed to research misconducts, medical errors and dearth of quality health data. Unethical practices and quackery can have a devastating effect on health outcomeby contributing to wrong diagnosis, misadministration of drugs or interventions and mismanagement of patient. In some cases, quackery and unethical practices can result in extreme and irreversible damage, impairment and even loss of life[6].

Infrastructural Deficit and Inadequate Materials resource

Infrastructural deficit and inadequate materials resources characterized Health Information Management Practices in developing countries of the world. Some new infrastructure are needed while the existing ones need repair. Previous researches have shown that despite the progress made so far in Health Information Management Profession, numerous challenges continues to exist in HIM Professional practice which is not peculiar to developing countries alone. In Ghana, Majority of Health Information Management Departments still have inadequate infrastructure and equipment; some of the existing resources are obsolete and broken-down. Replacement or procurement of new resources for an improved Health Information system remains a secondary priority and not given the level of importance it deserves. Data management needs adequate resources to facilitate coordination/management

quality information. Failure of Health Service Managers to pay attention to resource strengthening for Health Information Management Departments can only plunge the health system in a very compromised and difficult state which shall result in poor health outcomes[22].

Similarly, Health Information Management practice lacks adequate recognition in Ghana. As technology advances, healthcare systems ought to align with it. It is quite unfortunate that Health information in Ghana is handicapped in terms of using advanced technology to render services with resultant effects such as lack of continuity of patient care across the level of healthcare settings and losses in revenues, long waiting times for client/patients, duplication of medications and patients' master Index card, needless use of Office stationeries[23].

In Nigeria, majority of the HIM facilities are in a sorry state which are begging for repair or modernization and is undeniably linked to lack of funding. The buildings used to store health records in some health Institutions are often inappropriate and lead to accidental ruining of the records due to temperature and water issue[10].

Health Information Management Professionals

A Profession is a set or group of discipline individuals who adhere strictly to standards and procedures(ethics) and are accepted by the public as possessing a specialized knowledge and skills in a widely recognised body of learning derived from research, education and training at a high level, and who are prepared to apply this knowledge and exercise these skills in the interest of others. It is embeded in the definition of a Profession that a code of ethics defines the activities of each Profession and govern the conducts of each member of the profession. Such codes require behaviour and practices beyond the personal moral obligations of an individual. They define and set high standards of acceptable behaviour in

respect to the services rendered to the public and in dealing with professional colleagues. These codes are enforced by the Professional body and are acknowledged and accepted by the community[24].

Several characteristics are peculiar to all professionals regardless of discipline. Professionals undergo extensive and specific training to master a complex body of knowledge and must have the ability to apply that knowledge. The value of HIM professional services is frequently recognized through licensing, registration or certification requirements that prohibit entry into the profession[25]. A Professional is a member of a Profession. Professionals are governed by codes of ethics and profess commitment to competence, integrity and morality, altruism and the promotion of the public good within their expert domain. Professionals are accountable to those they serve and to society. Health information management (HIM) professionals are highly trained in the business of healthcare. A health information manager is responsible for planning, organizing, overseeing, and following up on all activities related to the HIM department and the integrity of clinical and financial data. They ensure that healthcare providers can access accurate and complete patient health information when and where they need it.

Health Information Management Professional is defined as a person working in Health Information Management position and who had undergone a course of training for at least a diploma or graduate degree levels. The individual must acquire relevant graduate degree levels. An individual who has acquired relevant practical course of training and has been certified or licensed by established regulatory authority to practice and manage health information or records in the country of domicile he/she works in hospital, health departments, basic & community health centres, nursing homes, mental health facilities & public health agencies, health insurance companies and other facilities that provide healthcare or maintenance of health records[6].

Health Information Management Professionals are responsible for maintaining components of health information system, consistent with the medical, legal, accreditation and regulatory requirements of the healthcare delivery system. Health Information Managers maintain, collect, and analyze data, crucial to the delivery of quality patient care. They compile and report health (information) data for reimbursement, facility planning, marketing, and research. Also, they abstract and code clinical data, using appropriate classification scheme, and analyze health records, according to standards.

Health information management professionals (Health information Managers) are considered experts in managing patient health information and medical records, administering computer information systems, and coding diagnoses and procedures for health care services provided to patient[26]. Each time a patient visits a healthcare facility to receive health care, a record is generated to document the patient's current symptoms, medical history, results of examination, treatments rendered along with outcomes, ancillary report results (e.g., laboratory), diagnoses, and plans for treatment. This patient data is organized, analyzed, and maintained by health information managers to ensure the delivery of quality health care.

HIM Professionals plan, design and implement information system, develop health policy and identify current and future information needs. In addition, they may apply the science of informatics to the collection, storage, analysis, use and transmission of information to meet legal, professional, ethical and administrative records-keeping requirements of health care delivery. They work with clinical, epidemiological, demographic, financial, reference and coded healthcare data[27]. In the United States, there are different categories of HIM professionals. Health Information Managers are certified as a Registered Health Information Administrator (RHIA) after graduating with a bachelor's degree in Health Information Management from an accredited School by the commission on the accreditation for Health

Informatics and Information Management Education (CAHIM) and after passing the prescribed examination. RHIA usually assume a managerial position that interacts with all levels of an organization that use patient data in decision making and everyday operations. Medical Records and Health Information Technicians (RHIT) after completing an associate degree in Health Information Technology from a School accredited by the commission on Accreditation for Health Informatics and Information Management Education (CAHIM).

Today, in Nigeria, a health information management professional who earns a bachelor's degree from university is referred to as Health Information Management Officer. Those who earn Higher National Diploma (HND) from monotechnic (School of Health Information Management) and college of Health Technology are referred to as Health Information Management Technologists while the junior categories who spent 3 years are called Health Information Management Technicians[45]. HIM professionals are regarded by law to be experts and primary custodians of health information by maintaining privacy, confidentiality and security of information in the healthcare sector[28]. A coursework of HIM professional includes medical terminology, anatomy and physiology; legal aspects of health information; coding and abstraction of data; statistics; database management; quality improvement methods; and computer training in addition to general education.

The demand for health information management professionals are very high due to pivotal roles they play in every healthcare organization. These practitioners work closely with many other health-care professionals to contribute to the management of health information and quality patient care[29]. Without health information professionals and your skills, the healthcare machine stops. Without you, data is not properly managed. These health professionals help healthcare team to take care of patientsthrough effective data collection, analyses andrelease of information to authorized users"[30].

Health Information Management Professionals are occupying a pivotal position in the health sector because of the sensitive roles they play. They organize, oversee, and protect patient health information data which includes symptoms, diagnoses, medical histories, test results, and procedures. These administrative professionals make sure that traditional and digital Health Information maintains its accuracy, accessibility, quality and security. They serve as an essential link between physicians, patients, and third-party payers. They are trained in information technology applications and often serve in bridge roles, connecting clinical, operational, and administrative functions. They enter patient information into computer databases to comply with federal legislation mandating the use of electronic medical records. It is one of the few health-related occupations in which there is no direct hands-on patient care[31].

Health Information Management Professionals are set of people with specialized knowledge in the field of HIM. They adhere to professional standards of practice or code of ethics. In the nearest future, HIM professionals will be regarded as leaders in the lifecycle management of health information from data collection through use, maintenance, and protection to final disposal. With technological advancement, the focus of coding activity will shift from coding and abstracting to working with clinicians to improve the quality of documentation and information and to auditing and supporting health professionals at the point of care. Increased monitoring and auditing of health data will be needed. Understanding of natural language processing will be needed as the healthcare industry moves toward auto-coding of applications, classifications, and terminology frameworks. HIMs will become data editors rather than data coders to ensure that data remain of high quality for optimum healthcare use.

There are several career opportunities in Health Information Management and many different traditional and non-traditional settings for an HIM Professional to work within

Traditional settings include: managing an HIM Medical records department, cancer registry, transcription, quality improvement, release of information, patient admissions, compliance auditor, physician accreditation, utilization review, physician offices and risk management. Non–traditional settings include: consulting firms, government agencies, law firms, insurance companies, correctional facilities, extended care facilities, pharmaceutical research, information technology and medical software companies.

Health Information Professionals are also considered as expert who develop and implement health information Programmes in as much as medical, legal and ethical standards are guaranteed. They play an important role in the maintenance, collection and analysing of data that is collected by healthcare providers (Doctors, Nurses and Other healthcare providers) to deliver quality healthcare[27]. Health information management professionals (HIM) provide services in all aspects of records management – including data collection and data quality management, integrity, standards, disclosure, coding, disposition, and privacy of health information. They perform detailed analysis of the information in the health record to facilitate health care delivery, patient safety and decision support. They play a role in ensuring the confidentiality of health information within the patient record and are advocates of the patient's right to private, secure and confidential information. HIM professionals are essential in quality programs, and provide guidance on documentation, communication, eHealth implementation, EHR infrastructure, and policy issues[32].

The main role of a HIM professional is to maintain organised and accurate information, and to do that, they need to perform several complex tasks across the lifecycle of information, from acquisition to archiving to destruction, in their health care organisations. They play a critical role in completing, protecting and ensuring the availability of high-quality clinical information for purposes including patient care, reimbursement, quality assurance, research, statistics gathering and management decision making[33].

HIM professionals perform the following core HIM functions essential to patient safety as healthcare organizations use the data to:Ensure that patient information is secure and protected; Improve healthcare quality by reducing medical errors, health disparities, and by advancing the delivery of patient-centered medical care; Reduce healthcare costs resulting from inefficiency, medical errors, inappropriate care, duplicative care, and incomplete information; Provide appropriate information to help guide medical decisions at the time and place of care; Improve the coordination of care and information among hospitals, laboratories, physician offices, and other entities for the secure and authorized exchange of healthcare information; Improve public health activities and facilitating the early identification and rapid response to public health threats; Facilitate health and clinical research and healthcare quality; Promote early detection, prevention, and management of chronic diseases.

HIM professionals ensure prompt availability of quality health data and information for variety of purposes such as immediate patient care as well as for disease surveillance, resource planning, education/training of health personnel as well as students, management, research, and many other health system uses. HIM professionals are expert in data collection, coding and classification of health data, data analysis and use, and management of information and records. They understand the processes involved in data collection to maintain the Manaual records and hybrid record and manage information through out its lifecycle from its capture and collection to its organization, maintenance, and protection; access, use, and disclosure; retention; and final disposal or destruction. There are essential health data and information that need to be available for physicians and allied healthcare professionals to ensure prompt and optimal care and health outcomes. They play a key role in providing, maintaining, protecting, and managing that health information[9].

HIM professionals also play a role in many of the developing digital health functions such as health information analysis and decision support, business intelligence and analysis, change management, and project management.Health Information Management Professionals play a sensitive and critical role in the health sector. HIMprofessionals are to ensure "the availability of right information when and where it is needed, while at the same time making sure it is the highest quality data,it is confidential and it is secure"[34].

Table 2.1. New Health Information Management (HIM) Professional Roles Based on Job Functions in Managing Health Information

Function/Category	Service Scope	New Roles
Data capture	The data capture service performs all operations associated with the capture of health data. This includes data coded directly from clinical documentation or auto-coded using systems for that purpose, voice and speech recognition systems, and scanning or creating a digital image of text-based documents. This service will perform audits of the service functions to ensure that best practice and current standards are implemented.	Clinical data specialist Data profiler Concurrent coding specialist Code mapping specialist Data mapping specialist Data quality analyst Standards coordinator/standards specialist Research associate
Information integrity	This service evaluates the integrity of health information holdings, identifies risks, and	Health information safety officer (includes hybrid record) Data integrity specialist

	implements risk mitigation strategies. This service will respond to inquiries into information integrity and complete an auditing role for both internal and external requests.	Risk management analyst Forensic investigation officer Information reconciliation officer Auditor
Identity management	This service manages the systems responsible for the unique identification of consumers, providers, organizations and services.	Identity management coordinators Registry managers (e.g., client, provider, location) Registry data quality specialist
Access and disclosure	This service protects and promotes data and information privacy for consumers, providers, users, and the organization. It manages the access, disclosure, retention, archiving, and destruction of personal health information from organizational systems.	Privacy specialist Data/information steward Release of information analyst Access and disclosure specialist Request coordinator Privacy officer
Information management governance	Using best practices and information management principles, this service develops, maintains, and monitors the accountability framework for information.	Information management governor Information management liaison Policy analyst

	It includes policies, processes, standards, and metrics to ensure unified data and information, as well as efficient, effective, and secure information assets.	
Content compliance	This service is responsible for management of the clinical content to ensure that it meets information management best practices including performing quality assurance audits on the content. This is the bridge between the provider content for clinical need, and the information needs of the organization as well as internal and external stakeholders.	Information brokers Compliance specialists
Information/knowledge asset management	This service is responsible for developing, auditing, evaluating, maintaining, and mapping clinical information and knowledge assets.	Health information/semantics content experts Data modeler Clinical terminology standards specialist
Customer support	This service promotes excellent public relations by fostering and maintaining positive communication	Registry agents Portal agents Information broker Customer service agent

	with customers in the areas of the personal health record (PHR) and registration systems (registration, booking, registries, self-registration).	
Information analysis and business intelligence	Information needs are identified and data is collected and analyzed. Utilization management and quality improvement practices are supported and enhanced via the services offered. Data analytics, clinical trials, and research studies are areas of focus.	Health information and performance analyst Decision support analyst Process improvement specialist Health analyst

Source: Canadian Health Information Management Association (CHIMA). Transforming Health Information Management: The Evolution of the HIM Professional. London, Ontario, Canada: CHIMA, 2012.

Health information management (HIM) professionals possessed unique skills that set them apart from other healthcare professionals. These set of skills are in high demand in healthcare environment. The increased demand of collecting accurate and timely health data as well as the integration of new adnancedtechnology in the healthcare delivery system continue toreshaping and expanding the roles of the HIM professional. The primary responsibilities of HIM professional remain to provide quality data to support the delivery of quality healthcare and to protect the right to privacy with accessibility to health data for legitimate users-remain constant, unique and expanding opportunities in the areas of information technology (IT), database management, and data analysis have opened. The transition of paper-based records to electronic text has placed the HIM professional into

leadership roles over health information repositories and clinical data sets. Demands for health data by diverse user groups create opportunities for HIM professionals to be recognized as leaders in the management of clinical electronic repositories. The HIM professional's role is rapidly changing to one of leadership in an information broker role[30].

HIM specialists, need to integrate a variety of skills, such as a strong knowledge of medical terminology and disease processes, application of clinical classification systems, excellent managerial skills, computer and information technology (IT) expertise, to manage the range of health information and human services for which they are responsible[34].

The Scholar highlighted the following skills as necessary skills required for the practice of Health Information Management.

i. ***Analytical skills***

Health Information Management professionals must have an analytical mindset and passion to solve problems. For example, a health information professionals must have strong analytical skills in order to determine the appropriate course to follow such as coding structure for a medical procedure, or the best way to share patient data with another healthcare provider. At the management level, a HIM Director needs to be able to review current systems and processes and decide where improvements or changes need to be made.

Ability to solve problem is an important skill that HIM Professional must possess. Much of the day-to day activities involve solving one problem or the other in various circumstances that may come in the form of clinical challenges, such as improving the sharing of patient data between providers or involve information technology processes.

These task require intimate knowledge of health informatics, they depend on problem solving skills to chart way forward[35].

ii. ***Attention to detail***

Attention to detail is important when coding medical records and sharing patient information with other providers. HIM professionals need to be extremely careful to ensure that patient information is catalogued correctly and transferred and stored securely. An error in a patient's medical record could be cost for the patient, and a breach in patient data security could be detrimental to a healthcare organization's reputation.

iii. ***Communication and teamwork***

HIM professionals interact with people across various healthcare settings and disciplines, such as physicians, insurance companies and patients. They need to have strong interpersonal skills to ensure that patients understand medical procedures and associated costs, and that the appropriate contacts have access to a patient's medical history and information. They might also be involved in overseeing HIM processes, training other members of the staff and communicating with hospital leaders on needed changes.

iv. ***Technical skills and certification***

HIM professionals are using advanced technology to perform most HIM-related functions. They must have wide-ranging expertise, from understanding HIPAA laws that protect patient privacy to leveraging computer systems that collect and store patient data, in order to do their jobs effectively.

v. ***Leadership skills***

Hospitals and other healthcare facilities are focused on integrating new technologies to deliver high-quality, yet efficient care, and are relying on managers to drive these

changes. HIM professionals must have strong leadership, problem-solving and critical thinking skills.

Health Information Management Professionals are qualified, well trained and skilful in all functions that pertain to health records management. Thus, for qualitative professional practice of HIM, proper professional placement should be adhered to in order to achieve the desired health service delivery[36].

Professional requirements (skills) are; Professional qualification, Professional experience, Professional expertise, Professional intelligence, Professional competence, Professional constitution, Professional training and re-training, Professional proficiency, Professional awareness, Professional strategies, Professional praxis.

It is highly expedient for Health Information Management Professionals must be equipped with Health Informatics skills and competencies due to numerous benefits of Information Technology in healthcare delivery especially knowledge of programming, Health Information Exchange (HIE) and audit trails. Health Informatics is a specialization that combines Communications, Information Technology and Healthcare to improve patient care, it's at the forefront of the current technological shift in healthcare delivery[37].

Health Informatics (HI) equips HIM professionals with knowledge, skills and tools which enable information to be collected, managed, used and shared to support the delivery of healthcare and to promote health. It is clearly stated that anyone working predominantly in a role that encompasses one or more of these functions should be considered a health informatician[38].

Health Informatics roles usually fall into the following categories; IT/ICT services, Information Management, Knowledge Management, Portfolio/Programme/Project Management, Clinical Informatics, Delivery of educational/Training/Development/

Research in Health Informatics, Health Records functions and Operational Management of Health Informatics.

Several studies have revealed that the requirements for HIM practices now include IT, health informatics and data analytics skills. Health Informatics skills are required for HIM professionals to keep up with IT inclined healthcare demands[39]. There is a wide gap between HIM education and skills of old HIM practice (paper-based) and modern practice (electronic based). The review of HIM curricula is expedient and needed to be skewed towards Health Information Technology (HIT) which is the core of HIM educational curriculum.Similarly, the effect of IT on Health Information Management and healthcare system was stressed to include speed, accuracy, and ease of operation, data security and confidentiality[19].

The unique skills and knowledge sets of the HIM individual are being recognized and demanded in roles that blend professional, clinical, and research skills with knowledge of business operations and insight into management of information systems. In both traditional and non-traditional work roles, job responsibilities have shifted to include involvement in evidence-based quality improvement initiatives, participation in clinical research projects, and risk management[40]. Similarly, advanced computer and information technology skills are a top priority for HIM Professionals both in Clinical and Non-Clinical organizations. Elements of this include: Technological proficiency and comfort across various systems, Ability to work quickly and accurately, demonstrating regulatory (e.g. ICD10) and document familiarity and an agile/detail oriented mind set, Analytics capabilities working with large data sets for data analysis, big data, data mining, and business intelligence, Skills training for managing selectronic health information, IT skills related to computer hardware, electronic networking, and cloud computing are also strongly anticipated by Clinical organizations in particular. Other priority skills/capabilities

include those related to: Leadership, Information privacy and security, Data standards, classifications, and terminologies[41].

Inadequate skilled individuals in Health Information Management profession is one of the major barriers to EHR implementation. This is highly needed to bring individuals in the field, or wanting to enter the field, up to speed with the rapid changes that continue to develop. HIM field and professionals are developing, and will continue to do so at an advanced rate for the foreseeable future. Technology advancements and the abudance of data being created requires even more skilled individuals to be able to handle it as well as change and adapts quickly as the industry does[42].

2.1.2 Models of Health Information Management Practices

A model of practice takes the philosophical base of the profession and organizes the concept for practice. It provides practitioners with terms to describe, an overall view of the profession, tools for evaluation, and a guide for intervention[43]. The model of Health Information management practice as postulated by a scholar are of two types; Traditional practice and Information-oriented Management Practice[2].

Traditional Practice Model

The Traditional Practice Model of health information management was based on the Hospital Standardization Program, initiated in the early 1920's. The program emphasized the need to ensure that complete and accurate medical records were compiled and maintained for every patient. Accurate records were needed to support the care and treatment provided to the patient as well as to conduct various types of clinical research. This emphasis remained fundamental to the profession through 1990. Traditional Practice Model was highly quantitative and department based. It was based on the collection of data on paper forms stored in paper file folders[2].

Further evaluation of the 1990 professional practice standards discloses that the tasks of medical record practitioners at that time involved planning, developing, and implementing systems designed to control, monitor, and track the quantity of record content and the flow, storage, and retrieval of medical records. In other words, activities primarily centered on the medical record or reports within the record as a physical unit rather than on the data elements that make up the information within the medical record. At that time, very few standards addressed issues relating to determination of the completion, significance, organization, timeliness, or accuracy of information contained in the medical record or its usefulness to decision support. The traditional role of a HIM professional has been to maintain, organized an accurate data, which is available for patient care and for management purposes.

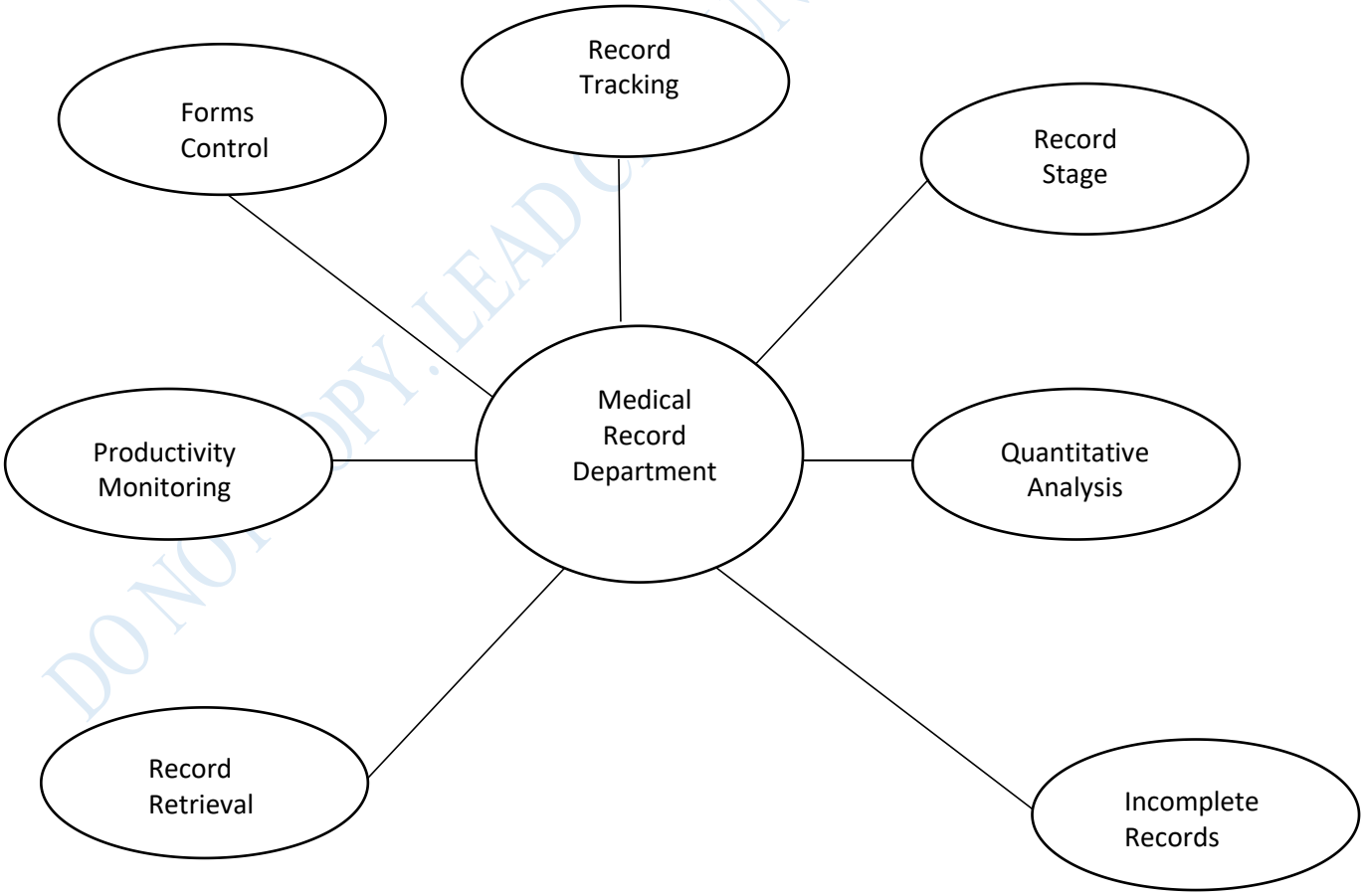


Figure 2.1. Traditional Model of HIM practice
Source: Health Information Technology: An applied approach Information-Oriented Management Practice

"Health Information Management in modern day differs from Health Information Management of decadesago, and the reason for that is improved technology". The oldworld of managing paper health records is giving way to computerized records[44].

The traditional model of practice is not ideal for today's information-intensive and automated healthcare environment. The traditional model of practice focused primarily on the Department. Tasks are devoted primarily to processing and tracking of records rather than processing and tracking information. Paper-based documentation systems are being replaced with electronic systems today. Thus, many HIM professionals are encountering challenges with hybrid HIM practice environments that are partially electronic and partially paper based[2].

Another Scholar in his own submission, believed that Information Technology has turned the whole world into a global village through Internet and telecommunication devices. Innovations are being experienced on daily, weekly and monthly basis. As a result of this, some developed countries have migrated from manual records practice to electronic records system[5].

Several studies have clearly shown that 25 to 40 percent of a hospital's operating costs are devoted to information handling. Obviously, information management has become a top priority for healthcare institutions. In today's information age, information crosses departmental boundaries and is broadly disseminated throughout the organization and beyond. In fact, information grows out of data manipulation from a variety of shared data sources. An information-oriented management model includes tasks associated with a broad range of information services. Therefore, the tasks performed as a health information manager in contrast to tasks performed as a medical record manager—are information based, emphasizing data manipulation and information management tasks and focusing on the provision of an extensive range of information services[2].

The traditional model of practice is department based and the health information manager's activities were usually performed in the medical record department. In the new model, tasks are information based and many of the health information manager's activities are performed outside the HIM department.Indeed, many health information managers today work entirely in other areas of the facility and in other settings. They work in a variety of functional areas, such as quality improvement, decision support, information systems, utilization management, data privacy, data security, and so on.

Traditional model of practice is based on creating, tracking, and storing physical records. In today's information-intense environment, the physical (paper-based) health record is being replaced by the electronic health record. The information in EHRs is created, compiled, and stored in many different areas within the enterprise and is integrated together electronically only when needed. The tasks performed by a health information manager focus on such activities as maintaining data dictionaries, developing data models, performing data administration tasks, and ensuring data quality through a variety of auditing task. In the traditional model of practice, the tasks involve the aggregation and display of data. However, today's information world is much more complicated than it was many decades ago and contains more enabling technologies to search and analyze data. Thus, the health information manager who works in decision support or quality improvement today uses advanced computer-based tools to analyze data from a variety of data source.

More emphasis are being placed on the development of an electronic record, health information managers find that the tasks they perform are less concerned with paper forms design and focus instead on developing good user interfaces for electronic medical records. Health information practitioners have always been concerned with the privacy and confidentiality of data. The tasks in the traditional model of practice were confined

primarily to issues involving release of information. However, in today's more technologically sophisticated world, these tasks are shifting to include enterprise-wide responsibilities for computer data security and privacy programs as well as functions in health information exchange organizations.

Table 2.2 Comparison of Traditional HIM and Modern HIM

Traditional HIM	Modern HIM
Department based	Information based
Physical Records	Data item definition
	Data modelling
	Data administration
	Data auditing
Aggregation and display of data	Electronic searches
	Shared knowledge sources
	Statistical and modelling techniques
Forms and records design	Logical data views
	Data flow and reengineering
	Application development
	Application support
Confidentiality and release of information	Security, audit and control programs
	Risk assessment and analysis
	Prevention and control measures

Source: Health Information Technology: An applied approach

Similarly, three model of HIM Practice were propounded by a scholar which are; legacy HIM model, Optimized Health Information and Records Management model and Enterprise Information Management Model. In her view, in Legacy HIM model, records are decentralized, critical information-both clinical and operational continue to be managed at the departmental or functional level without the benefit of enterprise policy and guidelines reflecting best practices. This practice is similar to what is being practice in

most Health facilities in Nigeria. In Optimized HIRM, physical records are being phased out, more stringent regulatory directives emerged. Records duplication are reduced and it enables greater standardization and coordination across the continuum of care, personally identifiable health records data must be linked across the continuum, exchanged with a range rtof providers and shared with patients. However, to bridge the gap separating the physical and the digital HIRM, a new model is needed. This new model for Health Information and Records Management (HIRM) is called Enterprise Information Management Model[45].

Enterprise information management (EIM), a relatively new information management discipline, is often used as a universal label for the processes, policies, and software solutions used to manage data across a large business through its daily operations. For small operations with one location, a filing cabinet with a lock may be all that's needed. But a more comprehensive and customizable system is usually needed for a large company with branches and business lines spanning borders with different regulatory regimes for privacy and data use[46].

To successfully enact Enterprise Information model, the following foundational elements were recommended by Linda Kloss for information management and governance asrequired:

1. **Information is managed as a Strategic Asset**

Even though it is not shown on the balance sheet, information is an asset of the healthcare organization as surely as capital, people, research, buildings and reputation. Like other assets, information has strategic and operational value. It is no longer simply a derivative of the work process. In order to augment information value and safeguard against poor data quality, privacy and security breaches and other risks, it is important to treat information

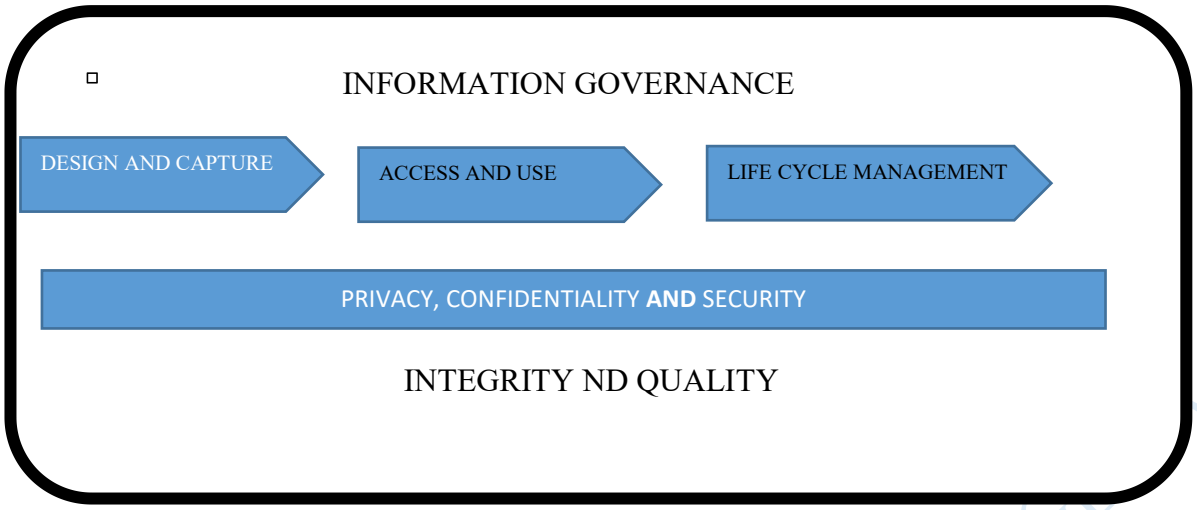
asset management as a new world health information management: an enterprise view of HIRM mindset and management strategy. This strategy can be carried out through formalized information governance and enterprise-scoped information management.

2. **Governance is integral to optimized information use and value**

Information governance is the formulation of policy to optimize, secure and leverage information as an enterprise asset. It formalizes the assignment of responsibility for setting the organization's information policy framework and ensures that it is carried out across multiple functions and applications. Information governance is no longer an option for organizations. It is an enabler that clarifies the values and ground rules for the management and use of information. If the values and rules are not clear, it is impossible to advance and enforce best practices that amplify value, reduce risk and engender trust.

3. **Information Management is an Enterprise-wide Function**

Enterprise Information Management (EIM) aligns people, processes, data and technology with information policies and best practices. At the foundation of EIM are well-documented and clearly enforceable policies. These policies should address pertinent information management functions such as data quality management, data content standards, life cycle management and securing vital data assets. That said, good policy is only as good as those practicing it. For this reason, employee development specific to establishing and enhancing information management competencies across the organization should also be considered a critical component of EIM. EIM, whether centralized or decentralized, involves extensive collaboration with patient care, delivery, business process owners and IT. It is "an essential organizational discipline" which cannot be realized in the absence of a foundational information governance framework.



Source: Kloss Strategic Advisors, Ltd., 2013
Fig. 2.2. Model for Enterprise Health Information Management and Governance

To establish an enterprise model for information governance, the functions that must be assessed and augmented are outlined below.

Design and Capture Functions: These functions address the architecture, content definitions, standards, reference terminologies, metadata and other mechanisms that improve the efficiency and quality of data collection, capture, downstream ionformation use, interoperability and reuse. Ideally, data should be captured once and used for a variety of purposes. Content standards should be explicit to aid interpretation of meaning. While most health systems are some ways from meeting thesen ideals, an enterprise view will advance these important goals.

Information Access and Use Functions: It advances and supports critical uses of data and information. They support the work of the clinical and business process owners who must use data in their work. They also support patient access to health information, health information exchange functions and other release of information functions. Information management has a role in helping to educate data users about data characteristics, reliability and accuracy and to work collaborately to build trust in data for population health management and public health.

Lifecycle Management Functions: It define and maintain designated records set, including legal health records and other types of records, in accordance with the clinical and business needs of the organization and all applicable legal and regulatory requirements.They manage the explicit plans and processes for storage, retention and disposition of medical and business records, balancing access needs, compliance and cost effectiveness. They address special records management issues such as formal hold orders and e-discovery.

Information Integrity and data quality functions

ensure that data and content are accurate, reliable, up-to-date, consistent and "fit for use." Information integrity starts with data architecture, definitions and relationships, including metadata and data capture processes. It addresses the provenance or lineage of data and processes for error correction and ammendments. Analysis of medical records for completeness and accuracy has long been an important HIM function. Redesigning these practices for a real-time, electronic environment is an important focus for enterprise HIRM practice.

Privacy, Confidentiality and Security Functions: Protect personally identifiable and other sensitive information. These functions ensure that information is available only to authorized persons and used only for specific purposes. Risk assessment and audits are important tools for security and the demonstration of HIPAA compliance and, as with data quality, they present more complex management challenges today due to technology, including mobile health information exchange and the expansion of uses and users.

The Old System of Health Information Management Practice

The procedural steps involved in the old system of HIM practice is that, when a patient visit the hospital for medical treatment, the patient will first of all made payment for

registration card which contains identification details such as name, sex, age registration number and other relevant information needed. The patient will then waits at the waiting room for the file to be processed. The patients file has column for diagnosis made by physician,drug prescribed and date. When the file arrived, the patient joins the queue to see a doctor. In this system, filing shelves are used for keeping individual patient records enclosed in a file. This system is tedious in tracing a records files, slow in processing of records. It occupies large space and time consuming while the patient is waiting for file to be retrieved by HIM professionals. All other activities of Health Records Department such as statistical compilation and analyses, coding and indexing, patients Name Index storage and retrieval etc are done manaually.

The New System of Health Information Management Practice

The historical background of using Information Communication and Technology (ICT) in Nigerian Health System dates back to the Late 80's with a collaborative research project between the Computing Centre of the University of Kuopio of Finland and the Obafemi Awolowo University/Obafemi Awolowo University Teaching Hospital Complex (OAUTHC), Ile-Ife, of Nigeria[47]. The joint project produced a very robust hospital information system for Admission, Discharge, Transfer running on a stand-alone PC which was in use at OAUTHC in 1991[48]. In the late 1990s, the Finnish/Nigerian research team decided to expand their rudimentary hospital information system with the aim of developing a comprehensive system suitable for use in all Nigerian Teaching Hospitals and medical centres. The initial plan set for the project was that by year 2001 all Nigerian Teaching Hospitals would have health ICT units which could make use of application software. Unfortunately, the system was not tested at OAUTHC and only five teaching hospitals and medical centres use the system as at 2007. The primary reason for this limited use is the cost of purchasing the commercial software[49]. In 2003, a non-

commercial software package called the State Hospital Network (SHONET) was developed for sharing of hospital resources over the computer network in Nigeria. The philosophy behind the development of the software was to minimize the cost of running state hospitals[50]. In 2004, another system was developed at the Department of Computer Science & Engineering, Obafemi Awolowo University, Nigeria. The system was designed for referral of patients from one hospital to another such that patient's case file, referral note and medical examination result that were transferred manually from one hospital to another could be transferred over a computer network[49]. The demand for computerization of health information and healthcare processes by Nigerian has been on the increase. On the other hand, the Government is evolving plans and strategies for the adoption and implementation of health information technology[51]. To improve the use of ICT in healthcare delivery in the country, the Nigerian Government developed a 5-year Strategic plan on health with health information system taking a strategic position. The goal is to provide an effective National Health Management Information System (NHMIS) by all the governments of the Federation to be used as a management tool for informed decision making at all levels and for improved healthcare[51].

The new system of Health Information Management Practice is designed to collect, process, retieve and to keep track of all patients health information such as diagnosis,drug prescribed, admission and discharges etc. The new system takes care of the long processes and tedious work involved in tracing and retrieving a patient's record in the old system.This will improve the efficiency of the management in a daily work as it can provide required records and information on time[52].

For maximum and effective execution of the task by the new system, there are hardware and software requirements:

Hardware Requirements

The Hardware requirements are: System Unit, Monitor (VDU), Uninterrupted Power Supply (UPS), Random Access Memory (64), CD ROM, Hard Disk capacity of 40GB and Printer.

Software Requirements

The Software requirements are: Window XP operating system, Microsoft access and Microsoft Visual Basic.

Effect of Automation system on Health Information Management

The new system have both, merits as well as demerits on the patients in many ways as follows:

Merits: The merits of the new system include: Medical Data Availability,Diagnosis and Treatment Improvement, Cost Reduction and Patient Safety.

Demerits: The demerit of the new system include Security Issues.

Medical Data Availability

Automation of patient Health Information provides the following features that enable an access of the medical data with ease. Better organization of the data in the format of layouts and efficient searching in the various categories. These are:Options for generating the output data in different formats, Diagnosis and Treatment Improvement.

Computerized patient Record System is a conglomeration of the functionality of the following three systems: Clinical Decision-making System (CDS), Computerized Physician Order Entry (CPOE) and Health Information Exchange (HIE) System.

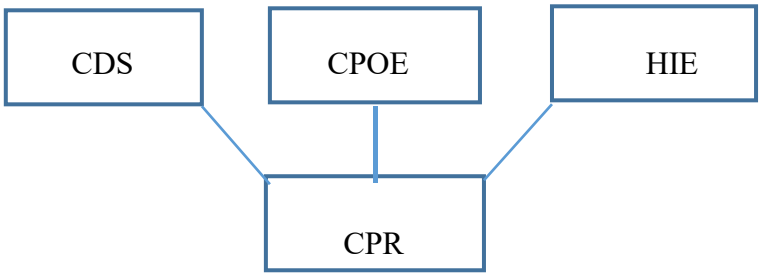


Figure 2.3: Functionalities of Computerized Patient Records Clinical Decision-making System (CDS)

It is computer based system which aids the clinician to make a certain decision based on the clinical observations made by collecting the data given by the patient.

It allows the clinicians to take the various decisions with respect to patient care by providing an up-to-date information about the medications and treatment to which the patient is or may become allergic by showing undersired symptoms. It also generates audio or visual alerts when a certain potential problem is identified by the system. With an increasing growth of the medical information, each of the above functions provides decisions efficiently to safely deliver patient care. More the CDS systems are used the vhances of producing medical errors becomes less by being prevented by the computerized system. On an overall, the patient will receive a quality health care.

Computerized Physician Order Entry (CPOE) System

It is a computer-based system which receives the various orders of the patients from the clinician min order to eliminate all sorts of paper work such as filing, documenting writing, etc. It allows the clinicians to enter orders (regarding drugs, laboratory tests, any sort of therapy, etc) into a computer rather than doing so on paper and thus minimizes the chances of occurrence of the potentially harmful medical errors that are caused by poor penmanship of the healthcare professionals (clinicians). Hence, this ensures a quality care.

Health Information Exchange (HIE) System

A computer-based system enables the exchange of medical data, a medical condition or problem of the patient between two or more healthcare organizations, two or more hospitals or between each other. It allows the clinicians to transmit the patient information once it is electronically made to be available to other hospitals or healthcare organizations or within a group of authorized users. Thus, it provides an efficient patient care. Automation system enhances effective communication among healthcare team members and other care partners and with patients which is highly essential to quality care while its lack can promote the occurrence of adverse reactions e.g drug reaction.

Cost Reduction

Computerized Patient Records enhanced positive return on investment in healthcare system[53]. This reduces the inefficiency of paper-based processes and the unnecessary wastes that they generate, thus eliminating all the paper work that is carried out for various documentations. This reduces the cost of filing the reports and scribbled notes about the health status of the patient. As this cost is charged by the clinicians as part of a nominal fee for diagnosing problems, the fee paid by the patient to the clinician is reduced. These systems also help in reducing the costly redundant pre-tests that are suggested by the clinicians due to insufficient clinical information which is storeed at another location. The cost for the clinical observation of the patient is thus reduced and hence, the patient would have to pay a reduced nominal amount rather than spending a large amount of money. Therfore, these systems assist in reduction of the cost of diagnosis for the patients.

Patients Safety

Automation of Health information helps in minimizing hazards to patients that may be caused by medical error. (the providers that actually intends to help the patients) in the following ways:

Whenever a medication is prescribed, the system automatically checks for the various problems that may arise due to the medication prescribed and different types of alerts such as visual alerts like LEDs, lights, etc, or audible alerts which include various types of sounds are used by the system for alerting the clinician when a problem has been detected due to the medication provided by maintaining a record of the medications or allergies that the patient already has or has acquired.

Once the information is received, the system informs the clinician in the emergency department about any life-threatening conditions that might arised, and emergency staff can adjust the care given to the patient appropriately,even when the patient is unconscious.

When a problem occurs, the system exposes the potential harm that is caused to the patient to the clinicians so as to avoid more serious consequences for patients and provide suggestions to prevent these problems to the clinicians. They aid the clinicians to quickly and systematically identify problems and provide appropriate solutions.

Clinical Decision Support

This guides healthcare providers in making the right decisions with regards to patient care through provision of updates on the current information on drug,allergy to medication and alerts for drug reactions and other potential issue that are flagged by the computer[47].

Security Issues

The patient data stored in a computerized patient Records system is susceptible to misuseand this would have a negative effect on the patients and also on their

respectivefamilies. The harm caused may be a personal or financial harm.For instance, the social security number of the patient can be used in an identity theft. Identity theft involving financial institutions has a significant effects on the public. When a CPR without security measures is ued, patients lose their trust on the healthcare providers as a result of which they refuse to provide important information due to the unauthorized use of the information[53].

Suggested Solutions

Use of audit trails to track authorized users who abuse the healthcare information stored on the CPR system by maintaining a record about each and every access and transactions that are made on the system. Use of login procedures which require the users to enter their passwords and user IDs as a minimal measure. Use of biometrics such such as finger-prints, retinal scans, iris scan, voice recognition or sometimes even face recognition as a security measure for accessinmg the medical data of the patient which is stored in a profile.

Use of smart cards which grant the access to the data stored only when a user produces the card with an authorized password.

Maintenance pof the integrity of the data stored, through the authentication of a user and the validity of content sent across a network. For an instance, Digital Signature Standard (DSS) can be used by employing cryptography technology. Use of coding system and firewalls to protect the data and internal internal networks such as an intranet. Use of a well designed and tested backup scheme and disaster recovery scheme system allows the system to become less prone to data loss[54].

Improved Ability to Conduct Research

Electronic availability of Health data through automation system system promotes ability to quantitatively analyse trends and evidence based practices effectively[55]. Furthermore,

data from automation system ncould be stored or transferred into larger data bank for research purposes towards improving patient safety, medical knowledge and public health[56].

Improved Quality of Care and Patient Safety

Automation system with inbuilt feature such as CPOE has the capacity to improve quality of patient care. Various researches have shown that automation system is linked to improved health outcomes including better infection control, improved prescribing practices and improved disease management[56].

Health Information Management System (HIMS)

A Health Information Management System refers to a system designed to manage healthcare data. It collects, stores, manages and transmits a patient Electronic Medical Records (EMR), a hospital's operational management or a system supporting healthcare policy decisions[57]. HIMS integrates people, tools (e.g ICTs), routine procedures in order to provide and use patients health information[58]. Health Information Management System include those system that handle data related to the activities of providers and Health Organizations. As an integrated effort, these may be leveraged to improved patient outcomes, inform research, and influence policy-making and decision –making. Various researches have shown that HIMS promotes accessibility to health Information which inturn improve health status by enhancing the quality of health related decisions[59]. A good HIMS enhances timely access to patient health information[60].

Examples of Health Information Management System (HIMS) include:

Electronic Medical Records (EMR) and Electronic Health Records (EHR)

These two terms are almost used interchangeably. The Electronic Medical Records replaces the paper version of a patient's medical history. The electronic health records

includes more health data, laboratory investigation results and treatments. It is also designed for sharing of data with other healthcare providers to access a patient's healthcare data**.** EHR is the natural evolution of healthrecords. It is designed to address myriad of existing paper-based health records problems[2]. The EHR has the potential to generate comprehensive record of a patient encounter as well as supporting other care related activities directly or indirectly through interface including evidence-based decision support, quality management, and outcome reporting[53].

Patients' Master Index (PMI)

An automated Patients' Master Index (PMI) consists of a data base (masterfile) containing patient details together with the software programmes, which allow access to the patient information on the file.The information in the master file is generally referred to as the "patients'record" and is accessed directly via: patient's full name, patient's family name only, patient's hospital number[54]. Patients' Master Index connect separate patient records across databases. The index has a records for each patient that is registered at a healthcare facility and indexes all other records for the patient. PMI are used to reduce duplication of patient records and inaccurate patient information.

Patient Portals

This allows patients to access their personal health data such as appointment information, medications and laboratory investigations over an internet connection. Some patient portals allow active communication with their physician, prescriptions refill request, and the ability to schedule appointment[57].

Clinical Decision Support (CDS)

Clinical Decision System enhances decision ability making of physician in order to be more effective in their clinical practices[37]. CDS analyses data from various clinical and

administrative system to help healthcare providers make effective decision. The data can help to forecast medical events- such as drud reactions and allergies[57].

Modern Trends in Health Information Management Practices

Change, they say is permanent. Health Information Management Profession have undergone series of change from inception till date. Much of these changes occur due to the influence of Information and Communication Technology.

The health information profession is in a transition period. It is being transformed from a paper environment to an electronic world. Health information professionals have unique patient information management skills that will assist facilities in making the transition to electronic health record. From the '60s til date, many terminologies were developed and used to describe automated medical record systems. The terms used to describe these systems have changed due to the advancement of technology and because automated systems have evolved from single computer applications to a combination of numerous systems that are networked together[26].

HIM is changing rapidly with technological advancements, and the trends has been projected to transform and revitalized the healthcare delivery system in the nearest future by enhancing prompt and sufficient healthcare delivery. Different software products such as virtualization technologies, mobile network and telemedicine/telehealth system have been recently implemented in the healthcare setting for clinical examination and treatment. These technologies provides healthcare providers with fast and secure access to necessary data.

Modern Health information management practices involve using sophisticated technology in performing most HIM functions. The HIM professionals must have a wide range of

knowledge, including HIPAA laws that protect patient privacy data, analysis and how to harness computer system that collect data[5].

The newly emerging patient-centred environments, the electronic health record (EHR) are critical to clinical decision making, therapeutic interventions, business processes, and most importantly, to quality health outcomes. As information grows in importance, and as more and better information is linked to quality decision making, the EHR will become increasingly important for both clinical effectiveness and administrative efficiency. It is around the EHR that the most visible and most profound changes are occurring. The EHR will redefine HIM practice and HIM role[61].

The fundamentals of HIM are also evolving, from paper to electronic, as technology advances around the globe. The basics of HIM will still be needed in the future (such as security, privacy, data analysis, ROI, etc.), however, the procedures and processes will be changing as technology is able todo more. Future technology advancements, some of which we are experiencing already, will render some HIM functions obsolete, such as filing paper records (electronic health records will not need filing) or releasing information to individuals (patient portals will allow patients to have access to all their information, as well as decide on who to release that information to). Computer-assisted programs will change the way coding and transcription are completed, shifting the task into one that audits or monitors the function of said program[42].

Similarly, HIM has evolved from an emphasis on paper medical records to playing a key role in ensuring the availability of health information to facilitate real-time healthcare delivery and critical health-related decision making for multiple purposes across diverse organizations, settings, and disciplines. The field continues to be centered on patient information; however, its precise role is influenced by the adoption of new technology and other changes impacting the healthcare system. The profession has the unique ability and

opportunity to influence the implementation of EHRs and shape the ways in which health information is used to deliver quality patient care[62]. HIM practice is sensitive to changes in the healthcare industry and this require HIM professionals to readily understand and assimilate healthcare changes as they occur. Trained HIM professionals must respondrapidly to these changes and highly adept at meeting the evolving need for real-time health information at the point of care.

One of the critical ingredients of Health Information Technology (HIT) in healthcare delivery is EHR. The emergence of EHR has improved drastically quality and effectiveness of health care delivery system when appropriately implemented. In addition, it addresses the issue of health disparities among various population in terms of access to care and the interoperability as facilitated communication, running of application and/or transferring of data among multiple units of the healthcare system[63]. Advancement in the areas of machine learning, artificial intelligence, block chain and many technologies hold the potential to dramatically impact care delivery, analytics and consumer/patient engagement. The data created today (or yesterday) that is managed and stewarded by HIM professionals, will be used by these new technologies. Thus, the HIM role may broaden further[64].

Modern HIM practice is characterized by the use of technology to collect, manipulate, process and disseminate information.EHRs and accompanying technology like health information exchange, computer-assisted coding, voice recognition software, and patient portals-along with revamped government quality and EHR incentive programs-are modifying many aspects of HIM. The health information technology revolution has begun, and as it progresses, the shake-up in health information management departments, processes, and data management will leave the profession profoundly different. As

technology changes HIM processes, it also changes HIM professionals' roles and the education and skills necessary to get their modified jobs done[65].

The scope of the Health Information Management (HIM) profession is broader today than before, and thisdevelopment is often visible by changing the name of the department from Health Records to a Health Information Management Department or Health Information Service. As new methods of collecting, storing, processing, and analysing data emerge, there will be a need for more specific planning and managing of the HIM department. The tools and roles of the Health Information Management (HIM) professionals will change, but the secure and efficient handling of quality data will always be a priority. The HIM professional will need to be ready to adapt to new workflows, take advantage of the new capabilities that technology can bring, and be ready to handle new risks involved in establishing and managing a Health Information Department/Services[11].

Information Technology influences every aspect of traditional HIM functions in modern HIM practices. IT has further broaden the roles of HIM professionals in today's information and technology driven healthcare society. As recommended by IFHIMA, automated patient information services is required in manual health records practice to enable efficient retrieval of information in the following areas: Patient Master Index (PMI), Admission, Transfer and Discharge System (ATD), Disease and procedure Index, Records location/Tracking system, Outpatient appointment scheduling system, Health records completion system and Discharge summary abstracting system[54].

HIM system are in transition. Some consist of handwritten notes; some are designed as highly sophisticated electronic health records (EHR) system. Most have both handwritten and electronic. HIM system must facilitate simultaneous multiple access to information for clinical and administrative purposes. Most health Information system must have at least

some computerization. Although some health information is still handwritten, paper documentation is no longer the primary means of communication[66].

Healthcare technology has greatly improved the way care is approached and rendered in healthcare facility. The digitizing of healthcare data has supported effort to automate processes that were previously done manually. These processes have inevitably impacted the workforce, including the HIM profession. There is greater need for employees that have technical skills to better collect, manage and use healthcare data. HIM profession has evolved into more diverse roles and continues to change with technological advances[67].

To accurately manage Health Information in modern day, it is required to develop a functional Health Information Management System using a strategic planning process. Developing an information system using a strategic planning process means a long range plan that will be useful for hospital for a long timeto come. Strategic planning will assist in protecting the legal interest of the patient, the hospital and the physician**.**Health care providers and decision makers from the clinic to national level need high quality information that are relevant, reliable and timely for patient care and national planning[68]. The only way forward achieving this type of information system is to ensure that patient health imformation are adequately and efficiently managed in digital format.

Table 2.3 Manual and Automated HIM Practices

Type of System	Advantages	Disadvantages
Manual	Low start-up costs	- Retrieval of information is not easily customized
	Training of Staff is simple	- Hand-written information can be illegible
	Requires less technically trained staff	- Difficult to abstract information.
	Paper records are available because	- Undocumented services are not usually discovered until
	There is no downtime	discharge analysis of record occurs
Automated	Improves access to patient information	- Increased start-up costs.
	Multiple users can access patient	- Selection and development of system is time-consuming.
	Information simultaneously and remotely	
	Eliminates paper record storage	- Staff training is time-consuming and can be expensive.
	Improves readability of patient information	- Technical staff need to maintain system.
	Timely capture of data	- User resistance occur.
	Views of patient record can be customized by users.	
	Updates of information can easily occur.	
	Retrieval of customized information.	
	Enhanced security of patient information	
	Reduces administrative costs.	

Source: Essentials of Health Information Management Principles and Practices

Effective Health Information Management Practice has numerous benefits[69]. They include the following: Continuity of patient care is guaranteed, Quality clinical research is enhanced, Patient waiting time is reduced, Communication among Healthcare professionals is boosted, Improved patient-doctor communication, Patient complaints would be reduced, Medical error is reduced, Medico-legal instigation is reduced, Management decision making is accelerated and Improved patient satisfaction is enhanced.

2.2 Theoretical Framework

The theory of interest in this study relating to use of Health Information Management Professionals and Modern Health Information Management Practice are Utilitarianism, Deontological and Bowen theories. Each of these theories would be discussed further as it is interesting to note how each of them contributes to the overall theoretical frame work of the study.

2.2.1 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was developed in the 1980's as a result of people (users) unwillingness to use available technology despite its merits[70]. Its originators reasoned that the key to increasing use was to first increase acceptance of Information Technology (IT), which could be accessed by asking individuals about their future intentions to use IT. Technology Acceptance Model posits that there are two factors that determine the usage or acceptability of technology by its potential users; perceived usefulness, perceived ease of use. This model lays emphasy on the potential users.

People tends to use or not use a system to the extent that they believe it will help them perform their job better (perceived usefulness) and also that the beliefs of the effort required to use a system can directly affect system usage behaviour (perceived ease of use)[47].

This model is relevant to the healthcare delivery system as it would help management of healthcare organizations handles the perceptions and attitude of of end users of newly introduced technology in the health sector especially the public sector. This would equally help tactical management level managers such as Head of Department to assess the attitude and behaviour of the end users (workers) towards automation system in Health Information Management practices when they are introduced. Similarly, knowledge of TAM would help operational managers to predict the attitude/perception of workers to newly introduced technology to HIM practices.

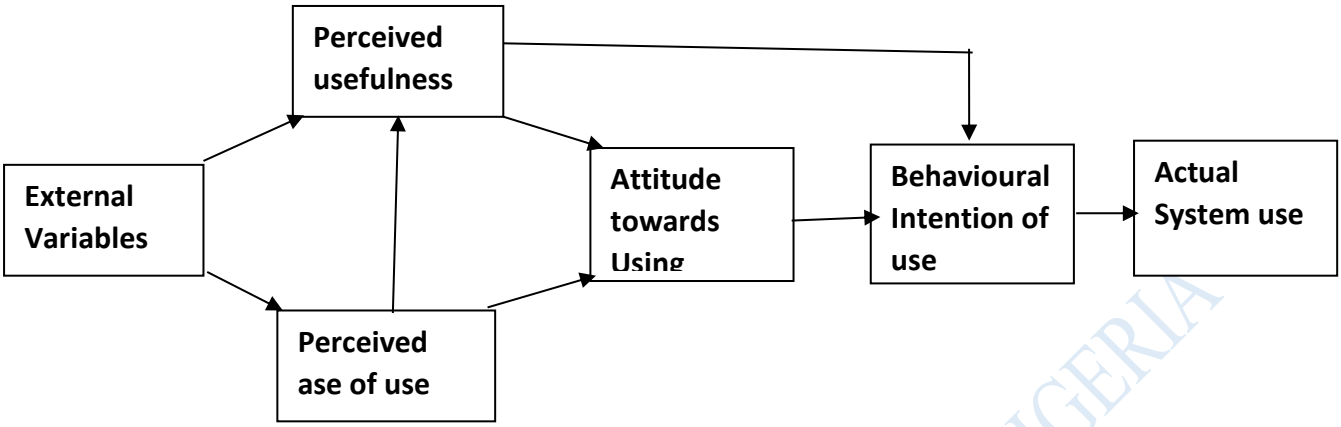


Figure 2.4 : Technology Acceptance Model
Source: Journal of Management Science

2.2.2 Actor-Network Theory (ANT)

Actor-Network Theory was developed in the early 1980's by Michel Callon, Bruno Latour and John Law to show the need for a more sophisticated view of relationship between human and objects as technologies become more complex[47]. This theory is used to explain the use of Information Technology in Health Information Management Practices. This is both theoretical and methodological to social theory where every thing in the social and natural world exists in constantly changing network of relationship.It is an approach to understand humans and their interactions with inanimate objects[71]. ANT views the social and technical aspect of system as indivisible and that people and artefacts should be analysed with the same conceptual apparatus. This opinion was stressed by a researcher who opined that the two system now coexist[72]. The design and implementation of any automation system in healthcare organization must be seen as processes of experimentation, political negotiation and inventiveness. Therefore the user and other social elements should be considered as critical to trhe successful implementation of automation system in Health Information Management Practices[47].

Actor-Network is relevant to this study because it helps to establish a theoretical background that gives an insight to the use of Information Technology in the management of Health Information. The knowledge of ANT is useful in visualizing a health syatem using holistic approach in which every components are interrelated and work together to achieve the desired objective. The theory will be of immense benefit to this study by evaluating the inevitability of the use of automation system in Modern HIM practices and the operation of the system by HIM professionals.

2.2.3 Leadership Theory

Dr. Murray Bowen, a psychiatrist, originated this theory and its eight interlocking concepts. He formulated the theory by using systems thinking to integrate knowledge of the human as a product of evolution with knowledge from family research. A core assumption is that an emotional system that evolved over several billion years governs human relationship systems. People have a "thinking brain" language, a complex psychology and culture, but they still do all the ordinary things that other forms of life do. The emotional system affects most human activity and is the principal driving force in the development of clinical problems. Knowledge of how the emotional system operates in one's family, works, and social systems offers new, more effective options for solving problems in each of the areas.

Bowen's great insight was the reciprocal nature of human behaviour. Just as when one pulls a piece of a mobile and all pieces move in response, a change in behaviour of one member of a relationship system automatically results in changes in the behaviour of others in the system." Everyone can exercise leadership whether or not in an authoritative role. Authority, by virtue of one's hierarchical position, exerts power and influence as critical tools, but authority does not necessarily define leadership. Authority, power, and influence can be used for many tasks that have nothing to do with leadership. Your organization will call you a leader because you have done something very well and it

meets or exceeds the expectations of the authorizers; however, doing a great job has very little to do with exercising leadership. “Leadership is not about meeting or exceeding your authorizers' expectations; it is about *challenging* some of those expectations, finding a way to disappoint people without completely pushing them over the edge. And it requires managing the resistance you will inevitably trigger”[73].

Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives. This definition shows the importance of leadership, which is an important function of management and helps to maximize efficiency and to achieve organizational goals. In clinical settings, effective clinical leadership has consistently been identified as an essential component to ensure quality care and healthy workplaces.

HIM as a profession has historically been oriented toward producing HIM professionals with technical and managerial skills and behaviours rather than leadership skills and behaviours. HIM leaders in authority positions have largely attained their leadership skills by learning on the job. The challenge of navigating a rapidly changing healthcare delivery system that includes data collected, processed, and used outside of the traditional HIM boundaries has created a significant need for HIM professionals to add leadership skills to an otherwise management-focused skill set. At the same time, the increase in new disciplines within the areas of data analytics and health informatics challenges HIM professionals to demonstrate subject-matter expertise and the ability to exercise leadership[67].

The study of leadership in health information management (HIM), including how leaders within HIM develop, how they conduct their workday, how they manage and lead, and how they see themselves as leaders, became necessary because of the essential role they

play in the health sector. HIM Professionals are valued for the critical role they play especially their expertise in electronic health records, privacy, security and coding.

HIM leadership is not only needed to assure that the health information function emerges better than ever, but to help the organization withstand the turbulent nature of such large-scale change as efficiently as possible. Relationship issues are sure to emerge during the anxious times that accompany the change from traditional practice to digital practice; HIM professionals who are savvy about the relationship system can help ensure a smoother transition and better outcomes.

2.3 Empirical Review

2.3.1 Health Information Management Practice

Empirical review of Health Information Management Practices indicated that the practices differ from facility to facility and from country to country due to different challenges influencing the practices. A number of studies in Nigeria revealed that HIM Practices are not effective and efficient when compare against the global standard due to lack/ underutilization of Information Technology.

In a study conducted in two health facilities in Osun State, Nigeria to assess Health Information Management Practices among HIM Professionals. The response rate from the research instrument was 91.6%. It was found out that inefficient and inaccurate operational services were the major challenges being experienced due to lack of technical knowledge and importance of ICT[9]. In a related study conducted on Information Technology skills and Training needs of HIM professionals.. The study deployed a cross-sectional structured questionnaire to determine the IT skills and training needs of health information management professionals who have leadership roles in the nation's healthcare information systems (n=374).. The vast majority of participants (98.8%) acknowledged the importance

and relevance of IT in healthcare information systems and many expressed a desire for further IT training, especially in statistical analysis. It was revealed that lack of effective health information management systems in Nigeria was due to the prevalence of cumbersome paper-based and disjointed health data management systems which can make informed healthcare decision making difficult[10]. In another study conducted in Kuwait to assess Information Management Practices in Public tertiary health-care facilities. It was revealed that effective patient could not be possible without effective health information management practices[74].

Similarly, a study was conducted in Makkah, Saudi Arabia on Health Information Management and Technology, the findings revealed that over the last 15 to 18 years the Healthcare industry has experienced dramatic changes as Health Information Managers are striving to meet ever-changing requirements of Healthcare delivery environment. Health Information Management practices are considered as the brain of healthcare delivery system nowadays[75]. Also, another study was conducted in Malaysia on the Role of Medical Records Practice in improving decision making in University Hospital with 100% response rate from 90 respondents. The findings revealed that the kind of records keeping practice adopted by the university hospital has an influence on decision accuracy, decision timeliness and decision commitment. However, poor staff knowledge, inadequate records professionals, missing files, damaged files, inadequate filing space and inadequate hardware among other challenges affect managing records at university hospital[76].

HIM Practice especially in developing countries adopt traditional method (manual) of practice. This is evident from the study conducted in Nigeria on Health Records Management Practices and Patient satisfaction in selected University Medical centre in South West. The study was conducted among 210 patients who were randomly selected. The results revealed that most Health facilities were still making use of the traditional

manual medical records-keeping (86.7%) while electronic records keeping accounted for only 13.4%. Also, (62.9%) of the respondents were dissatisfied with the overall level of service received while 62.9% of the respondents identified misfiling as a possible barrier militating against quick retrieval of patients' records. Above all, 90.5% of the respondents thought it necessary for the medical centre to keep patients' records electronically for easy storage and retrieval[77].

2.3.2 Roles of Health Information Management Professionals

Various studies on the usage of health information management professionals revealed direct relationship between the skills possessed by HIM professional and the service delivery. A study conducted on Quackery and unethical practices in Health Information Management profession in Nigeria revealed that 100% of the respondents agreed that quackery in HIM practices bring about unethical practices while 83 % of the respondents agreed that quacks caused patients dissatisfaction. The study found out that the use of HIM Professionals is the antidote to quackery and unethical practices[23]. Similarly, another research carried out on Health Information Management personnel service quality and patient satisfaction in Nigerian Tertiary Hospitals conducted with 280 patients. The study revealed that patients' perceived service quality significantly influence their satisfaction with health information

Management personnel services. Health information management personnel play a vital role in creating, managing, storing and retrieving patients' records in a hospital. They are usually the first point of call in a Nigerian public hospital, and their promptness in retrieving patients' records sometimes determine a patients'waiting time[78].

2.3.3 Modern Health Information Management Practice

Modern HIM practice is premise on the use of Information Technology to replace manual activities. Study from Makkah revealed that the purpose of health-related information moving electronicallyamong healthcare organizations has surfaced as paramount because of major concerns voiced by consumers, healthcare providers, and lawmakers. By creating comprehensive views of a patient's entire health record across a Community, and the need for Health Information Exchanges. This can enable improvements in quality and efficiency of HIM Practices[75]. In Nigeria, a study was conducted on the use of Automated Clinic Record Management system. The study found out that the current record management system. In the health facility was manual method with lack of efficiency. However, further finding revealed that the application of computer in Health facilities is to overcome the lapses of traditional method of HIM Practice[79]. Similar study was conducted in Sri Lanka, the outcome revealed that manual HIM system must be computerized and automated. The study further revealed that manual method caused dissatisfaction among patients/clients[80].

Another study conducted in Singapore revealed that automated HIM Practices have multiple advantages over manual method. This includes; easy operation of basic functions of Health Information Management System, accessibility to medical records by legitimate multiple users, reduce physical storage space[81].

2.4 Summary of Literature Reviewed

This section gives the summary of the empirical studies together with identified gaps in summarized format. This Chapter has examined related literature relevant to this study. Literature reviewed the concept of Health Information management Pratice, Health Information Management pratice in Developing Countries, Modern Health Information Management Practicee, Roles of Health Information Management Professionals, use of Health Information Management Pratice. The review revealed a gap in terms of limited studies on Modern Health Information Management Pratice in Developing Countries. This study attempted to fill this gap by empirically studying modern Health Information Management pratice.The review of literature showed that modern HIM pratice premise on the use of information Technology to replace manual activities. Findings revealed that ineffective Health information management system in Nigeria was due to overdependence on manual Health Information Management practice method and under-utilization of computer resources. A study titled "Assessment of Health Information Management Practices among Health records Professionals In Osun State" found out that HIM practices in the study are experiencing challenges due to lack/underutilization of ICT, however, there is need to expand the scope of the study beyond two health facilities. There are other government and private health facilities[9]. Using a cross sectional survey for a study titled "Information Technology skills and Training needs of Health Information Management Professionals in Nigeria: A nationwide study," the study revealed that there is IT skill gap among HIM professionals and this has contributed to ineffective Health Information management System in Nigeria. There is need to expand the scope of the study. The study should not be limited to HIM conference participants alone. They may not represent the interest of thousands of members of HIM[4]. Also, Further studies should factor in other skills require by HIM professionals. A study titled "Information Management Practices in

Public Tertiary Health Care Facilities found that effective patient care could not be possible without effective information management practices[73]. The study should be restricted to health information management practices. The choice of information management is broader and deviates from health. A research on "Health Information management and Technology: A new era of Transforming health care" found that HIM practices changes and HIM profession are striving to meet up with the challenges of health care industry with the evolution of IT[74]. Another study titled "Role of medical Records practice in improving decision making in university Hospital" revealed that the type of HIM practice adopted by health facility has influence on decision accuracy, timeliness and commitment[75]. A descriptive study carried out on Health records practice and patient satisfaction in selected university medical centre in Southwest, found that traditional HIM practices is still prevalent in Nigeria which resulted in patient dissatisfaction[76]. The scope of the study needs to be extended beyond university medical centre. A study on "Quackery and unethical practices in Health Information Management Profession in Nigeria" revealed that the use of HIM professionals is the solution to quackery and unethical practices[6]. The scope of study needs to be expanded. A study on "Health information Management Professional service quality and patient satisfaction in Nigeria Tertiary Hospital" revealed that quality of HIM practices influence patient services satisfaction[77]. However, other government hospitals (primary and secondary facilities) need to be worked upon. A Qualitative research on Automated clinic Records management system: A case study of Ahmadu Bello University sick-bay[78]. The study found out that the application of computer in health facilities will overcome the lapses of traditional methods of HIM practices. The scope of the study needs to be expanded beyond the university sick-bay. Another study titled "Automated Hospital maintaining system for Government Hospitals", found out that manual HIM system needs to be computerized and automated because it caused

dissatisfaction among patients/clients[79]. Private health facilities need to be included in the scope of the study. A study titled "Electronic Medical Records Management systems: An overview" concluded that automated HIM practices have multiple advantages over manual method such as easy operation, accessibility to medical records by multiple users. The input of health information management professionals need to be included in the scope of the study.

Endnotes

1. K. S., Osundina. *Principles and Practice of Health Records Management in Nigeria,* **Int'l Journal of Health and Pharmaceutical Research 2(1),** 2017, 1-12.

2. B. S., Nannette. *Health Information Management Technology: An applied Approach*, Published by ***AHIMA***, 2013, 4-5.

3. Wikipedia (online), mHealthInformationManagement. www.wikipedia.org/wiki/Health-_information_management/

4. I. T., Adeleke. *Relevance of Health Information Management (HIM)and roles of Health Information Management Professionals*, **Research Gate Journal**, 2014, 9.

5. *International Federation of Health Information Management Association (IFHIMA), Learning modules, Emerging trends in Health Information Management. IFHIMA,* **Global News Journal**, 2019, 9, https://www.google.com/search?q=International+Federation+of+Health+Information+Management+Association+(IFHIMA)+learning+modules,+Emerging+trends+in+HIM

6. A.O., Peter, I. O., Salihu., & U. F., Abubakar. *Quackery and Unethical Practice in HIM Profession in Nigeria,* **Academic Research Journal,** 1(2), 2020, 13-24. DOI:10.14662/ARJHIM2020.030 www.academicresearchjournals.org/ARJHIM/index.htm.

7. Online Google, *What is Health Information Management?* Western Governors University, 2005. Retrieved from:www.wgu.edu/blog/what-health-information-management2010.html/

8. Canadian Health Information Management Association (CHIMA), Transforming Health Information Management: The evolution of the HIM Professional, 2012, Retrieved from https: //www.echima.ca

9. K. S., Osundina. Assessment of Health Information Management Practice among Health Records Professionals in Osun State, **Research Gate Journal**, 2017, 4-16.

10. https://www.academia.edu/29623033/Assessment_of_Health_Information_Management_Practice_among_Health_Records_Professionals_In_Nigeria._

11. HIMAN, Enriching Accountable healthcare: Opportunities and Prospects of Managing Health Information, **Journal of HIMAN,** 2012, 22-26.

12. International Federation of Health Information Management Association *(IFHIMA)*, Establishing and Managing HIM Department/service. Learning Module.*IFHIMA Global News*, 3, 2018.

13. S. M., Omole. *Professionalism and Health Records Management Practice in Nigeria*, **International Journal of Finance and Management in practice**, 6(1), 2018, 16-18.

14. T. T., Adebayo. *Health Information Management: A Tool for Effective Healthcare Delivery in Nigeria: Mother and Child Hospital, Akure, Ondo State Experience,* **Library philosophy and practice**, ***e- Journal***, 2019, 22.

15. W., Sallyanne. *Challenges to the Health Information Information Management Profession: An Australian Perspective,* **Online Health Information Management research Journal**, 2015. www.perspectives.ahima.org/addressing-challenges-to-the-health-information-management-profession-an-australian-perspective/

16. J. A., Yaya. *Challenges of Records Management in Two Health Institution in Lagos State, Nigeria,* **International Journal of Research in Humanities and social studies**, 2(12), 2015, 4. www.i-joe.org

17. L., Mimbi, & F. O., Bankole. *ICT and Health System Performance in Africa: A multimethod approach*, 26th Australian conference on information systems, 30th November-4th December, 2015. Adelaide, Australia.

18. A., Omotosho., & P., Ayegba. *Current State of ICT in Healthcare Delivery in Developing countries,* **International Journal of Online Engineering**, 15(8), 2019. 91-107.www.i-joe.org

19. O. A., Makinde. *Investing in Health Information Management: The Right People, in the Right Place, at the Right Time*, **Health Information Management Journal**, 12th April, 2016, 1.

20. I. T., Adeleke, A. H., Lawal, & R. O., Adio. *Information Technology Skills and Training Needs of Health Information Management Professionals in Nigeria: A nationwide study*, **Health Information Management Journal**, 44(1), 2015, 30-48 doi:10.1177/183335831504400104. https://pubmed.ncbi.nlm.gov/27092467/

21. S. P., Laxman. The Need for Health Information Management Education and Training in Developing Countries, *IFHIMA Global News issue,* 11, August 2012, 5.

22. D., Marshall. *Health Information Management Programme*. *IFHIMA Global News,* 10, 2012, 9.

23. International Federation of Health Information Management Associations,*IFHIMA Global News*. Issue 10. December, 2017, 4

24. E. D., Lawrence. Health Records in Ghana. *IFHIMA Global News*, 8, 2011, 11.

25. Online Google, *What is a profession?* Retrieved from: www.google.com

26. L. B., *Harman, Ethical challenges in the Management of Health Information*. American Health Information Management Association: Jones and Bartlett Publisher. London, 2006.

27. A. G., Michelle & J. B., Mary. *Essentials of Health Information Management: Principles and Practices.* Delmar Cengage Learning. 2011. 2nd edition, 38, 108 & 109.

28. Head of Civil Service of the Federation (HCSF), *Re-designation of Health Records Practitioners cadre and restoration of the intermediate cadre in the schemes of service.* Office of the Head of service of the Federation. HCSF/SPSO/ODD//NCE/CND.100/S.10/111/106. 12th April, 2021.

29. *I*nternational Federation of Health Information Management Association, *IFHIMA Global News.* Issue No.9, December 2011. Pg.9

30. International Federation of Health Information Management Association, IFHIMA Global News, 15, January, 2020.

31. Online Google, Health Information Manager - Explore Health Care Careers - Mayo Clinic, *College of Medicine & Science*, www.college.mayo.edu/academics/explore-health-care-careers/careers-a-z/health-information-managers/ Accessed date 3rd June, 2021.

32. Online Google, *Health Information Management Professionals Role in Patient Safety,* Accessed date 3rd June, 2021.

33. IFHIMA-pap, *Health Information Management Professionals (Present circumstances and Future expectations)*, 2016. 0148. www.ahima.org

34. University of Sandiego – Online Degrees, *Health Information Management.*www.sandiego.edu/health-information-management.

35. 5 essentials skills of Health Informatics, www. wikipedia.org

36. B. K., Ayilegbe. *Essence of Documentation in Healthcare Institution*, Debis - Co Press & Publishing Company Ltd, Kano, Nigeria. 2008, 106 & 107.

37. R., Akangbe. *Health Informatics: An Interdisciplinary Approach in Health Care Management*, Published by J-cube Palace, 2019, 4.

38. International Federation of Health Information Management Association, *IFHIMA Global News*, 8, August 2011, 7 & 8.

39. M., Butler. *Mind the Gaps: HIM Rushes to bridge Educational and Professional Gaps caused by a quick advancing Industry,* **Journal of AHIMA**, 86(2), 2015, 34-50.

40. J., Bailey. *The Expanding Role of the HIM Professional: Where Research and HIM Role Intersect: Perspective in Health Information Management*, **Online Research journal***, 2004.*

41. American Health Information Management Association (AHIMA):Health Information Management Skills, Education, and Credential Research. WHITEPAPER with KEY FINDINGS. The research was executed by *Vault Consulting*, LLC in May-June, 2017.

42. International Federation of Health Information Management Associations, Module 9, 2019, Emerging Trends in Health Information Management.

43. Online Google, Model of Practice. Retrieved from:www.google.com

44. G., Richard. *Health Information Technology and Management*.1st edition, Published by Prentice Hall, 2011.

45. L., Kloss. *Redefining the Role of HIM in The new World of Information Governance*, **Iron Mountain**, 2013, 4-7.

46. Online Google, *Understanding Enterprise Information Management (EIM).* Accessed: August, 2020. www.investopedia.com/terms/e/enterprise-information-management eim.asp

47. A. O., Attah. *Implementing the Electronic Health Records in Nigerian Secondary Healthcare Facility: Prospect and Challenges*. Master Thesis in Telemedicine and E-Health (TLM-3902), November, 2017.

48. O., Daini. *The Computer in Nigeria Teaching Hospital. First Year Experience in Lun KC*, Degoulet P. Piemme T.E, Runhoff.Oeds., *MEDINFO*, 1992, Amsterdam, Elsevier.

49. P., Idowu. *Health Informatics Deployment in Nigeria*, **Journal of Health Informatics in Developing Countries***,* 2(1), 2008, 15-23. Available from: http://jhidc.org/index.php/jhidc/article/viewfile/11/44.

50. P., Idowu. *Distributed Resource Sharing System For Hospitals in Nigeria*, **Journal of Biomedical Soft Computing and Human Sciences,** 9(2), 2003, 1-7.

51. A., Isiaka. *Health Information Technology in Nigeria: Stakeholders Perspectives of Nationwide Implementations and Meaningful Use of the Emerging Technology in the most populous Black Nation*, **American Journal of Health Research**, 3(1), 2015, 17-24.

52. R. D., Lele. *Computers in Medicine: Progress in Medical Informatics,* 2005.

53. K. A., Babatunde. *Electronic Health Records Use, Human Capital Development and Service Delivery By Health Information Management Professionals in Government Teaching Hospitals in Nigeria,* Doctoral Dissertation, 2021.

54. International Federation of Health Information Management Association (IFHIMA), Education Module 6: *Hospital computerised Health records Applications*, *IFHIMA Global News*, 2012, 1-2.

55. N., Menachemi & R., Brooks. *Hospital Quality of Care: Does Information Technology Matter? The Relationship between Information Technology Adoption and Quality of Care*, **Health Care Management Journal**, 33(1), 2008, 364-371.

56. A., Agrawal. *Return on Investment Analysis for a Computer- Based Patient Records in the Out-Patient Clinic Setting*, **Journal of Association of Academy Minor**, 13(3), 2002, 61-65.

57. Digital Guardian, www.digitalguardian.com/solutions/finacial-servicesmanagement Accessed date: 23rd October, 2021.

58. H. C., Kimaro. *Strategies for Developing Human Resource Capacity to Support Sustainability of ICT Based Health Information System: A Case study from Tanzania*, **The Electronic Journal of Information Systems in Developing Countries**, 26(1), 2006. https://: doi.org/10.1002/j.1681-4835.2006.tb000171x.

59. R. J., Cline. *Consumer Health Information Seeking on the Internet:The State of the Art*, **Health Education Research**, 16(6), 2001, 671-692. https://doi.org/10.1093/her/16.6.671.

60. A., Popoola, & K. O., Jacob. *Benefits and Challenges of Using ICTS in Health Information Management at Olabisi Onabanjo University Teaching Hospitals, Sagamu, Ogun State, Nigeria*, **Research Gate Journal**, 5(4), 2020, 122-138.

61. Software Engineering Ethics Research Institute (SEERI), Security of Computerized Patient Records.

62. S. D., Richard., B. S., Elaine, & E. D., Don. *The Computerized Patients Records: An essential Technology for Healthcare,* 14th October, 1997.

63. M. H. Langelier. *The Future of HIM: Employer Insights into the Coming Decade of Rapid Change*, **Journal of AHIMA***,* 75(6), 2004, 2.

64. The Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), Embracing the Future: New Times, New Opportunities for Health Information Managers. www.cahiim.org.

65. C. S., Kruse, A., Stein, H., Thomas, & H., Kaur. *The Use of Electronic Health Records to support Population Health: A Systematic Review of the Literature*, **Journal of Medical Systems,** 29(11), 2018, 214, doi: 10.1007/s10916-018-1075-6.

66. C. Dimick. *Health Information Management 2025: Current "Health IT Revolution" Drastically Changes HIM in The Near Future*, **Journal of AHIMA' *83***, 8, 2012, 1. www.library.ahima.org.

67. Institute of Medicine (IOM). *The Computer- Based Patient Records: Revised Edition: An essential Technology For Health Care. Washington (DC):* National Academies press (US); 1997. www.ncbi.nlm.nih.gov.books.

68. *Impetus to the Development of Team Approaches,* A publication of The National Association of Health Information Management Students, **The View Journal**, 1, 1, April, 2012.

69. B. K., Ayilegbe. *Security of Patients's Health Records". Annual In- House Workshop for Health Records Professionals, Neuropsychiatric Hospital, Aro, Abeokuta,* 2018.

70. F. D., Davis, R. P., Bagozzi, & P. R., Warshaw. *User Acceptance of Computer Technology: A Comparison of Two Theoretical Models*, **Journal of Management Science**, 1989, 35(8), 211-223.

71. K. M., Cresswell, A., Worth, & A., Sheikh. *Actor-Network Theory and its Role in Understanding the Implementation of Information Technology Developments in Healthcare*, **BMC Med Inform Decis Mak,** 10(67), 2010, https://doi.org/10.1186/1472-6947-10-67

72. B., Latour. *Social Theory and the Study of Computerized Work Sites: Information Technology and Changes in Organizational Work*,1996. London: Chapman and Hall.

73. D., Alhuwail. *Information Management Practices in Public Tertiary Health-Care Facilities*, **Records Management Journal**, 31(1), 2020.

74. M. K., Hussain, & A. O., Babalghith. *Health Information Management & Technology: A new era of Transforming Healthcare,* **International Researcher Journal**, 2(1), 2013, 152-164.

75. M. A., Nora, S. F., Yatin, J. M., Jali, N. Z., Sahid, S. M., Shuhidan, S. A., Noordin, & W. M., Abdullah. *Role of Medical Records Practice in improving decision making in University Hospital, Malaysia***, International Journal of Academic Research in Business and Social Science**s, 10(11), 2020, 1160-1175.

76. P., Awogbami, J. K., Opele, & T. P., Awe. *Health Records Management Practices and Patients Satisfaction in Selected University Medical Centre in Southwest Nigeria*, **Global Journal of Social Sciences,** 6(2), 106-114. DOI:10.20448/807.6.2.106.114.

77. O., Adebowale, & R. O., Owolabi. *Health Information Management personnel service Quality and patients satisfaction in Nigerian Tertiary Hospital***, Global Journal of Health Science,** 9(10), 2017.

78. A., Mahfooz. *Automated Clinic Record Management System: A Case Study of Ahmadu Bello University Sick-Bay,* **Research Gate Journal**, 2006, Retrieved from: www.researchgate.net.

79. R., Miyuranga. *Automated Hospital Maintaining System for Government Hospitals in Srilanka*, **Research Gate Journal**, 2020. www.researchgate.net.

80. C. S., Lim. *Electronic Medical Records Management System: An Overview,* **Research Gate Journal**, 2009. www.researchgate.net

81. P. T., Sheridan. *Health Information Management Leaders and the practice of leadership through the lens of Bowen Theory*, **Online Research Journal Perspectives in Health Information Management**, 2016, 1-3.

Chapter Three

Methodology

3.1 Research Design

The study is a quantitative research and will adopt descriptive survey method.This is to obtain thorough and factual information that elucidates thought of the respondents on variable to be studied[1]. The design is considered appropriate since it will help to collect and analyse data that will be collected from the samples.It will allow the researcher to obtain the perception and diverse opinion of Health Information Management Professionals in the selected health facilities. Also, descriptive survey method provides respondents the equal chance of participation in the study.

3.2 Population of the Study

The population of the study would be made up of One hundred and Fifteen (115) current practicing Health Information Management Professionals (Health records Officers and Health records Technicians) in the selected government and private owned Health facilities in Abeokuta North, Abeokuta South and Sagamu Local Government areas of Ogun state. Abeokuta North Health facilities are: General Hospital, Iberekodo; Leprosy centre, Elega; M&E Unit. Abeokuta South Health facilities are: Federal Medical Centre, Idi- Aba; State Hospital, Ijaye; Oba Ademola Maternity Hospital, Ijemo; M&E Unit; Olikoye Ransome Kuti Memorial Hospital, Asero; Mercy Group of Clinics, Panseke;Sacred Heart Hospital, Lantoro while Sagamu Local Government Health facility is OlabisiOnabanjo University Teaching Hospital, Sagamu, Ogun State. The Population Distribution of HIM professionals in each of the selected Hospitals in Ogun State are shown in the table below.

Table 3.1: Population Distribution of HIM Professionals in the Selected Hospitals

S/N	Name of health facility	No of HIM Professional
1.	General Hospital, Iberekodo	01
2.	Leprosy Centre, Elega	01
3.	M &E Office (Abeokuta North)	02
4.	Federal Medical Centre, Idi-Aba	63
5.	Oba Ademola Maternity Hospital, Ijemo.	2
6.	Olikoye Ransome Kuti, Memorial Hospital, Asero	2
7.	State hospital, Ijaye,	6
8.	M &E Office (Abeokuta South)	2
9.	Mercy Group of Clinic, Panseke	2
10.	Sacred Heart Hospital, Lantoro	13
11.	Olabisi Onabanjo University Teaching Hospital, Sagamu	20
	Grand Total	**115**

Source: Field Survey, 2021

3.3 Sample and Sampling Technique

Total enumeration technique was used for this study. The sample size is 115. The Researcher considered all One Hundred and Fifteen (115) current practicing Health Information Management Professionals in the selected Health facilities in Abeokuta North, Abeokuta South and Sagamu Local Government areas of Ogun. Purposive technique was adopted to select the Health facilities in the study areas..Purposive selection is supported as a result of certain qualities or criteria possessed by selected participants[2].

3.4 Description of Research Instrument

This research employed a self-structured questionnaire with closed-ended questions. The questionnaire for this study was both adapted and designed by the researcher based on literature and inputs from five experts in the field of Health Information Management both in the academic and Hospital. It is tagged " Assessment of Modern Health Information Management Practices in the selected Hospitals in Ogun State". A questionnaire is a research instrument consisting of a series of questions and other prompts for the purpose of gathering information from respondents[3]. This instrument was designed to have structured questions so as to achieve the set objectives and to afford respondents ample time to respond to the questions for this study. More so, the use of questionnaire would be ideal for this study because it is more economical and can easily be distributed to a very large number of respondents in order to obtain their thoughts on the current study. Therefore, the research instrument is divided into five sections: A, B, C, D, and E. The five sections of the questionnaire as well as the measurement scales are hereby described.

Section A: This was developed by the researcher to elicit responses on demographic characteristics of health information management professionals such as age, sex, marital status, educational qualification, name of institution among others. This demographic information is relevant to this study. This section comprises of 9 questions.

Section B: This section was developed by the researcher based on literatureand inputs of HIM experts and it centres on items that capture data on level of use of health information management professionals in the hospital in Ogun state. The eleven items on a five point-likert type scale measuresthe level of use of qualified Health information management professionals ranging from VH – Very high (5), H – High (4), M – Moderate (3), VL – Very low(2), L – Low (1). Examples of questions in this section include: The use of HIM professionals for demographic data capturing of new patient in my hospital can be

described as…, The use of HIM professionals for Clinical Coding and Indexing of diagnosis and operation procedure in my hospital can be regarded as….

Section C: This Section contains twelve items on Methods of health information management practice adopted in the selected hospitals using a two point likert-type scale ranging from either Yes or No. Examples of questions in this section include: Do you use automation system for the following HIM core functions such as Documentation/Registration of new patients, Patient Master Name Index management. Questions here aim to ascertain the level of usage of automation system for various health information management functions in the hospitals under investigation.

Section D: This section contains information on challenges facing modern Health information management practice. This section contains eleven items. All the response format of the items in this section follow the pattern of a four point-likert type scale ranging from Strongly Agree (SA) (4), Agree(A) (3), Disagree(D)(2), Strongly Disagre (SD) (1).

Examples of questions in this section include: Challenges facing Modern Health Information Management practices in your Hospital are inadequate skills acquisition in computer utilization by Health Information Management Professionals, inadequate trained and qualified Health Information Management Professionals

Section E: This section contains six items indicating necessary skills required to practice modern health information management practice. It was developed by the researcher based on review of literature. This section also follow the pattern of a four point-likert type scale ranging from StronglyAgree (SA) (4), Agree (A) (3), Disagree (D) (2), Strongly Disagree (SD) (1). Example of questions in this section include: To what level do you agree that the following skills are required to practice Modern HIM in your Hospitals? Analytical skills

are required to practice Health Information Management Practices in my Hospital, attention to detasils is a skill required to practice Health Information Management in my Hospital.

3.5 Validity of Reseach Instrument

Validity refers to the ability of the instrument to measure what is supposed to measure[4]. In ensuring both the face and content validity of the instrument for this study, the draft of the questionnaire was given to the reseacher' supervisor, three academic experts in thefield of health information management at Lead City University and three Health information management professionals in the hospitals and two other non HIM professionals who are research experts. Their observations, comments and corrections were duly implemented in order to obtain accurate and reliable result in the pilot study. Some items were reconstructed in order to obtain objective views of the respondents. Hence, the instrument was appropriate for the study.

3.6 Reliability of the Research Instrument

Reliability refers to how dependably or consistently a test measures a characteristic. In this study, Test-retest reliability method was adopted. The instrument was subjected to a pilot study among Twenty Health information Management (HIM) professionals at Three General Hospitals which are located at Ode-Remo, Ijebu-Ode, and Ifo at two weeks interval and it yielded the same result. This indicates that the instrument is reliable and free from errors. The essence of the pilot study was to investigate, discover anormalies and improve the proposed questionnaire. The questionnaires were administered with the help of the Head of Department of Health Records and some of the staff of the department at the three Hospitals. The questionnaires were administered to Health Information Management professionals one after the other in their offices and at different sections of

work in the hospital. Some questions were raised on how to answer the questionnaire and how to tick the option column. The researcher provided detailed explanation on how to complete the questionnaire.

Reliability Co-efficinet of the Study Instrument

S/N	Variable	Cronbach' Alpha	Number of Items
1	Level of use of qualified HIM professional	0.79	11
2	Methods of HIM Practices	0.89	12
3	Challenges facing modern HIM practices	0.76	11
4	Skills required to practice modern HIM	0.69	06

Source: Researcher' s Cronbach's Alpha test

3.7 Administration of Research Instrument and Method of Data Collection

The self-designed questionnaires were administered to One hundred and Fifteen (115) current practicing Health Information Management Professionals in various eleven Health facilities in Abeokuta North, Abeokuta South and Sagamu Local Goverment areas of Ogun State. Primary data were used in this study. Primary data will enable the researcher to obtain a moreaccurate and objective fact[5]. The researcher and three research assistants in the study areas administered copies of the questionnaire to the respondents. In a bid to cover the study areas within the limited time frame, the three(3) research assistants were trained were trained on how to explain and clarify any grey areas and also ensure its logical distribution, ensure prompt collection of the questionnaire on the spot after its completion to avoid losses by the respondents. The training of these research assistants took three(3) days for mastery. Before the administration of the questionnaire, the

researcher obtained a letter of introduction from the Department of Health Information Management which was be given to the management of the eleven selected health facilities in Ogun state.

3.8 Method of Data Analysis

The completed questionnaires were collected and analysed using Statistical Products and Services Solutions (SPSS), Version 23. Each of the research questions was analysed using frequency Counts and Percentages.

3.9 Ethical Consideration

Ethical guideline relating to data collection, analysis and interpretation on human subjectas specified by the school of postgraduate studies was strictly followed with the views of enhancing the credibility, reliability and validity of the study. Before proceeding to the field, Leadcity University Health Research Committee (LCUHRC) approval for the research proposal was obtained. Attestation statement letter was equally obtained from the supervisor to prove authenticity of the research work. Also, an official permission was obtained from the management of the selected health facilities that were covered in this study to enable the researcher extract objective data and information from health information management professionals. An informed consent form was also secured and attached to the questionnaire. More so, the respondents were assured of a high level of confidentiality and anonymity of all information supplied, and used only for the purpose of academic research. The researcher also undergone online ethical research training on human subject which covered 8 ethical topics such as Introduction to ethics, Informed consent etc, and certificates were duly awarded on each of them.

Endnotes

1. Lovely Professional University, *Research Methodology*. COM408/DMGT404. Excel Books Private Limited, India, 2012, 113.

2. H., Ames, C., Gleton, & S., Lewin. *Purposive Sampling in a Qualitative Evidence Synthesis: A Worked Example from a Synthesis on Parental Perceptions of Vaccination Communication,* **BMC Medical Research Methodology,** 2019, 19(26), 1471-2288.

3. Taro Yamane. *Statistics: An Introductory Analysis*, New York: Harper and Row, 2nd Edition, 1967.

4. K. A., Babatunde. *Electronic Health Records Use, Human Development and service delivery of Health Information Management in Government Teaching Hospitals in Nigeria,* 2020, 100-105.

5. T., Hammed. *Validity and Reliability of Research Instrument; How to test the Validation of a Questionnaire/Survey in a Research*, **International Journal of Academic Research in Management (IJARM)**, 5(3), 2016, 28-36, ISSN 2296-1747. Helvetic Editions LTD. Switzerland. www.elvedit.com.

Chapter Four

Results and Discussion of Findings

This chapter presents data analysis, interpretation and discussion. It presents the data collected from the field work. Descriptive analyses (frequency, percentage, bar charts) were used to analysed the data collected on socio-demographic characteristics and research questions.

4.1 Response Rate and Presentation of Result

Out of the 115 copies of questionnaires handed out to the study participants, 107 were returned within the two-week response period.

The response rate is presented in table 4.1 below.

Table 4.1 Questionnaires Administered and Return Rate

S/N	Name of health facility	No of Questionnaires Administered	No of Questionnaires Returned	% Returned
Abeokuta North Health Facilities				
1.	General Hospital, Iberekodo	01	01	0.86%
2.	Leprosy Centre, Elega	01	01	0.86%
3.	M & E (Abeokuta North)	02	02	1.74%
Abeokuta South Health Facilities				
1.	Federal Medical Centre, Idi-Aba	63	57	49.56%
2.	Oba Ademola Maternity Hospital, Ijemo.	2	2	1.74%
3.	Olikoye Ransome Kuti, Memoral Hospital, Asero	2	2	1.74%
4.	State hospital, Ijaye,	6	6	5.23%

5.	M & E (Abeokuta South)	2	2	1.74%
6.	Mercy Group of Clinic, Panseke	3	3	2.60%
7.	Sacred Heart Hospital, Lantoro	13	13	11.300%
Sagamu Health Facility				
1.	Olabisi Onabanjo University Teaching Hospital, Sagamu	20	18	15.65%
Grand Total		**115**	**107**	**93.02%**

Source: Field Survey, 2021

4.2 Socio-Demographic Characteristics of Respondents

The socio-demographic characteristics of the respondents include gender, age, marital status, highest educational qualification, years of experience, designation etc.

Table 4.2: Respondents Socio-demographic information

Distribution of Respondents by Gender		
Gender	**Frequency**	**Percentage (%)**
Male	39	36.45
Female	67	62.62
Missing Value	01	0.93
Total	**107**	**100**
Distribution of Respondents by Marital Status		
Marital Status	**Frequency**	**Percentage (%)**
Single	29	27.10
Married	78	72.89
Divorce	0	0
Widow/Widower	0	0
Others	0	0
Total	**107**	**100**
Distribution of Respondents by Highest Education Qualification		
Highest	**Frequency**	**Percentage (%)**

Educational Qualification		
ND/HRT	60	56.07
HND	35	32.17
B.Sc.	08	7.48
Master Degree	03	2.80
PhD	01	0.93
Total	**107**	**100**
Distribution of Respondents by years of experience		
Years of experience	**Frequency**	**Percentage (%)**
0 – 5 years	16	14.95
6 – 10 years	21	19.63
11 – 15 years	32	29.91
16 – 20 years	13	12.15
21 – 25 years	10	9.35
26 years and above	15	14.02
Total	**107**	**100.01**
Distribution of Respondents by designation/cadre		
Present Designation/cadre	**Frequency**	**Percentage (%)**
HRT	60	56.07
HRO	45	42.06
HIM Director	02	1.87
Others	0	0
Total	**107**	**100**

Key: ND – National Diploma; HND – Higher National Diploma; B.Sc. – Bachelor of science; HRT – Health Records Technician; HRO – Health Records Officer; HIM – Health Information Managemen

The result of the study on respondents' demography are shown in Table 4.2 above. 39(36.45%) of the respondents were males, 67(62.62%) were females, while 1(0.93%) did not give any response. This indicates that there were more female Health Information

Management Professionals than males in Health facilities in Ogun state. This suggests that HIM profession is female dominated.

The table shows the respondents Marital status distribution. 29(27.10%) were single while 78(72.89%) were married. This implies that majority of the respondents are matured and responsible.

From the table above 60(56.07%) of the respondents were ND/HRT holders, 35(32.17%) were HND holders, 08(7.48%) were B.Sc. holders and 01(0.93%) was Ph.D holder. It was clear from this result that most of the respondents were ND/HRT holders. This result suggests that majority of the HIM professionals still have room to enhance their career development.

69(64.49%) of HIM professionals had 15 years of experience or less. This signifies that the profession is possibly dominated by youth and middle-aged people which could be categorized as the age of active service. The results also implies that HIM professionals in Ogun state are likely to have a good understanding of modern health information management practices in the selected hospitals in Ogun state, and also provide reliable information that would help the study objectives.

Table 4.2 shows that 60(56.07%) were HRT, 45(42.06%) were HRO while 02(1.87%) were Directors. This implies that the respondents in the designation/cadre of HRT and HRO professionals still have more opportunity for more career advancement.

4.3 Presentation of Research Questions

Data shown in Tables 4.3 – 4.7 were gathered to provide answers to research question 1 – 4 raised in the study.

Research Question One: What are the levels of use of Health Information Management Professionals for HIM practice in the selected hospitals in Abeokuta, Ogun state?

Table 4.3: Level of use of Qualified HIM professionals in the Selected Hospitals for HIM practices

S/N	Statements To what level do you agree that…	Very High	High	Moderate Level	Low	Very Low	Mean
1.	The use of HIM professional for demographic data capturing of new patient in my hospital can be described as	48(44.86)	51(47.66)	0(0)	3(2.80)	5(4.67)	4.25
2.	The use of HIM professional for coding and indexing of diagnosis and operation procedure in my hospital can be regarded as	51(47.66)	31(28.97)	0(0)	10(9.35)	15(14.01)	3.86
3.	The use of HIM professional for data collection, collation, analysis and interpretation in my hospital can be rated as	62(57.94)	10(9.35)	15(14.01)	3(2.80)	17(15.89)	3.91
4.	The use of HIM professional for discharge analysis Admission,	46(42.99)	49(45.79)	05(4.67)	07(6.54)	0(0)	4.25

	Discharge and Death, for medical care evaluation in my hospital can be described as						
5.	The use of HIM professional for filing and retrieving of patient health record in my hospital can be rated as	53(49.53)	18(16.82)	27(25.23)	1(0.93)	8(7.48)	4.0
6.	The use of HIM professional for health record auditing in my hospital can be described as	55(51.40)	36(33.64)	0(0)	4(3.74)	12(11.21)	4.10
7.	The use of HIM professional in assisting/providing statistical information for research work in my hospital can be described as	81(75.70)	05(4.67)	07(6.54)	05(4.67)	09(8.41)	4.35
8.	The participation of HIM professionals in the conduct of medical research	49(45.79)	27(25.23)	07(6.54)	13(12.15)	11(10.28)	3.86

	and healthcare quality in my hospital can be described as						
9.	The use of HIM professionals for Health Records Tracking in my hospital can be rated as..	53(49.53)	28(26.17)	09(8.41)	01(0.93)	16(14.95)	3.94
10.	The use of HIM professionals for quantitative and qualitative analysis of Health records in my hospital can be rated as	33(30.84)	46(42.99)	12(12.22)	02(1.87)	14(13.08)	3.76
11.	The use of HIM professionals for health records forms and design in my hospital can be rated as	41(38.32)	27(25.23)	22(20.56)	16(14.95)	01(0.93)	3.85
(Grand Mean)Level of Use of HIM professionals 4.01							

Source: Field Survey, 2021

Decision Rule (Level of Use of Qualified HIM Professionals)

1-1. 80 = Very Low

1.81- 2. 60 = Low

2.61 -2.40 = Moderate

3.41 -4.20 = High

4.21 – 5.0 = Very High

Table 4.3 shows the descriptive statistics result for research questions One. From the table above, 99(92.52%) respondents agreed that the level of use of qualified HIM professionals for demographic data capturing/registration of new patients was high while 8(7.47%) respondents agreed that the level of use was low.

The level of use of qualified HIM professionals for clinical coding and indexing of diseases and operation procedures was high with 82(76.63%) respondents while 25(23.36%) respondents agreed that the level of usage was low. Similarly,the levels of use of qualified HIM professionals for Health data collection, collation, analysis in the selected Hospitals were; high with 72(67.29%), moderate with 15(14.01%) and low with 20(18.69%) respondents respectively.

Also, the levels of use of HIM professionals for discharge analysis were; high with 95(88.78%) respondents, moderate with 05(4.67%) respondents and low 07(4.67%) respondents.

The respondents with 71(66.35%), 27(25.23%) and 9(8.41%) agreed that the levels of use of qualified HIM professionals for storing and retrieving of patients health records/information were high, moderate and low respectively.

Moreso, the respondents with 91(85.04%) and 16(14.95%) agreed that the levels of use of qualified HIM professionals for Health Records auditing were high and low respectively.

The respondents with 37(37.38%), 07(6.54%) and 60(56.07%) agreed that the levels of participation of qualified HIM professionals in the conduct of Health research and quality improvement were high, mopderate and low respectively.

The respondents with 81(75.7%), 09(8.41%) and 17(15.88%) agreed that the levels of use of qualified HIM professionals for Health records tracking were high, moderate and low respectively.

Majority of the respondents with 79(73.83%) agreed that the level of use of qualified HIM professionals for quantitative and qualitative analysis of healthrecords was high while respondents with 12(12.22%) and 16(14.95%) agreed that the levels of usage were moderate and low respectively.

Health Information Management practices involve performing several functions to meet the information needs of the service area as guided in the use of qualified Health Information Management professionals for various HIM functions in the selected hospitals in Ogun state. The analysis shows that the use of qualified HIM professionals for core HIM functions was very high in the selected hospitals in Ogun state with a mean score of 4.01.

Research Question Two: What are the Methods of Health Information Management practice in the selected hospitals?

Table 4.4: Method of HIM Practice in The Selected Hospitals

The use of automation system for core HIM Functions in the selected hospitals

S/N	Do you use automation system for the following core HIM functions	YES (%)	NO (%)
1.	Documentation/Registration of new patients.	30(28.03)	77(71.96)
2.	Patient Master Name Index management.	82(76.63)	25(23.36)
3.	Health Clinical coding and abstracting	25(23.36)	82(76.62)
4.	Release of Health information to legitimate users	0(0)	107(100)
5.	Health records data collection and analysis.	76(71.01)	31(28.97)
6.	Department organization and management.	66(61.68)	41(38.32)

7.	Health Records Registry management	0(0)	107(100)
8.	Health Records Forms management (format and content) and designing	06(5.61)	101(94.39)
9.	Health Information confidentiality and security	47(43.93)	60(56.07)
10.	Health records discharge analysis (Admission, Discharge and Death) and completion.	21(19.63)	86(80.37)
11.	Health records/information storage and retrieval	47(43.93)	60(56.07)
12.	Patient appointment system (web based/mobile application)	0(0)	107(100)

Source: Field Survey, 2021

The descriptive statistics result for research question three is displayed in Table 4.4. The result revealed the usage of automation system (delineating factor between modern and traditional HIM practice). This revealed the usage of automation system for core HIM functions.

The respondents with 30(28.03%) used automation system for documentation/registration of new patients while 77(71.96%) respondents did not use automation system. Majority of the respondents with 82(76.63%) used automation system for Patient Master Name Index Management while 25(23.36%) did not use automation system.The percentage of the respondent that used automation system for PMNI was higher.This could be as a result that Patient Master Name Index (PMNI) is one of the essential indices used in HIM practice in any Health facility. 25 respondents representing 23.36% used automation system for Clinical coding and abstracting while majority of the respondents with 82(76.62%) did not use

automation system. Also, all the respondents 107(100%) did not use automation system for release of Health Information to legitimate users.

Majority of the respondents with 76(71.01%) used automation system for Health data collection and analysis while 31(28.97%) did not use automation system. This implies that accuracy and efficiency of statistical reports would be enhanced.

Majority of the respondents with 66(61.68%) used automation system for department organization and management while 41(38.32%) did not use automation system. However, none of the total respondents 107(100%) use automation system for Health Records Registry management.This could be due to the fact that the selected Hospitals did not have registry such as cancer registry.

Few of the respondents 6(5.61%) used automation system for Health Records forms management and designing while majority of the respondents 101(94.39%) did not use automation system. 47(43.93%) of the respondents however used automation system for Health Information confidentiality and security while 60(56.07%) did not use automation system.

21(19.63%) of the respondents used automation system for diuscharge analysis while 86(80.37%) did not use automation system. 47(43.93%) used automation system for health records/information storage and retrieval while 60(56.07%) did not use automation system.

Moreso, none of the total respondents 107(100) use automation system for patient appointment system.

Research Question Three: What are the challenges facing modern health information management practice in the selected hospital?

Table 4.5: Challenges facing Modern Health Information Management practices

S/N	Challenges facing Modern Health Information Management practice	SA (4)	A (3)	D (2)	SD (1)	Mean
	HIM Professionals Related Issues	**(%)**	**(%)**	**(%)**	**(%)**	
1.	Inadequate skill acquisition in computer utilization by HIM professionals-	57 (53.30)	12 (11.21)	28 (26.16)	10 (9.35)	3.08
2.	Inadequate trained and qualified HIM professionals	7 (6.5)	22 (20.56)	39 (36.4)	39 (36.4)	1.97
	Group Mean					**2.5**
	Government/Policy Makers Related issues					
3.	Lack/ inadequate Government preservation and conservation policy for Health Information	23 (21.49)	44 (41.12)	10 (9.35)	30 (28.04)	2.56
4.	Inadequate training centres (Higher degrees) for HIM professionals to enhance career development.	91 (85.0)	02 (1.87)	05 4.67)	09 (8.4)	3.64
	Group Mean					**3.1**
	Management Related Issues					
5.	Poor system maintenance culture	51 (47.7)	37 (34.6)	06 (5.6)	(12.15)	3.17
6.	Irregular power supply.	35 (32.7)	28 (26.17)	12 (11.21)	32 (29.90)	2.62
7.	Unconducive work environment for HIM practice	66 (61.7)	22 (20.56)	10 (9.35)	09 (08.40)	3.36

8.	Inadequate facility/equipment for storage of health records/information	71 (66.4)	22 (20.60)	09 (08.4)	05 (04.67)	3.48
9.	Lack/inadequate sponsorship for training and retraining programmes of HIM professionals by management of Hospitals.	72 (67.3)	18 34(16.82)	11 (10.28)	06 (05.61)	3.46
	Group Mean					**3.22**
	ICT Related Issues					
10.	Inadequate supply of computers and other ICT devices for health information storage/ preservation.	63 (58.9)	15 (14.02)	16 (14.95)	13 (12.15)	3.19
11.	Lack/poor network connectivity	18 (16.8)	49 (45.8)	37 (34.5)	03 (02.8)	3.23
	Group Mean					**3.21**
	Grand Mean (Cahllenges Facing HIM Practices) 3.01					

Source: Field Survey, 2021

Decision Rules (Challenges facing practice Modern HIM)

1-1.75 = Strongly Disagree

1.76-2.51 = Disagree

2.52-3.27 = Agree

3.28-4.03 = Strogly Agree

The result of Table 4.5 shows the challenges facing modern Health Information Management practice in the selected hospitals in Ogun State. Respondents with 69(64.51%) and 29(27.56%) agreed respectively that HIM professionals related issue such as inadequate skill acquisition in computer utilization, inadequate trained and qualified HIM professionals were challenges in the selected Hospitals while others with 38(35.51%) and 78(72.89%) disagreed respectively.

Similarly, respondents with 67(62.61%) and 93(86.87%) agreed respectively that government/policy makers related issue such as lack/inadequate government preservation and conservation policy for Health information and inadequate training centres for HIM professionals were enormous challenges in the selected Hospitals while while 30(37.39%) and 14(13.07%) respondents disagreed. Majority of the respondents 88(82.3%), 63(58.87%), 88(82.26%), 93(87.%), 90(84.12%) agreed respectively that management related issues such as poor system maintenance culture, irregular power supply, unconducive work environment, inadequate facility/equipment for storage of health records, poor sponsorship for training and re-training of HIM professionals were enormous in the selected Hospitals while others 19(17.75%), 44(41.12%), 19(17.75%), 14(13.07%) and 17(15.89%) disagreed respectively.

Also, majority of the respondents 78(72.92%) and 67(62.6%) agreed respectively that ICT related issues such as inadequate supply of computers and ICT device, lack/poor network connectivity were challenges in the selected Hospitals while others with 29(27.1%) and 40(37.3%) disagreed respectively. The challenges facing Modern Health Information Management practices were high in the selected Hospitals with a grand mean score of 3.0.

Research Question 4: What are the necessary skills required to practice Modern HIM in the selected Hospitals in Ogun state.

Table 4.6: Necessary Skills Required to practice Modern HIM

S/N	To what level do you agree that the following skills are required to practice Modern HIM in your Hospitals?	SA (4) (%)	A (3) (%)	D (2) (%)	SD (1) (%)	Mean
1.	Analytical skills are required to practice HIM in my Hospital	87 (81.3)	20 (18.69)	0 (0)	0 (0)	3.82
2.	Attention to details is a skill required to practice HIM in my Hospital	102 (95.3)	01 (0.093)	04 (03.74)	0 (0)	3.92
3.	Communication and teamwork are skills required to practice HIM in my Hospital	91 (85.0)	16 (14.95)	0 (0)	0 (0)	3.85
4.	Management skills are required to practice HIM in my Hospital	79 (73.83)	21 (19.63)	07 (06.54)	0 (0)	3.67
5.	Technological skills are required to practice HIM in my Hospital	71 (66.36)	29 (27.1)	01 (0.93)	06 (05.61)	3.54
6.	Knowledge of health is required to practice HIM in my Hospital	82 (76.6)	25 (23.36)	0 (0)	0 (0)	3.76
	Grand Mean (Skills Requied To Practice Modern HIM)					**3.75**

Source: Field Survey, 2021

Decision Rules (Skills required to practice Modern HIM)
1-1.75 = Strongly Disagree
1.76-2.51 = Disagree
2.52-3.27 = Agree
3.28-4.03 = Strogly Agree

The descriptive statistics result for research question four is displayed in Table 4.6. The result shows the necessary skills required to practice modern Health Information Management in the selected hospitals. From the findings, analytical skills, attention to details, communication and teamwork skills, management skills, technological skills and

knowledge of health were all required to practice modern Health Information Management in the selected Hospitals in AbeokutaOgun state. Majority of the respondents;107(100%), 103(96.26), 107(100%), 100(93.46%), 92 (93.46),107(100%) agreed respectively that these skills(analytical, attention to detail, communication and team work ,technological skills and knowledge of health) were required to practice modernHIM except very few respondents04(03.74%), 7(06.54%) and 07(06.54%) disagreed respectively that attention to detail skills, management skills and technological skillsare not required to practice modern HIM practice in the selected Hospitals. This indicates that larger percentage of the respondents (HIM professionals) were aware of the skills required to practice modern HIM by the virtue of the HIM training they acquired. This implies that the needs for these skills were very high in demand in the selected Hospitals with a grand mean score of 3.75.

Table 4.7 Summary of Results on the Research Questions

Research Question	Main Variables	Grand Mean	Remark
RQ 1: What are the levels of use of HIM	Levels of usage of qualified HIM	4.01	Very High level. The use of qualified HIM professionals was very high in the selected

professionals in the selected Hospitals in Ogun state?	professionals for HIM functions		hospitals.
RQ 2: What are the methods of practice of HIM adopted in the selected Hospitals?	Usage of automation system (a determinant factor between modern and traditional HIM.		Low level of automation system. Hybrid method were adopted in the selected hospitals.
RQ 3: What are the challenges facing modern HIM in the selected hospitals in Ogun state.	Challenges facing modern HIM practices	3.0	Agreed. The challenges were high in the selected hospitals.
RQ 4: What are the necessary skills required to practice modern HIM in the selected hospitals?	Skills required to practice modern HIM	3.75	Strongly Agreed. There was very high level of agreement among the respondents with required skills to practice modern HIM in the selected hospitals

Source: Field Survey, 2021

4.4 Discussion of Findings

This study assessed Modern Health Information Management practice in the selected hospital in Abeokuta, Ogun state. This section reports the findings of this study and discusses the findings in line with previous studies. The research questions drawn for the study were intended at assessing modern HIM practices in the selected hospitals in Ogun state.

Section A which comprises of nine questions on socio-demographic information investigated the calibre of HIM professionals in the selected hospitals in Ogun state. The findings revealed that majority of HIM professionals in the seleted Hospitals were Health

Records Technicians with ND/HRT certificates while the numbers of officers were lower. Majority of the officers had HND while few had university degree and postgraduate certificates. It was also revealed that there were more female HIM professionals than female professional. Also, majority of the HIM professionals had appreciable number of years of experience in the practice of HIM in the selected hospitals in Ogun state.

Research question One investigated the levels of use of qualified HIM professionals for various HIM functions in the selected hospitals in Ogun state. The result revealed that HIM professionals were highly involved in HIM practices in Ogun state. The finding is in agreement with earlier studies carried out by various researchers who concluded that HIM professionals play pivotal roles in Healthcare delivery system[1,2,3]. A study conducted on quackery and unethical practices found out that the use of HIM professionals in carrying out HIM functions in health facilities is the solutions to quackery and unethical practices. In another study on HIM personnel service quality and patient satisfaction in Nigerian Tertiary Hospitals, the study revealed that HIM professionals play a vital role in creating, managing, storing and retrieving patients' records in a Hospital. The finding of research question One also revealed that the demand for the expertise of HIM professionals were high in theselected hospitals. This in line with the view of a scholar who asserted that the demand for HIM professionals are very high due to pivotal roles they play in every healthcare organization[2]. However, the staff strength of HIM professionals to number of patients and bed complement in some health facilities was too low.

Research question Two examined the methods of HIM practices adopted in the selected hospitals in Ogun state. The finding revealed that hybrid method of practice was adopted which is more of manual system with minimal use of automation system. This finding is in agreement with the assertion of an author who asserted that HIM system must facilitate simultaneous multiple access to information for clinical and administrative purposes. Most

health Information system must have at least some computerization[4]. The finding is also in agreement with studies conducted by other researchers who examined the use of Information and communication Technology in HIM practices in Nigeria and found out there was low level of ICT use due to prevalence of paper-based health records system which resulted into in effective health information system, lack of efficiency and also caused dissatisfaction among patients/clients[5,6,7]. In another study conducted in Singapore, it was revealed that the merits of automated HIM practices outweighs any other method of HIM practices[8]. In the same vein, the finding agreed with other various researches in Nigeria in the field of HIM who found out that more HIM professionals are less equipped in ICT skills needed to function effectively in their Health Information Management System (HIMS) roles[9,1,10].

The finding also disagreed with the position of another author who asserted that modern HIM practices involve using advance technology in performing most HIM-related functions[5].

Research Question Three examined the challenges facing modern Health Information Management practice in the selected Hospitals in Ogun state. The finding revealed the challenges facing modern HIM practice. These challenges are categorized as Health Information Management professionals related issues, Government/Policy Makers related issues, Management related issues and ICT related issues such as Poor system maintenance culture, Irregular power supply, Unconducive work environment for HIM practice, Inadequate facility/equipment for storage of health records/information, Lack/inadequate sponsorship for training and retraining programmes of HIM professionals by management of Hospitals. The finding clearly revealed that management and ICT related issues were ranked higher by the respondents with group mean scores of 3.22 and 3.21 respectively as the major challenges militating against effective modern Health Information Management Practices in the selected Hospitals in Ogun State. These challenges include;poor system maintenance culture, irregular power supply, unconducive work environment for HIM

professionals, Inadequate supply of computers and other ICT devices for health information storage/preservation, Lack/poor network connectivity among others. These challenges were ranked higher and seem to have much impact on HIM practices in the selected Hospitals. However, Government/Policy makers related issues such as inadequate training centres and HIM related issues such as inadequate skill acquisition in computer utilization posed a big challenge to Modern HIM practicesin the selected Hospitals. Some of the challenges agreed with the finding of a researcher who highlighted the challenges facing HIM in Nigeria as well as Africa to include; quality of professional training, inadequately qualified practitioners, disgruntled practitioners, government's indifference towards the practice, lack of policies and inadequate technological infrastructure among others[1].

The finding however disagreed with another study carried out in Osun state in two health facilities to assess HIM practice among HIM professionals. The study found out that inefficient and inaccurate operational services were the major challenges facing HIM practices due to lack of technical knowledge and importance of ICT[11].

Research question Four investigated necessary skills required to practice modern HIM in the selected hospitals in Ogun state. The finding revealed the six necessary skills required to practice modern Health Information Management in the selected hospitals in Ogun State. Attention to detail ranked highest with mean score of 3.92 among the necessary skills, next was communication and team work, analytical skills ranked third, knowledge of health ranked fourth, management skills ranked fifth while technological skills ranked sixth. These are necessary skills required of HIM professionals to perform his/her legal obligations in the selected hospitals in Ogun state. The finding is in agreement with the finding of a scholar who highlighted the skills to practice HIM to include; analytical skills, attention to detail, communication and team work, technical skills and certification and leadership skills[12].

However, the finding disagreed with the finding of another scholar who found out that HIM professional requirements (skills) to include professional qualification, professional experience, professional expertise, professional intelligence, professional competence, professional constitution, professional training and retraining, professional proficiency, professional awareness, professional strategies and professional praxis[13].

From the findings, it is clearly revealed that the job demands of the respondents required the basic Health information Management skills despite the challenges overwhelming the HIM practices in the selected Hospitals in Ogun State. There was dearth of empirical findings on skills required to practice HIM from various literatures reviewed.

Endnotes

1. O. A., Peter, I. O., Salihu, & U. F., Abubakar. *Quackery and Unethical Practice in HIM Profession in Nigeria*, **Academic Research Journal**, 1(2), 2020, 13-24, DOI:10.14662/ARJHIM2020.030.www.academicresearchjournals.org/ARJHIM/index.htm.

2. International Federation of Health Information Management Association, IFHIMA Global News, 9, 2011, 9.

3. P., Awogbami. *Health Records Management Practices and Patients' Satisfaction in Selected University Medical Centre in Southwest Nigeria,* **Research Gate Journal**, 2020.

4. Institute of Medicine, The Computer- Based Patient Records: Revised Edition: An essential Technology for Health Care Washington (DC): *National Academies press* (US); 1997. www.ncbi.nlm.nih.gov.books

5. I. T., Adeleke, A. H., Lawal, & R. O. Z., Adio. *Information Technology Skills and Training Needs of Health Information Management Professionals in Nigeria: A nationwide Study,* **Health Information Management Journal,** 44(1), 2015, 30-38 doi:10.1177/183335831504400104. https://pubmed.ncbi.nlm.gov/27092467/

6. A., Ojo, & R. O., Owolabi. *Health Information Management personnel service Quality and patients satisfaction in Nigerian Tertiary Hospital***, Global Journal of Health Science**. 9, 10, 2017.

7. Ahmed Mahfooz. *Automated clinic Record Management system: A case study of Ahmadu Bello University Sick-Bay*. **Research Gate Journal**, 2006, www.researchgate.net

8. The Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), Embracing the Future: New Times, New Opportunities for Health Information Managers. www.cahiim.org

9. O. A., Makinde. *Investing in Health Information Management: The right people, in the right place, at the right time,* **Health Information Management Journal**, 12, 2016, 1.

10. I. T., Adeleke. *Relevance of Health Information Management (HIM) and roles of Health Information Management Professionals,* 2014, 9.

11. K. S., Osundina. *Assessment of Health Information Management Practice among Health Records Professionals in Osun State*, **Research Gate Journal**, 2017, 4-16. https://www.academia.edu/ 29623033/ Assessment _of_Health_ Information_Management_Practice_among_Health_Records_Professionals_In_Nigeria. _

12. L. B., Harman. *Ethical challenges in the Management of Health Information*. **American Health Information Management Association (AHIMA):** Jones and Bartlett Publisher, London, 2006.

13. Online Google. Health Information Management. www.wikipedia.org

Chapter Five

Conclusion

This chapter presents the Summary, Conclusion and recommendations of the study. The chapter outlines the contribution of this study to knowledge as well as suggestions for further studies.

5.1 Summary of Findings

The study focused on assessing modern HIM practices in both government and private health facilities in Abeokuta South, Abeokuta North and Sagamu local government areas of Ogun state. The study came from the background that Health Information Management practices is imperative in any health service providing institution in ensuring quality service delivery. Health information is among the vital tools that health facilities require in order to attain the objectives of the respective health facilities. The study investigated HIM practices in the selected health facilities in the context of modern practice which relies heavily on the use of Information and Communication Technology (ICT) and the modern practice keep on changing with changes in technology. The review of empirical literatures revealed the outcomes of scholars' findings on health information management practices (which differ from facility to facility and country to country), importance of Health information management professionals, modern Health Information Management practices. Previous studies focused mainly on Health Information Management practice. A major gap identified was limited research focusing on modern HIM practices and skills required for the practice of modern Health Information Management.

For the conceptual review, clarifications were made on the concepts of Health Information Management practice, HIM practice in developing countries, HIM professionals, skills needed in the field of HIM, model of HIM practices and modern trends in HIM practices. For theoretical framework, the study was based on Technology Acceptance Model, Actor-Network Theory and Bowen's theory of Leadership.

The study used the survey research design to assessed modern HIM practices in the selected hospitals in Ogun state. The study population was one hundred and Fifteen (115) HIM professionals in the eleven (11) health facilities of Abeokuta North,Abeokuta South and Sagamu local government areas of Ogun state. The sample size for the study was One Hundred and Fifteen (115) using Total enumeration technique. A structured questionnaire was used to collect data. One Hundred and Fifteen questionnaires were administered to only Health Information Management professionals while only One Hundred and seven (107) copies were retrieved, properly filled and found useful. The data collected were analyzed and presented using descriptive statistics such as frequencies count, percentages, and charts.

From the result of the data analyses, the findings of the study can be summarized as follows:

Technicians and Officers were the calibre of HIM professionals in the selected hospitalsinOgun state. Majority of the professionals were Health Records Technician (HRT) with OND/HRT certificates while majority of the officer were HND holder. Few of the HIM professionals had Bachelor degree and postgraduate certificate in HIM. The level of use of qualified HIM professionals for modern HIM practices in the selected hospitals in Ogun state was high. This signifies that HIM professionals are highly demanded for because of their expertise in HIM but yet HIM staff strength was too low for some health facilities.

The method of HIM practices adopted in the selected hospitals in Ogun was hybrid method of practice which is more of manual system with minimal use of automation system. The challenges facing modern HIM practice were enormous (high). These challenges were mostly Management and ICT related issues such as poor system maintenance culture, irregular power supply, unconducive work environment, Inadequate supply of computers and other ICT devices for health information storage/preservation, Lack/poor network connectivity among others.These challenges have much impact on HIM practices in the selected Hospitals. However, Government/Policy makers related issues such as inadequate training centres and

HIM related issues such as inadequate skill acquisition in computer utilization posed a big challenge to Modern HIM practicesin the selected Hospitals.

The HIM professional in the selected hospitals in Ogun state were fully aware of the skills required of them to practice modern HIM by the virtue of their training and experience on the job. This signifies that their job demands in their various hospitals required these skills. The use of Information and Communication Technology was very low in the selected hospitals in Ogun state.

5.2 Conclusion

The study has succeeded in assessing Modern Health Information Management practices in the selected hospitals inOgun state, Nigeria. There are more Qualified Health Information Management Professionals in HIM Practices in the selected Hospitals but the use of Information Technology was low .The study concluded that Hybrid method (manual and automation system) of practice was adopted with minimal use of automation system. The use of automation system which is the hallmark of modern HIM practice was very low in the selected hospital due to myriad of challenges currently facing the HIM practices in the selected hospitals in Ogun state.

5.3 Recommendations

Based on the findings of this study, the following recommendations are considered to be appropriate. Thus, this study recommends as follows: It was also discovered from the study that the management of the various hospitals valued the expertise of HIM professionals by employing HIM professionals but yet the HIM staff strength of majority of the health facilities was low compared to the number of patients, size of the facility and legal obligations required of HIM professionals from time to time.

1. Majority of HIM professionals who participated in this study had National Diploma/Health Records Technicians in HIM while few officers had Bachelor degree and post graduate Certificates in HIM. Thus, the management of every health care facility should encourage staff in this category to acquire higher degree in order to widen their horizon in modern HIM practice.
2. As discovered in this study, there were myriad of challenges facing HIM practice. Management of hospitals should make adequate funds available to address these challenges especially infrastructural decay and provision of computers and ICT devices.
3. Management of hospitals should invest heavily in training and retraining of HIM professionals especially in the use of Information Technology (IT). Also, HIM professionals should also cultivate the habit of self-professional development so as to keep abreast with the latest development in the world of HIM. These can be achieved by attending workshops/seminars, Continuous Professional Educational programmes (CPED) both local and international.
4. There is need for managements of various health facility to employ HIM professional as it was discovered that the HIM staff strength of most of the healthfacility was low.
5. Also, there should be strong political will on the part of decision makers in health sector to implement national policy for the adoption of Electronic Medical Records (EMR) in both government and private owned hospitals and also formulation and implementation of policies for preservation and conservation of health information.
6. Federal Ministry of Health (FMOH) and state Ministry of Health should increase their yearly budget allocation for health system to cater for training and re-training of staff, provision of good infrastructures and essential ICT tools for effective Modern Health Information Management practice in Ogun state.

5.4 Contribution to Knowledge

The study has contributed to the body of knowledge in the field of Health Information Management with keen focus on Modern Health Information Management Practice. There seems to be a dearth of literature on Modern Health Information Management Practices in Nigeria. Hence, this study has enriched and filled this gap. The study has contributed to knowledge in empirics on Modern Health Information Management Practice.

In contribution to practice, the finding of this study gave an insight into what modern HIM practice intheselectedhospitals inOgun state are like. The Health Information Management professionals and other stakeholders in health care facilities will find this study relevant as it unveils the method of HIM practice adopted in the selected hospitals in Abeokuta,Ogun state.

5.5 Suggestions for Further Studies

To further broaden the frontiers of knowledge, the following areas of studies are suggested for further research.

i. Further research efforts should be directed to other health care facilities like Primary Health care facilities and more private health facilities.
ii. Further research efforts should be directed towards expanding the scope of coverage of the research to all health facilities in Ogun state.
iii. Further studies could be done using qualitative research methods such as observation, interview and focus group in order to get in depth information on the variables as regards modern HIM practice.
iv. This same study can be replicated in any of the six geopolitical zones of Nigeria or entire country.

Bibliography

Books

Ayilegbe, B. K. *Electronic Health Records Use, Human Development and service delivery of Health Information Management in Government Teaching Hospitals in Nigeria,* 2020, 13.

Ayilegbe, B. K. *Security of Patients's Health Records, Annual In- House Workshop for Health Records Professionals, Neuropsychiatric Hospital, Aro, Abeokuta,* 2018.

Ayilegbe, B. K., *Essence of Documentation in Healthcare Institution*, Debis - Co Press & Publishing Company Ltd, Kano, Nigeria. 2008, 106 & 107.

Harman, L. B. *Ethical challenges in the Management of Health Information*. **American Health Information Management Association (AHIMA):** Jones and Bartlett Publisher, London, 2006.

Institute of Medicine (IOM). *The Computer- Based Patient Records: Revised Edition: An essential Technology For Health Care. Washington (DC):* National Academies Press (US); 1997. www.ncbi.nlm.nih.gov.books.

Latour, B. *Social Theory and the Study of Computerized Work Sites: Information Technology and Changes in Organizational Work*, 1996. London: Chapman and Hall.

Lele, R. D. *Computers in Medicine: Progress in Medical Informatics,* 2005.

Lovely Professional University, *Research Methodology*. COM408/DMGT404. Excel Books Private Limited, India, 2012, 113.

Michelle, A. G., & Mary, J. B. *Essentials of Health Information Management: Principles and Practices.* Delmar Cengage Learning. 2011. 2nd edition, 38, 108 & 109.

Mimbi, L., & Bankole, F. O. *ICT and Health System Performance in Africa: A Multi method approach*, 26th Australian conference on information systems, 30th November-4th December, 2015. Adelaide, Australia.

Ministry of Health, Ogun State. *Ogun State Health Bulletin*, 3, 2006, 2.

Nannette, B. S. *Health Information Management Technology: An Applied Approach*, Published by AHIMA, 2013, 4-5.

Richard, G. *Health Information Technology and Management*.1st edition, Published by Prentice Hall, 2011.

Richard., S. D., Elaine, B. S., & Don, E. D. *The Computerized Patients Records: An essential Technology for Healthcare,* 14th October, 1997.

Wager, K., Lee, F., & Slaser, I. P. *Managing Health Care Information System*. Francisco: Jossey-bas, 2005.

Yamane, T. *Statistics: An Introductory Analysis*, New York: Harper and Row, 2nd Edition, 1967.

Dissertation

Attah, A. O. *Implementing the Electronic Health Records in Nigerian Secondary Healthcare Facility: Prospect and Challenges*. Master Thesis in Telemedicine and E-Health (TLM-3902), November, 2017.

Babatunde, K. A. *Electronic Health Records Use, Human Capital Development and Servic Delivery by Health Information Management Professionals in Government Teaching Hospitals in Nigeria,* Doctoral Dissertation, 2021.

Internet Sources

5 essentials skills of Health Informatics, www.wikipedia.org

American Health Information Management (AHIMA) Foundation, www.perspectives.ahima.org/redefining-role-of health-information-management-professionals

American Health Information Management Association (AHIMA), 2015. www.ahima.org/certifications-overview/career-tools/career-pages/healthinformation-101

American Health Information Management Association (AHIMA): Health Information Management Skills, Education, and Credential Research. WHITEPAPER with KEY FINDINGS. The research was executed by *Vault Consulting*, LLC in May June, 2017.

Canadian Health Information Management Association (CHIMA), Transforming Health Information Management: The evolution of the HIM Professional, 2012, Retrieved from https: //www.echima.ca

Digital Guardian, www.digitalguardian.com/solutions/finacial-servicesmanagement Accessed date: 23rd October, 2021.

Herzing University, *What is Health Information Management?* Retrieved from www.herzing.edu./blog/what-health-information-management

https://www.academia.edu/29623033/Assessment_of_Health_Information_Management_Practice_among_Health_Records_Professionals_In_Nigeria._

IFHIMA-pap, *Health Information Management Professionals (Present circumstances and Future expectations)*, 2016. 0148. www.ahima.org

Online Google, *Health Information Management Professionals Role in Patient Safety,* Accessed date 3rd June, 2021.

Online Google, Health Information Manager - Explore Health Care Careers - Mayo Clinic, *College of Medicine & Science*, www.college.mayo.edu/academics/explore-health care-careers/careers-a-z/health-information-managers/ Accessed date 3rd June, 2021.

Online Google, Model of Practice. Retrieved from: www.google.com

Online Google, *Understanding Enterprise Information Management (EIM).* Accessed: August, 2020. www.investopedia.com/terms/e/enterprise-information-management eim.asp

Online Google, *What is a profession?* Retrieved from: www.google.com

Online Google, *What is Health Information Management?* Western Governors University, 2005. Retrieved from: www.wgu.edu/blog/what-health-information-management2010.html/

Online Google. Health Information Management. www.wikipedia.org

The Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), Embracing the Future: New Times, New Opportunities for Health Information Managers. www.cahiim.org.

The Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), Embracing the Future: New Times, New Opportunities for Health Information Managers. www.cahiim.org

University of Sandiego – Online Degrees, *Health Information Management.* www.sandiego.edu/health-information-management.

Wikipedia (online), Health Information Management. www.wikipedia.org/wiki/Health-_information_management/

Journals

Adebayo, T. T. *Health Information Management: A Tool for Effective Healthcare Delivery in Nigeria: Mother and Child Hospital, Akure, Ondo State Experience,* **Library Philosophy and Practice**, ***e- Journal***, 2019, 22.

Adebowale, O., & Owolabi, R. O. *Health Information Management personnel service Quality and patients satisfaction in Nigerian Tertiary Hospital***, Global Journal of Health Science,** 9(10), 2017.

Adeleke, I. T. *Relevance of Health Information Management (HIM)and roles of Health Information Management Professionals*, **Research Gate Journal**, 2014, 9.

Adeleke, I. T., Lawal, A. H., & Adio, R. O. Z. *Information Technology Skills and Training Needs of Health Information Management Professionals in Nigeria: A nationwide Study,* **Health Information Management Journal,** 44(1), 2015, 30-38 doi:10.1177/183335831504400104. https://pubmed.ncbi.nlm.gov/27092467/

Agrawal, A. *Return on Investment Analysis for a Computer- Based Patient Records in the Out-Patient Clinic Setting*, **Journal of Association of Academy Minor**, 13(3), 2002, 61-65.

Akangbe, R. *Health Informatics: An Interdisciplinary Approach in Health Care Management*, Published by J-cube Palace, 2019, 4.

Alhuwail, D. *Information Management Practices in Public Tertiary Health-Care Facilities*, **Records Management Journal**, 31(1), 2020.

Ames, H., Gleton, C., & Lewin, S. *Purposive Sampling in a Qualitative Evidence Synthesis: A Worked Example from a Synthesis on Parental Perceptions of Vaccination Communication,* **BMC Medical Research Methodology,** 2019, 19(26), 1471-2288.

Ashinda Nora, M. A. *Role of Medical Records Practice in improving decision making in University Hospital, Malaysia*, **Research Gate Journal**, 2020.

Awogbami, P. *Health Records Management Practices and patients' satisfaction in Selected University medical centre in Southwest Nigeria*, **Research Gate Journal**, 2020

Awogbami, P. *Health Records Management Practices and Patients' Satisfaction in Selected University Medical Centre in Southwest Nigeria,* **Research Gate Journal**, 2020.

Awogbami, P., Opele, J. K., & Awe, T. P. *Health Records Management Practices and Patients Satisfaction in Selected University Medical Centre in Southwest Nigeria*, **Global Journal of Social Sciences,** 6(2), 106-114. DOI:10.20448/807.6.2.106.114.

Babatunde, K. A. *Electronic Health Records Use, Human Development and service delivery of Health Information Management in Government Teaching Hospitals in Nigeria,* 2020, 100-105.

Bailey, J. *The Expanding Role of the HIM Professional: Where Research and HIM Role Intersect: Perspective in Health Information Management*, **Online Research Journal***, 2004.*

Butler, M. *Mind the Gaps: HIM Rushes to bridge Educational and Professional Gaps caused by a quick advancing Industry,* **Journal of AHIMA**, 86(2), 2015, 34-50.

Cline, R. J. *Consumer Health Information Seeking on the Internet:The State of the Art*, **Health Education Research**, 16(6), 2001, 671-692. https://doi.org/10.1093/her/16.6.671.

Cresswell, K. M., Worth, A., & Sheikh, A. *Actor-Network Theory and its Role in Understanding the Implementation of Information Technology Developments in Healthcare*, **BMC Med Inform Decis Mak,** 10(67), 2010, https://doi.org/10.1186/1472-6947-10-67

Daini, O. *The Computer in Nigeria Teaching Hospital. First Year Experience in Lun KC*, Degoulet P. Piemme T.E, Runhoff.Oeds., *MEDINFO*, 1992, Amsterdam, Elsevier.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. *User Acceptance of Computer Technology: A Comparison of Two Theoretical Models*, **Journal of Management Science**, 1989, 35(8), 211-223.

Dimick, C. *Health Information Management 2025: Current "Health IT Revolution" Drastically Changes HIM in The Near Future*, **Journal of AHIMA' *83***, 8, 2012, 1. www.library.ahima.org.

Hammed, T. *Validity and Reliability of Research Instrument; How to test the Validation of a Questionnaire/Survey in a Research*, **International Journal of Academic Research in Management (IJARM)**, 5(3), 2016, 28-36, ISSN 2296-1747. Helvetic Editions LTD. Switzerland. www.elvedit.com.

Hussain, M. K., & Babalghith, O. A. *Health Information Management & Technology: A new era of Transforming Healthcare,* **International Researcher Journal**, 2(1), 2013, 152-164.

Idowu, P. *Distributed Resource Sharing System For Hospitals in Nigeria*, **Journal of Biomedical Soft Computing and Human Sciences,** 9(2), 2003, 1-7.

Idowu, P. *Health Informatics Deployment in Nigeria*, **Journal of Health Informatics in Developing Countries***,* 2(1), 2008, 15-23. Available from: http://jhidc.org/index.php/jhidc/article/viewfile/11/44.

Impetus to the Development of Team Approaches, A publication of The National Association of Health Information Management Students, **The View Journal**, 1, 1, April, 2012.

International Federation of Health Information Management Association (IFHIMA), Learning modules, Emerging trends in Health Information Management. IFHIMA, **Global News Journal***,* 2019, 9, https://www.google.com/search?q=International+Federation+of+Health+Information+Management+Association+(IFHIMA)+learning+modules,+Emerging+trends+in+HIM

International Federation of Health Information Management Association (IFHIMA), Education Module 6: *Hospital computerised Health records Applications*, **IFHIMA Global News**, 2012, 1-2.

Isiaka, A. *Health Information Technology in Nigeria: Stakeholders Perspectives of Nationwide Implementations and Meaningful Use of the Emerging Technology in the most populous Black Nation*, **American Journal of Health Research**, 3(1), 2015, 17-24.

Kayode, T. P. *Efficiency of Computerization of Patient Health Records at Babcock University Teaching Hospitals,* Ilishan, Remo, Ogun State, 2017.

Kimaro, H. C. *Strategies for Developing Human Resource Capacity to Support Sustainability of ICT Based Health Information System: A Case study from Tanzania*, **The Electronic Journal of Information Systems in Developing Countries**, 26(1), 2006. https://: doi.org/10.1002/j.1681-4835.2006.tb000171x.

Kloss, L. *Redefining the Role of HIM in The new World of Information Governance*, **Iron Mountain**, 2013, 4-7.

Kruse, C. S., Stein, A., Thomas, H., & Kaur, H. *The Use of Electronic Health Records to Support Population Health: A Systematic Review of the Literature*, **Journal of Medical Systems,** 29(11), 2018, 214, doi: 10.1007/s10916-018-1075-6.

Langelier, M. H. *The Future of HIM: Employer Insights into the Coming Decade of Rapid Change*, **Journal of AHIMA***,* 75(6), 2004, 2.

Lawrence, E. D. *Health Records in Ghana*, *IFHIMA Global News*, 8, 2011, 11.

Laxman, S. P. The Need for Health Information Management Education and Training in Developing Countries, ***IFHIMA Global News issue****,* 11, August 2012, 5.

Lim, C. S. *Electronic Medical Records Management System: An Overview,* **Research Gate Journal**, 2009. www.researchgate.net

Mahfooz, A. *Automated Clinic Record Management System: A Case Study of Ahmadu Bello University Sick-Bay,* **Research Gate Journal**, 2006, Retrieved from: www.researchgate.net.

Mahfooz, A. *Automated clinic Record Management system: A case study of Ahmadu Bello University Sick-Bay*. **Research Gate Journal**, 2006, www.researchgate.net

Makinde, O. A. *Investing in Health Information Management: The Right People, in the Right Place, at the right time,* **Health Information Management Journal**, 12, 2016, 1.

Marshall, D. *Health Information Management Programme*, **IFHIMA Global News***,* 10, 2012, 9.

Menachemi, N., & Brooks, R. *Hospital Quality of Care: Does Information Technology Matter? The Relationship between Information Technology Adoption and Quality of Care*, **Health Care Management Journal**, 33(1), 2008, 364-371.

Miyuranga, R. *Automated Hospital Maintaining System for Government Hospitals in Srilanka*, **Research Gate Journal**, 2020. www.researchgate.net.

Nora, M. A., Yatin, S. F., Jali, J. M., Sahid, N. Z., Shuhidan, S. M., Noordin, S. A., & Abdullah, W. M. *Role of Medical Records Practice in improving decision making in University Hospital, Malaysia***, International Journal of Academic Research in Business and Social Science**s, 10(11), 2020, 1160-1175.

Ojo, A. I. *Repositioning Health Information Management Practice in Nigeria: Suggestions for Africa, **Health Information Journal***, 7(3), 2018.

Ojo, A., & Owolabi, R. O. *Health Information Management Personnel Service Quality and Patients Satisfaction in Nigerian Tertiary Hospital,* **Global Journal of Health Science***,* 9(10), 2020.

Omole, S. M. *Professionalism and Health Records Management Practice in Nigeria*, **International Journal of Finance and Management in practice**, 6(1), 2018, 16 18.

Omotosho, A., & Ayegba, P. *Current State of ICT in Healthcare Delivery in Developing countries,* **International Journal of Online Engineering**, 15(8), 2019. 91 107.www.i-joe.org

Osundina, K. S. *Assessment of Health Information Management Practice among Health Records Professionals in Osun State*, **Research Gate Journal**, 2017, 4-16. https://www.academia.edu/ 29623033/ Assessment _of_Health_ Information_Management_Practice_among_Health_Records_Professionals_In_Nigeria._

Osundina, K. S. *Principles and Practice of Health Records Management in Nigeria,* **Int'l Journal of Health and Pharmaceutical Research 2(1),** 2017, 1-12.

Peter, A. O., Salihu, I. O., & Abubakar, U. F. *Quackery and Unethical Practice in HIM Profession in Nigeria,* **Academic Research Journal,** 1(2), 2020, 13-24. DOI:10.14662/ARJHIM2020.030 www.academicresearchjournals.org/ARJHIM/index.htm.

Peter, O. A., Salihu, I. O., & Abubakar, U. F. *Quackery and Unethical Practice in HIM Profession in Nigeria*, **Academic Research Journal**, 1(2), 2020, 13-24, DOI:10.14662/ARJHIM2020.030.www.academicresearchjournals.org/ARJHIM/Index.htm.

Popoola, A. & Jacob, K. O. *Benefits and Challenges of Using ICTS in Health Information Management at Olabisi Onabanjo University Teaching Hospitals, Sagamu, Ogun State, Nigeria*, **Research Gate Journal**, 5(4), 2020, 122-138.

Sallyanne, W. *Challenges to the Health Information Information Management Profession: An Australian Perspective,* **Online Health Information Management research Journal**, 2015. www.perspectives.ahima.org/addressing-challenges-to-the-health information-management-profession-an-australian-perspective/

Sheridan, P. T. *Health Information Management Leaders and the practice of leadership through the lens of Bowen Theory*, **Online Research Journal Perspectives in Health Information Management**, 2016, 1-3.

Stanfield, S. *Structuring Information and Incentives to Improve Health*, **Bulletin of the World Health Organization***,* 83(8), 2005, 561-640.

Strausberg, J. *Comparing Paper-based patient Records. Lesson learned during a study on Diagnosis and procedure Codes*, **Journal AM. Medical Informatics Association**, 10(5), 2003, 470-477.

Yaya, J. A. *Challenges of Records Management in Two Health Institution in Lagos State, Nigeria,* **International Journal of Research in Humanities and social studies**, 2(12), 2015, 4. www.i-joe.org

Appendix i

Informed consent to identify

Researcher/Sponsor/Affiliation

Title of study: **Assessment of Modern Health Information Management practices in the selected Hospitals in Ogun State.**

Principal investigator:

Toyin Paul, KAYODE

Department of Health Information Management,
Lead City University, Ibadan, Oyo State.

08038364301

kayodetoyeen@yahoo.com

Name and affiliation of researcher of applicant

This study is being conducted by Mr Kayode Toyin Paul of the Lead City University, Ibadan, Oyo State, Nigeria.

Purpose of Study:

The purpose of this study is to evaluate modern Health Information Management Practice in the selected health facilities in Ogun State.

Sponsor of Research:

This study is self-sponsored.

Procedure of the Research:

Each participant in the research will be required to complete a questionnaire with six sections A-E.

Expected Duration of Research Participant(s) involvement:

The participants is expected to spend not more than 15 minutes to complete the questionnaires.

Risk(s):

The risk attach to this study is minimal.

Costs to the participants, if any, of joining the research:

Your participation in this research will not cost you anything.

Benefit(s):

The main objective of the study is to succinctly examine modern health information management practice in the selected Hospitals in Ogun State of Nigeria with a view to profering solutions.

What happens to research participants and communities when the research is over:

The outcome of the research will be published in research journaland a copy of the Thesis shall be donated to the management of the health facilities.

Confidentiality

Your response to this survey will be anonymous. Please do not write any identifiying information on your questionnaire. Every effort will be made by the researcher to preserve your confidentiality by assigning code names/number for participant that will be used on all research notes and document and keeping notes, interview transcriptions and any other identifying participant information in a locked file cabinet in the personal possession of the researcher.

Voluntary Participation

Your participation is this study is voluntary. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study you will be asked to sign a consent form. After you sign the consent form you are still free to withdraw at any time without giving a reason. Withdrawing from this study will not affect the relationship you have, if any with the researcher.

CONSENT

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Participant Signature_____ Date_____

Investigator Signature_____ Date_____

Appendix ii

Research Instrument

Assessment Modern Health Information Management Practices in the Selected Hospitals in Ogun State

Dear Respondent,

This questionnaire is aimed at eliciting your responses for the purpose of data collection for an on-going M.Sc. Research work. Below are questions related to the **"Modern Health Information Management Practice in the Selected Hospitals in Ogun State".** The information obtained from this questionnaire will be used for research purposes only and confidentiality is guaranteed.

Thank you.

Toyin P., KAYODE

Section A: Socio-demographic Information

1. Sex: Male [ ], Female [ ]
2. Age (in complete years) …….
3. Marital Status: Single [ ] Married [ ] Divorce [ ] Widow/Widower [ ] Others [ ]
4. Highest educational qualification obtained: ND /Technician [ ] HND [ ] B.SC [ ] MASTER [ ] Ph.D. [ ]
5. Working experience: 0- 5 years [ ] 6- 10 years [ ] 11 -15 years [ ] 16-20 years [ ] 21-25 years [ ] Above 26 years [ ]
6. Name of Institution: .....
7. Job title/Cadre: Health Records Technician [ ] Health Records Officer [ ] HIM Director [ ] others (specify)……
8. Religion: Christianity [ ] Islam [ ] Others [ ]
9. Tribe: Yoruba [ ] Hausa [ ] Igbo [ ] Others [ ]

Section B: Level of use of Qualified HIM professionals for HIM Functions in the Selected Hospitals

Please identify your level of agreement with the following statements on level of use of HIM professionals for various HIM practices in your hospital by ticking appropriate response.

VH – Very high, H – High, M – Moderate, VL – Very low, L - Low

S/N	Statements To what level do you agree that……	VH	H	M	L	VL
10.	The use of HIM professionals for demographic data capturing of new patient in my hospital can be described as					
11.	The use of HIM professionals for Clinical Coding and Indexing of diagnosis and operation procedure in my hospital can be regarded as					
12	The use of HIM professional for Health data collection, collation, analysis and interpretation in my hospital can be rated as					
13.	The use of HIM professionals for discharge analysis (Admission, Discharge and Death) for medical care evaluation in my hospital can be described as					
14.	The use of HIM professionals for storing and retrieving of patient health information/records in my hospital can be rated as					
15	The use of HIM professional for health records auditing in my hospital can be described as					
16.	The participation of HIM professionals in the conduct of Health research and healthcare quality improvement evaluation in my hospital can be described as					
17.	The use of HIM professionals for Health Records Tracking in my hospital can be rated as.					

18.	The use of HIM professionals for quantitative and qualitative analysis of Health records in my hospital can be rated as					
19.	The use of HIM professionals for health records forms and designing in my hospital can be rated as					

Section C: Methods of HIM practice in the selected Hospitals

The use of automation system for core HIM Functions in the selected hospitals

S/N	Do you use of automation system for the following core HIM functions	YES (%)	NO (%)
20.	Documentation/Registration of new patients.		
21.	Patient Master Name Index Management.		
22.	Health records coding and abstracting		
23.	Release of Health information to legitimate users		
24.	Health records data collection and analysis.		
25.	Department organization and management.		
26.	Health Records Registry management		
27.	Forms management (format and content) and designing		
28.	Health Information confidentiality and security		
29.	Health records discharge analysis (Admission, Discharge and Death) and completion.		
30.	Health records storage and retrieval		
31.	Patient appointment system (web based/mobile application)		

Section D: Challenges facing Modern Health Information Management Practice

Please identify your level of agreement with the following statements on challenges facing HIM practice in your hospital by ticking appropriate response.

SA= STRONGLY AGREE, A= AGREE, D= DISAGREE, STRONGLY DISAGREE

S/N	Challenges facing Modern Health Information Management practice				
32.	Inadequate skill acquisition in computer utilization by HIM professionals-				
33.	Inadequate trained and qualified HIM professionals				
34.	Lack/ inadequate Government preservation and conservation policy for Health Information				
35.	Inadequate training centres (Higher degrees) for HIM professionals to enhance career development.				
36.	Poor system maintenance culture				
37.	Irregular power supply.				
38.	Unconducive work environment for HIM practice				
39.	Inadequate facility/equipment for storage of health records/information				
40.	Lack/inadequate sponsorship for training and retraining programmes of HIM professionals by management of Hospitals.				
41	Inadequate supply of computers and other ICT devices for health information preservation.				
42	Lack/poor network connectivity				

Section E: Necessary skills required to practice Modern HIM

Please identify your level of agreement with the necessary skills required to practice Modern HIM by ticking the appropriate response.

SA=STRONGLY AGREE, A= AGREE, D= DISAGREE, SD=STRONGLY DISAGREE

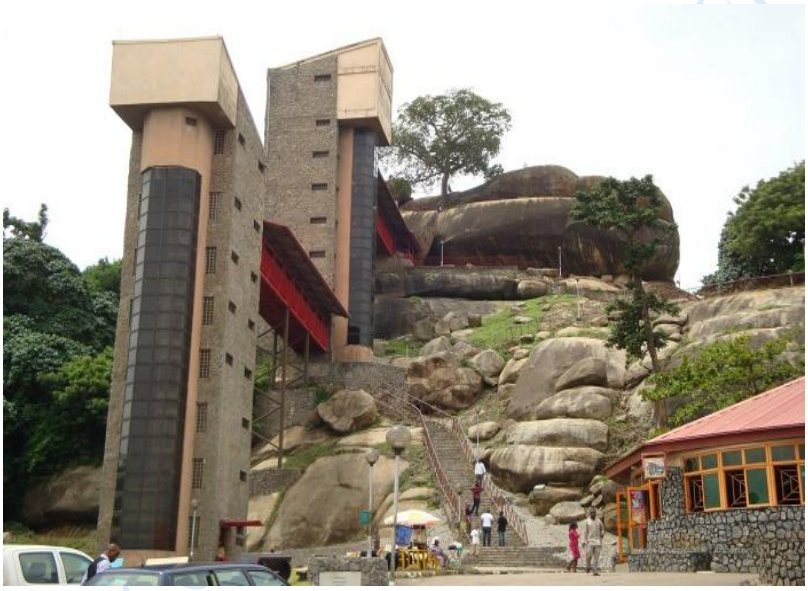
S/N	Statements To what level do you agree that……?	SA	A	D	SD
43.	Analytical skills are required to practice modern HIM in my Hospital				
44.	Attention to details is a skill required to practice modern HIM in my Hospital				
45.	Communication and teamwork are skills required to practice modern HIM in my Hospital				
46.	Management skills are required to practice modern HIM in my Hospital				
47.	Technological skills are required to practice modern HIM in my Hospital				
48.	Knowledge of health is required to practice modern HIM in my Hospital				

Appendix iii

Brief History of Ogun State

Ogun State was created from the old Western State on February 3, 1976 by the then regime of General Murtala Mohammed. It has Abeokuta as its capital and largest city.

Located in South Western Nigeria, Ogun State covers 16,762 square kilometres. It borders Lagos State to the south, Oyo and Osun states to the North, Ondo State to the east and the Republic of Benin to the west. Ogun State thus has the highest number of registered universities in Nigeria (nine in all) with five new private universities also in the state.



Source: Nigeria Galleria (google)

Sodeke (Shodeke), a hunter and leader of the Egba refugees who fled from the disintegrating Oyo Empire, founded about 1830 a principality at Abeokuta in what is now the north-central part of the state. Most of the inhabitants of Ogun state are members of the Egba and Egbado subgroups of the Yoruba people.

People & Culture:

Ogun State is made up of six ethnic groups viz, the Egba, the Ijebu, the Remo, the Egbado, the Awori and the Egun. The language of the majority of the people of Ogun State is Yoruba but this is however broken into scores of dialects.

Tourism:

Places to visit in the State: Olumo Rock in Abeokuta, Birikisu Sugbo Shrine at Oke-Eri, Yemoji Natural Swimming Pool at Ijebu-Ode, Oyan Dam in Abeokuta North, Iwopin Boat Regatta and Ebute-Oni in Ogun Waterside. Others sities are Madam Tinubu Shrine, Abeokuta; Oronna Shrine, Ilaro. Area J4 Forest Reserve; Tongeji Island, Ipokia. Old Manse at Ogbe, Abeokuta; St.James Anglican School, Ota and Ijamido River Shrine,Ota.

Facts:

- The Southwestern state was created in 1976 by the military administration of General Murtala Muhammed and General Olusegun Obasanjo in 1976 and has Abeokuta as its capital – It borders Lagos State to the south, Oyo and Osun states to the north, Ondo State to the east and the Republic of Benin to the west.– It has 20 Local government areas and has important cities and towns such as Abeokuta, Ijebu-Ode, Sagamu, Ikenne Remo, Ilaro, Ijebu-Igbo, Aiyetoro etc.
- Ogun has one Federal University: the Federal University of Agriculture, Abeokuta; one state government college of education, Tai Solarin College of Education (TASCE), (formerly known as Ogun State College of Education, Ijagun, Ijebu-Ode, one Federal Polytechnic, Ilaro, one state government polytechnic, Moshood Abiola Polythechnic (MAPOLY), formerly known as Ogun State Polythechnic, Ojere, Abeokuta, and two state government universities: Olabisi Onabanjo University, Ago

Iwoye (formerly known as Ogun State University), and the Tai Solarin University of Education (TASUED) Ijebu Ode.

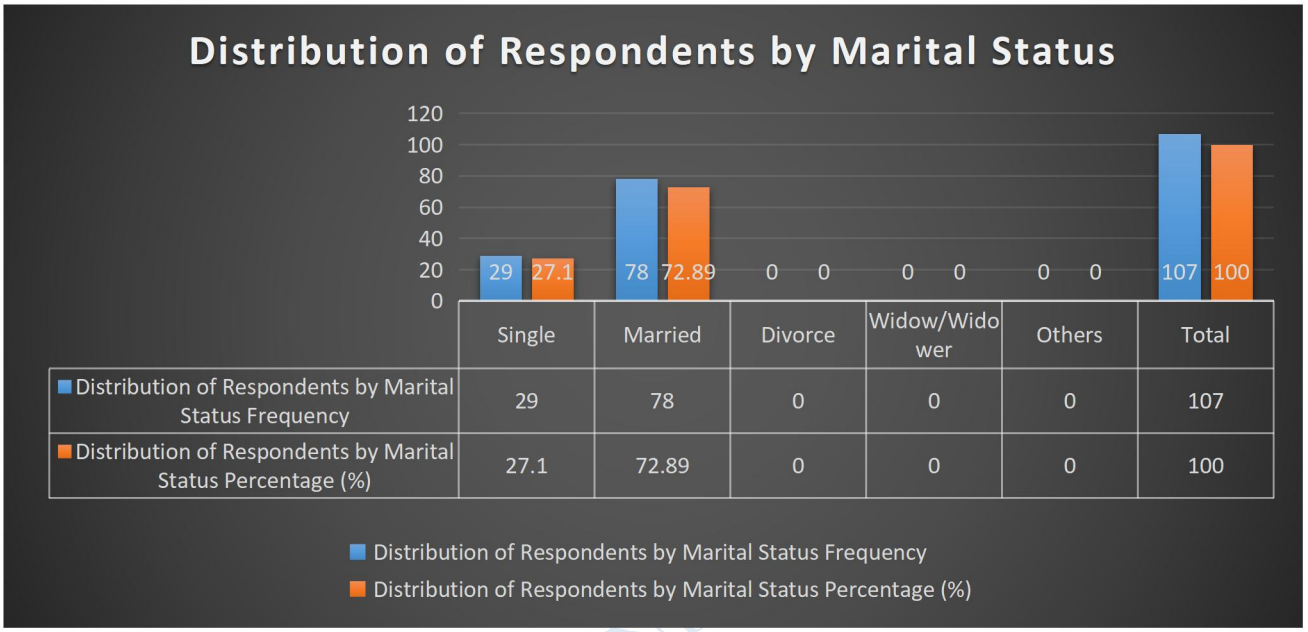
- Notable people like Obafemi Awolowo, MKO Abiola, Mike Adenuga, Olusegun Obasanjo, Wole Soyinka, Fela Kuti, Tunde Bakare and so on hails from the state.
- The Ijebus in the state were the first Yoruba speaking people to have contact with the Europeans in the early 14th century. They were the first Yorubas to have invented money made from cowry shells called 'Owo Eyo', which was accepted throughtout the kingdom of Yorubaland but was later replaced by legal tender coins made from silver materials called 'Pandora' when the Europeans came.
- Birikisu Sungbo shrine is a tourist centre in the state located at Oke-|Eri village, where Muslims from all over the world converge for prayers. Birikisu in her life time was known to be a devoted Muslim who possessed supernatural powers. It is claimed that she once dug a pit around the village with a needle. Even in her grave, she is believed to still maintain her powers as no weed has ever grown on her burial ground and the place where she was washed before she was buried up till now.
- Other tourist places include Olumo Rock in Abeokuta, Yemoji Natural Swimming Pool at Ijebu-Ode, Oyan Dam in Abeokuta North, Iwopin Boat Regatta and Ebute-Oni in Ogun Waterside.
- The Ogun state people are known for making batik known as 'Adire'.
- Health facilities by Geographical Spread

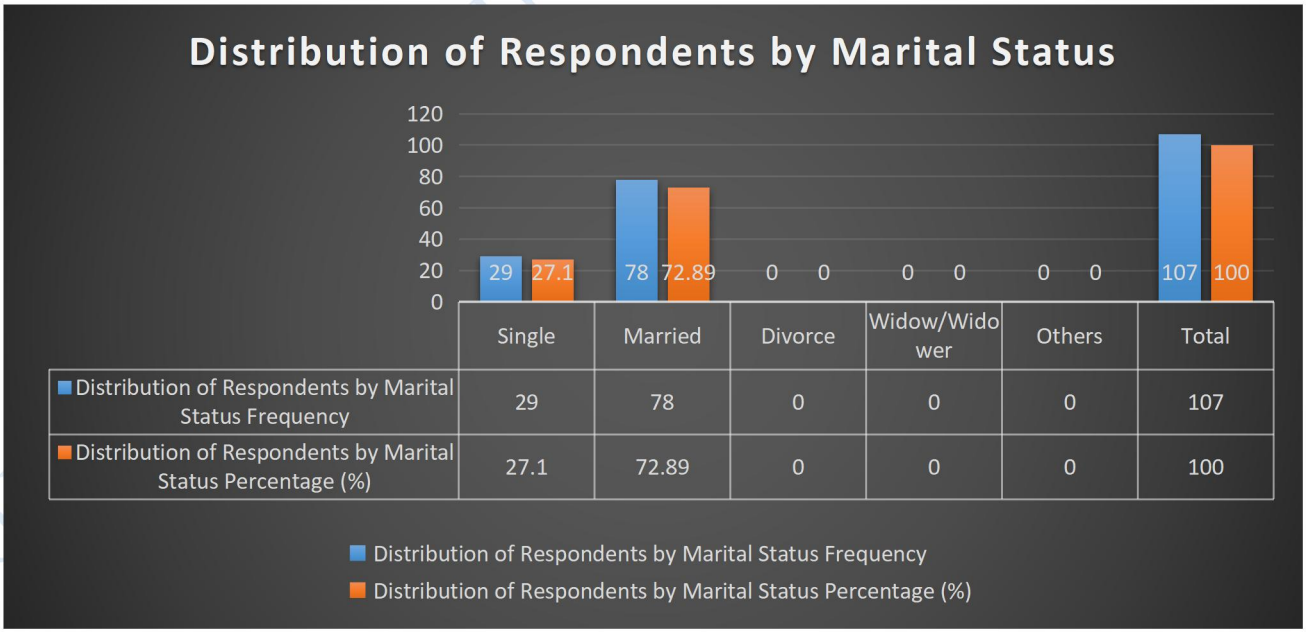
These three local Government Areas have 263 Health facilities (both government and private health facilities. The breakdown of the health facilities are as follow:

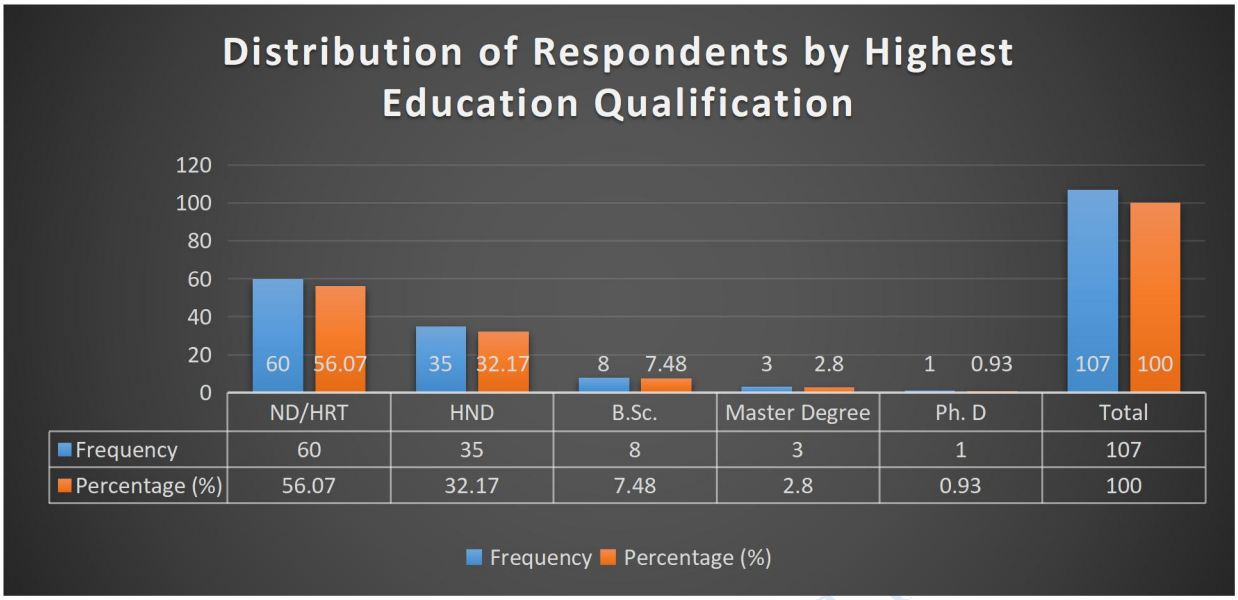
S/N	Local govt.	PHC	Second.	Tertiary	Private	Total
1.	Abeokuta North	22	2	162		**87**
2.	Abeokuta South	19	3	180		**103**
3	Sagamu	16	1	1	55	**73**

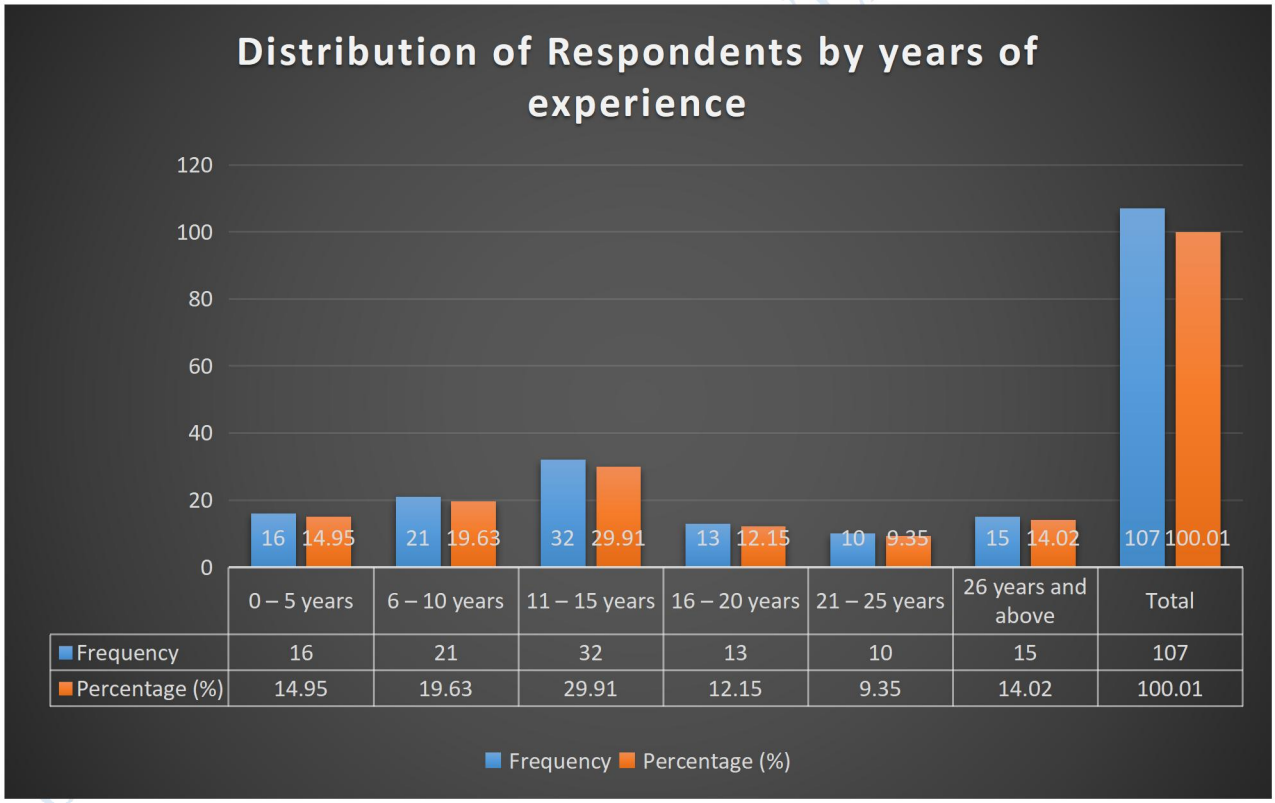
Appendix iv

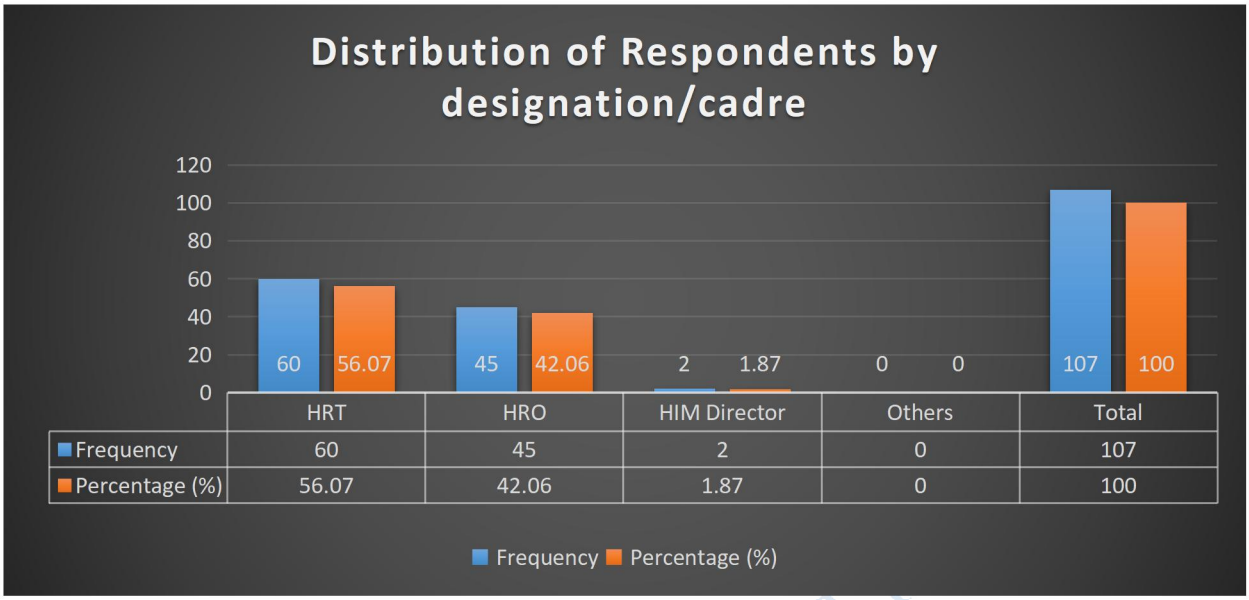
Socio-demographic Charts

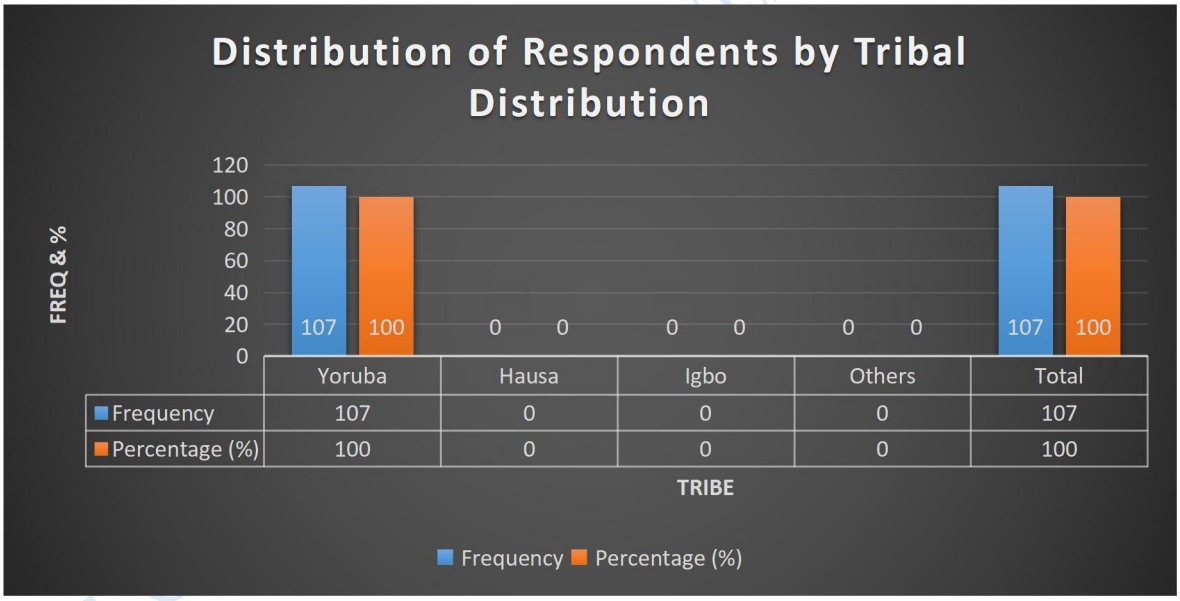





Distribution of Respondents by Highest Education Qualification
120
100
80
60
40
20
0
60 56.07
35 32.17
8 7.48
3 2.8
1 0.93
107 100
ND/HRT | HND | B.Sc. | Master Degree | Ph. D | Total
Frequency | 60 | 35 | 8 | 3 | 1 | 107
Percentage (%) | 56.07 | 32.17 | 7.48 | 2.8 | 0.93 | 100
Frequency
Percentage (%)


Distribution of Respondents by years of experience
120
100
80
60
40
20
0
16 14.95
21 19.63
32 29.91
13 12.15
10 9.35
15 14.02
107 100.01
0 – 5 years | 6 – 10 years | 11 – 15 years | 16 – 20 years | 21 – 25 years | 26 years and above | Total
Frequency | 16 | 21 | 32 | 13 | 10 | 15 | 107
Percentage (%) | 14.95 | 19.63 | 29.91 | 12.15 | 9.35 | 14.02 | 100.01
Frequency
Percentage (%)


Distribution of Respondents by designation/cadre
120
100
80
60
40
20
0
60
56.07
45
42.06
2
1.87
0
0
107
100
HRT
HRO
HIM Director
Others
Total
Frequency
60
45
2
0
107
Percentage (%)
56.07
42.06
1.87
0
100
Frequency
Percentage (%)


Distribution of Respondents by Tribal Distribution
FREQ & %
120
100
80
60
40
20
0
107
100
0
0
0
0
0
0
107
100
Yoruba
Hausa
Igbo
Others
Total
Frequency
107
0
0
0
107
Percentage (%)
100
0
0
0
100
TRIBE
Frequency
Percentage (%)

Biodata

Personal Data:

Full Name:	Toyin Paul KAYODE
Date of Birth:	12th March, 1983
Sex:	Male
Marital Status:	Married
Nationality:	Nigeria
Religion:	Christianity
Town & State of Origin:	Ijebu-Ife, Ogun State
Contact Address:	c/o Medical Records Department, Neuropsychiatric Hospital, Aro, P.M.B 2002, Abeokuta.
Phone No:	08038364301, 09097348899, 08141911349
E-mail Address:	kayodetoyeen@yahoo.com

Educational Background with Dates

EDUCATIONAL INSTITUTIONS ATTENDED WITH DATES

Lead City University, Ibadan	2019 – 2022
National Open University	2017 – 2019
School of Health Information Management, University of Ilorin, Teaching Hospital, Ilorin	2002 – 2006
Mount Carmel College, Oloje, Ilorin	1996 - 2001
Cherubim & Seraphim Primary School, Sabo – Oke, Ilorin	1990 – 1995

Academic and Professional Qualifications with Dates

M.Sc Health Information Management	2022
Bachelor Degree in HIM	2019
Higher National Diploma (HIM) with HRORBN	2006
Certificate in Data Processing (University of Ilorin)	2005
First School Leaving Certificate	1995

Dissertations

- The influence of effective communication among couples on family planning practices (A case study of Ilorin West Local Government Area of Kwara State) Not Published: 2006
- Challenges of health information management (HIM) in Nigeria. Published by IFHIMA-2013
- Efficiency of computerization of patient health records at Babcock University Teaching Hospital, Ilishan Remo, Ogun State (Not Published) 2019

Membership of Professional Bodies

- Member, Association of Health Records and Information Practitioners of Nigeria (AHRIPN)
- Associate Member, International, Federation of Health Information Management Association (IFHIMA).
- Member, International Facility Management Association (Nigeria Chapter)

Extra – Curricular Activities

Reading, Writing, Meeting People and Watching Game of Soccer

_____ _____

Signature **Date**

University Compliance Certification

This is to certify that the thesis by Toyin Paul **KAYODE** in the Department of Infomration Management, Faculaty of Communication and Information Science, Lead City Univeristy, Ibadan is in full compliance with the approved University format and style.

_____ _____

Signature **Date**