International Journal of Finance and Management in Practice
Volume 5, Number 2; December 2017
ISSN: 2360-7459

Contemporary and Effective Techniques of Managing Health Information in Nigeria's Health Institutions

S. M. Omole

ABSTRACT

This article reviews contemporary and effective techniques of managing health information in Nigeria's Health Institutions. The aim is to combine the insights of how contemporary and effective techniques bridge different aspects of health records management in Nigeria. The paper objectively identifies legal requirements of health information system and health records' life cycle and their influence on health records management techniques in Nigeria. This presentation discusses health records management, legal requirements of health information, and health records management methods. Health records life cycle, health records management techniques and health records management practitioners were brought to the bear. Also the usefulness of health records management to the society and the challenges facing health records management techniques were identified. Hence, it is recommended that medical and health professionals should ensure the right attitude and perception towards health records management practices to facilitate national health care development.

Key words: *Health institution, health records, health information, record management*

INTRODUCTION

The provision of quality health care services in the health institution requires accurate and adequate health record management as documentary evidence of the care and treatment which the patient received in the hospital. Patient records are clear, concise and accurate history of a patient's life and illness, written from the medical point of view. They are the collection of recorded facts concerning a particular patient, his or her illness and the events occurring in the course of professional care for the purpose of providing the best medical care to the patient, for teaching, research, study appraisal of medical practice and legal requirements (Benjamin, 2001). Osundina (2014) opines that health records contain history of illness, medical investigations and tests, results of examinations, diagnosis and treatment. Health record helps in the planning process

S. M. Omole *(HND, B.Sc., M.HIM, R.HIM, PhD) is the Chief Health Records Officer, Ilesha East Local Government, Ilesha, Osun State, Nigeria. E-mail: osegunmicheal@gmail.com.*

through availability of health data, which serves as a record of response to patient's health conditions and as a guide to future therapy. Hence records should be managed to serve the purpose for which they were created.

Popoola (2008) describes records management as the area of general administrative management, concerned with achieving economy and efficiency in the creation, maintenance, use, and disposition of records, during their entire life cycle. It is the application of the systematic and scientific control over recorded information that is required in the operations of an organization's business. Such control is exercised over the creation, distribution, utilization, retention, storage, retrieval, protection, preservation and final disposal of all types of records within an organization.

The healthcare provider makes an entry into the medical records with the actual occurrence of the event. The ability to maintain accurate and timely record is critical for the delivery of quality patient care. Omole (2015) submits that for any patients' records management technique to be efficient in any health institution, there must be a health records department with adequate space, equipment and trained personnel. Accurate and complete health records must be written for all patients and the records must contain identification, demographic and clinical data to justify the diagnosis and warrant the treatment given. Also all entries must be signed by responsible person and health records must be filed, organized, and stored in an accessible manner, in a secured place in the health institution.

Health Records Management

Health record begins at birth and ends at death. It is a collection of information from multiple sources with a variety of uses. It includes data from the individual patient record as well as aggregate data on patient population, such as clinical and non-clinical, epidemiological data, demographic data, research data, reference data, and coded data (Osundina, 2014). It is a clear, concise and accurate history of a patient's life and illness, written from medical point of view. It includes significant characteristics of a patient and the events, occurring in the course of professional care for the purpose of providing the best medical care to the patient, teaching, research, and medical care evaluation studies (Osundina, 2012). For a patient record to be completed, it must contain sufficient information written in sequence of events to justify the diagnosis and warrant the treatment and the result.

The quality of health care services in any society depends on proper management of health records. Hence, efficient, effective, and result oriented health care delivery is dependent on a good health records management practice, storage and preservation. Therefore health records managers must ensure the availability of high quality data and

information to support effective patient care in the health care industry (Perry, 2015). Health records management practice is the life blood of the health care delivery system, the patient's record in manual or automated form contains medical information that describes all aspects of patient care. It is an essential tool in running the day-to-day health services rendered to patient in the hospital (Huffman, 2011). Therefore, Health Records Management involves the use of professional and technical skills to create, use, store, maintain and release patient records for administrative, clinical research, legal purpose, and decision making.

Legal Requirements of Health Records and Information

Russell (2011) describes laws as the statement or body of rules and regulations designed or formulated to guide human conduct or action which are enforced among members of a given state or society. It is a statement of rules and regulations that is to guide general conduct of the society. They are rules that society adopts to govern itself. Law is the primary source of many legal rules and principles and was based initially on tradition and custom. Huffman (2011) asserts that hospitals must maintain a variety of records. The public health law in every state or country requires of those who own or operate hospitals to make records of the statistical particulars relative to patients available, and the like are required for vital statistics and to alert proper authorities. The law (that is, the public health law) sets forth minimum legal requirement relating to a patient records management practice and these are:

(i) There shall be a health records department with adequate space, equipment and qualified personnel to include at least one registered health records officer or a person with equivalent training and experience in a hospital of one hundred beds or over.

(ii) A health record shall be started for each patient at the time of admission with complete identification data and a nurse's notation of condition on admission. To this shall be added immediately an admission note and orders by the attending or a resident physician. A complete history and physical examination shall be recorded by the physician within twenty- four hours of admission and always before surgery, except in cases of unusual emergency.

(iii) All health records shall include proper identification data; the clinical records shall be prepared accurately and completed promptly by physicians and should include sufficient information to justify the diagnosis and warrant the treatment; doctors' orders, nurses' notes and charts shall be kept current in an acceptable manner; all entries shall be signed by the person responsible for them.

(iv) Health records shall be filed in an accessible manner in the hospital and shall be kept for a minimum of twenty – five years after the discharge of the patient, except that original health records may be destroyed sooner, if they are microfilmed, computerized or digitized by a process approved by the Federal Ministry of Health.

Therefore all health institutions must conform to the minimum legal requirement of patient records management practices. In accordance with the state regulation or statutes, having known that health records are used to indicate statistically the extent and quality of care being given in hospital and the information contain in them, is of great importance in patient care, medical research and in resolving legal issues raised in suits concerning the patient's treatment in the hospital.

Methods of Managing Health Records

Data and information are the life blood of the health care delivery system, and vital to the decision making process surrounding patient's care and hospital activity (Osundina, 2014). Health records managers are involved in managing data and information shared by users with different needs and definitions which must be addressed in developing health care information system. Health care functions revolve round collecting, analyzing, making decision, using data and information and auditing for data integrity. Internal uses of data include creating a medical history, ensuring that the patient receives proper care, communicating between providers, recommending procedures, generating billing information, creating legal documentation, giving accreditation, licensing and governmental agencies information system, including identifying trends arising with surveillance and research (Austin and Boxer man, 2013). All these functions cannot be accomplished without a health records manger that will properly manage patient health records both manually and electronically, to serve the various functions stated above.

Health records management technique improves the quality of health care by ensuring that the best information is available to make any health care decision. It also manages health care data and information resources. It encompasses services in planning, collecting, monitoring, analyzing and disseminating, individual patient and clinical data (Russel, 2011). These services guarantee an evidence-based quality healthcare. AHIMA (2013) reveals that electronic record management must conform to national standard, be capable of exchanging information with multiple sources, and expose the health record managers to boundless opportunities as the profession transits to a national health management information system network.

Health record is a complete compilation of scientific data about patient's life and illness, derived from many sources, coordinated into an orderly documented file,

packaged by the medical record department and finally filed away for various uses, both personal and impersonal (Omosanya, 2016). Patient records may be managed manually or electronically (Olaniyan, 2015).

Manual Method involves the use of paper, ink and paper product in the creation, storage, maintenance and use of patient records. The strategies used in the manual method include the adoption of the basic health records management systems such as; numbering system, tracing system, filing system, appointment system, coding and indexing system. These systems are operational in a health records department with adequate space, equipment and qualified personnel in the health institution, via various sections of the department such as, registration, admission and discharge, coding and indexing, statistics, and library sections. Information is made available to the users manually based on their needs and requests (Makata, 2015).

Electronic Method involves the application of computer system and other electronic devices into the creation, maintenance and use of patient records. The strategies used in electronic health records method include the use of hardware, software, human ware, procedures and storage devices. Application packages, such as multipurpose hospital information system (MPHIS), Microsoft Word, Microsoft Excel, District Health Information System – 2 (DHIS-2), Statistical Package for Social Sciences (SPSS), Electronic Coding Procedures and Instructions (ECPI), including storage devices like hard disc, CDROM, flash drive, network and internet services are adopted for effective management of patient records and sharing of information with complete accuracy (Oyeniran, 2013).

Health Records Management Life Cycle

The records life cycle model postulated by Schellenberg (1998) sees records passing through stages until they eventually die, except for the chosen ones that are reincarnated as archive. This is supported by Sheppard and Yeo (2003) that records are not static, but has a life similar to biological organism. Therefore, health records management techniques involve the stages of records life cycle which include records creation, active records, semi active records, inactive records, final disposition, archiving and destruction. This shows that records are born or created for a particular purpose and when the records are no longer needed by the organization after a long period of active use, they are placed in the inactive records for final disposition.

Effective application of the records management life cycle is critical to the management of health records in the health facilities. Popoola (2000) asserts that recorded information has a life similar to that of a biological organism in that it is born (creation phase), it lives, (maintenance and use phase), and it dies, (final disposition).

He went further to state that as soon as health records are created in the hospital during registration, consideration must be given to storage facilities, retrieval tools, filing and classification. Therefore if the hospital management fails to act on the mentioned issues the growth of records can consume the available space in the hospital, and cause inefficiency and poor management of health records. The stages in life span of patient records as explained by Popoola (2000) are; creation, maintenance, use, evaluation, active, semi-active and inactive categorization of records after proper evaluation of the patient records.

(a) ***Creation of Patient Records:*** Patient records creation starts with the documentation and registration of patient in the health information management department of the health institution. This will be followed by entering of clinical information such as; patient's complains, diagnosis, reports of medical investigations and treatment rendered into the record. At the registration point a unique hospital number would be assigned to the patient record to facilitate distinct identification of the record.

(b) ***Maintenance of Patient Records:*** Records' maintenance phase involves storage facilities, retrieval tools, filing and classification. This is applicable to patient records management practices which consist of the provision of appropriate infrastructure, the establishment of mechanisms and procedures, for collecting and analysis health data, to provide needed information to be used as management tool for informed decision making. Effective maintenance of patient records requires the adoption of appropriate filing system, numbering system, appointment system, tracing system, storage system, coding and indexing systems. The application of these systems facilitates effective health information services for quality health care delivery.

(c) ***Health Record's Use:*** Health records use begins with an initiation stage, during which the information user first becomes aware of the need to gather information from the existing records, by recognizing the initial need for information, and attempt to facilitate effective use of the records through systematic organization pattern of the health records based upon his / her needs. Coding and indexing systems are the tools that facilitate health records' use.

(d) ***Evaluation of Patient Records:*** Evaluation is a process of determining the value of records for further use, and the length of time for which that value will continue. Evaluation must be done based on the existing policy, which will

stipulate how long records should be kept in their original form and what to be done after the expiration of the stipulated period. Record's content, record's value, record's form, reference value, research value, operating value, fiscal value, legal value, and archival value of the records must be considered during the evaluation process. Evaluation helps in the categorization of patient records into active, semi-active and inactive records.

(e) ***Active Patient Records:*** Active patient records are records needed to perform current operations (such as direct patient care and treatment) they are subject to frequent use and usually located near the user, and may be managed in a centralized or decentralized health records library.

(f) ***Semi-active Patient Records:*** Semi-active phase occurs, when the patients have been discharged home and only need to visit the hospital on appointment or at will. Records of discharged patients are processed in the health information management department and stored in the health records' library. These categories of records are occasionally retrieved for patient care and research purposes.

(g) ***Inactive Patient Records:*** An inactive record is a record that is no longer needed to conduct current business but is being preserved until it meets the end of its retention period as stipulated in the enabling policy. Inactive patient records are those records that are dormant on the shelves, which their owners or the patients have cease coming to the hospital, over a given period of time and records of dead patients that are kept in the health records library. These categories of records are made to reside in the secondary storage area of the library in order to create space for active records on the shelves, because of their reference value during medical research and trend analyses of diseases over a period of time (Popoola, 2000).

Therefore the goal of patient records management techniques are to support the process of decision making to improve patient care outcomes, improve health care documentation, improve patient safety, treatment and services, improve performance in patient care management.

Health Records Management Techniques

Effective maintenance of patient records requires the adoption various health records management techniques which are currently in use in most of the Nigerian health care institutions in the present time. These are: Numbering system, filing system, tracing

system, appointment system, coding and indexing systems. The application of these systems enhances accessibility to patient records for an efficient health care delivery services (Omole, 2016).

(i) Numbering System

Popoola (2000) opines that at the registration point a unique hospital number would be assigned to the patient record to facilitate distinct identification of the record. Identification of an individual patient admitted into the hospital is very essential and the only way this could be done is by allocating number to the patient records. Numbering system is basically an identifying factor that is used to label the record and facilitate its being filed in a systematic manner for easy retention and retrieval. There are three types of numbering system that are currently used in health care facilities. These are; serial numbering system, unit numbering system and serial unit numbering system.

Serial Numbering System is a method of numbering health records in which the patient receives a new number each time he/she is admitted to or visited the hospital for treatment. If he/she is registered or admitted five times he/she acquires five different admission numbers. Serial Unit Numbering System is a synthesis of the serial and unit numbering system although each time the patient is registered, he receives a new number, and his previous records are continually brought forward and filed under the latest issued number. Unit Numbering System is a system in which one number is assigned to patient records. The patient retains that one number forever; regardless of the number of times that the patient enters or leaves the health care system that one number is retained and enter on the master patient index to identify the patient records. Unlike the serial numbering system, the unit numbering system provides a single record which is a composite of all data gathered on a given patient, weather as an inpatient, ambulatory care or emergency patient.

The patient is assigned a number on his first admission which is for all subsequent admission and treatment. His entire health records are thus in one folder under one hospital number (six digit number) .i.e. One number ! One patient!! One folder!!!. The system is the best because it, present complete picture of patient medical history and therapy at a glance, it eliminates fragmentation and avoids duplication of records. It is very economical to maintain and it enhances confidentiality of health information (Osundina, 2014).

(ii) Filing System

This involves that arrangement of health records in a prescribed order on the shelves in a secured place in the health. There are four basic filing methods commonly used for

health records and these are: (a) alphabetical filing, (b) straight numerical filing, (c) terminal digit, and (d) middle digit filing.

Alphabetical Filing involves filling medical records according to the use of names in an alphabetical order placing surname first, middle name and other names, in case of more persons bearing the same name; the cards are arranged according to date of birth or date of registration. e.g. Master Name Index (which contains patient name index cards). Straight Numerical Filing refers to the filling of records in exact chronological order according to the hospital numbers in straight numerical form such as 784922, 784923, 784924 (e.g. diagnostic index cards and health records library). This system is easy to understand and it facilitates direct access to health information. Terminal Digit Filing involves filing in respect of the terminal digit. It is done as follows: Having divided the filing area into primary sections of 100 numbered 00 to 99 then. The primary section are further subdivided into 100 secondary sections, usually a six digit number is used and divided into three parts. Each part normally contains two digits namely:

50	93	26
Tertiary	Secondary	Primary

Filing and pulling operations are carried out in the following ways:

a. Locate primary section appropriate to terminal/primary digit – 26
b. Within primary: subsection 93 appropriate to secondary digit 93 is located
c. The case note is filled in order of the tertiary number 50 in this subsection (i.e. 93) case notes in the subsection are 01-93-26. 02-93-26, 04-93-26 ……50 -93-26

Middle Digit Filing involves filing according to pairs of digit like that of terminal digit filling. However the primary secondary and tertiary digits are in different positions. The middle pair of digit in six digit numbers is the primary digit. The digits on the left are the secondary digit and the digits on the right are tertiary digits, such as:

55	02	76
Secondary	Primary	Tertiary

Filling is done as: 55-02-76, 55-02-77, and 55-02-78 and so on.

According to Omole (2008), the straight numerical filing is the most popular filing system in Nigeria because it guarantees direct access to health information for effective service delivery.

(iii) Tracing System

This is a process of devising a medium for tracking the movement of health records in order to provide control over all the filling systems. The real test of efficiency of a medical records library is the promptness with which request for medical records are

met. An efficient tracer system by stand should be able to locate the where about of patient records which are not in the medical records library. A tracer card/form/register, record the name of primary borrowers also shows the current location of the document. There are different methods of maintaining a tracer system such as:

(a) Library method, which is placed at the back of each book/record.
(b) Individual tracer method which is used in medical records library.
(c) Multipurpose tracer method, which is a register type.

Considering its efficiency and economy, individual tracer method remains the best method of tracking health records in order to prevent them from theft or loss (Omosanya, 2016).

(iv) Appointment System

This is an arrangement between two or more persons to meet at a particular venue, at a particular time, for a particular purpose. To prepare patient records for clinic at the consultant outpatient clinics, a copy of the appointment list must have been sent to the health records library and the clinic before the clinic day (by the health records officer in charge) to facilitate retrieval of case folders, including their transmission to clinics before the clinic day. On arrival of the patients, they are just directed to their respective clinics to see their consultant, have known that their records are already there. This procedure is otherwise called clinic preparation method because it facilitates quick and easy access to patient records and quality service delivery (Austin & Boxerman, 2013).

(v) Coding and Indexing Systems

These systems involve the process of assigning numeric or alphanumeric representations to clinical documentation (i.e. specific diseases, diagnoses and or procedures) as stipulated in the appropriate classification system such as international classification of diseases, volume 10 (ICD-10). And indexing is the process of preparing a catalogue which denotes the various processes involved in the preparation of entries and maintenance of a catalogue. Coding and indexing are processes of grouping which involve putting together like entities and separating unlike entities by assigning a classification mark to an item through which the item may be easily identified and located for use when the need arises (Omole, 2016). The systems involve assigning code numbers to disease condition and operation procedures using international classification of disease and operation. The code numbers are assigned according to established protocol as stated in the classification scheme. Code numbers patient profile and diagnosis/operation procedures are then recorded on the index cards which are catalogue of cards arranged according to the classification numbers in coding and

indexing section. This system facilitates retrieval of group of records of a particular disease for research purpose (Makata, 2015).

Therefore the adoption of these contemporary health information management techniques is the backbones of quality health care delivery system. It is worthy of note that these systems can be applied both manually and electronically for effective management of health records in the health institution.

Health Records Management Practitioners

Health records manger is a specialist or practitioner, saddled with the responsibility of providing accurate documentation and registration of patient health information, and up-to-date health statistical information, on hospital activities analysis, both on curative and preventive health services, either as in-patient and out-patient, through the process of gathering and collection of patient information and its manipulation for meaningful decision making (AHIMA, 2014).

Health records managers are responsible for maintaining components of health information system, consistent with the medical, legal, accreditation and regulatory requirements of the health care delivery system. Health records managers maintain, collect, and analyze data that are crucial to the delivery of quality patient care. They compile and report health events for surveillance, facility planning, marketing and research. Also they abstract and code clinical data, using appropriate classification scheme, and analyze health records, according to standard (Omole, 2013).

However, a health records officer/manager must have completed a Bachelors or Master degree in health information management or health records administration and biostatistics from a recognized university, and possessed a professional registration license issued by, the health records officers registration board of Nigeria for eligibility to practice the profession of health records management in Nigeria (Gazette, 1989).

Usefulness of patient records management to the society

Osundina (2012) opines that a written record must be maintained on every person who has been admitted to the hospital as an in-patient, an out-patient, or as an emergency patient. Patient record documents the hospital experience of the patient with the main objective of providing a means of communication between the physician and other professionals contributing to the patient's care. It serves as a basis for planning individual patient's care and furnishes documentary evidence of the course of the patient's illness and treatment during each hospital admission. Bowen (2015) posits that patient records serve as a basis for analysis study and evaluation of the quality of care rendered to the

patient, assist in protecting the legal interest of the patient, hospital, physician and health workers. It also provides clinical data that are used in research and education for the purpose of extending frontiers of medical knowledge for an improved quality patient care. Akanji (2014) asserts that the physiological and demographic data contained in health record such as; name, address, sex, age, marital status, occupation, place of origin, denomination, next of kin, hospital number, and telephone number and so on, help to distinguish the patient records of one patient from another to avoid confusion. These data are also used in tracing patients for case investigation during disease surveillance activities.

Health record is useful for teaching, or giving instructions to medical students, nurses, and other professionals. It is useful in seeking out etiological factors in a disease, compare progress and result of different forms of treatment for patient with similar diseases (Fatiregun, 2014). Quality of patient care is assured, as the patient records provide continuity of patients' care on subsequent admission, evaluation of medical care rendered to the patient, and provision of clinical and health statistical data for the planning of health care delivery services, and development of health policies, which have positive impact on the health status of the society. Emerging ethical and legal issues are resolved as health records serve as witness in court for hospital, its staff and the patient. Also, insurance claims for damages resulting from accident are made possible through evidence provided by patient records (Osundina, 2014).

Challenges of Patient Records Management Techniques

Adindu (2008) reiterates that well designed and managed patient records management practices generate reliable, relevant, accurate and understandable information, useful to decision makers for evidence based health care delivery services. Osundina (2014) establishes that weak, uncoordinated and the dearth of reliable data and health records management techniques can hamper the measurement of the impact of health care services on the population, which may negatively affect the health status of the society.

The report of Abubakar (2014) which identifies inadequate finance, shortage of staff, shortage of modern equipments and materials inadequate coordination of data flow, as major challenges militating against effective patient records management practices indicates the need for improvement in health records management techniques. Popoola (2010) also submits that poor perception of health records management practice, lack of improved health records planning and management practice, inadequate skilled manpower in information and communication technologies, and lack of mission oriented leadership with the right perception of health records as national health care resource are some of the limitations of health records management practices in Nigeria.

The observance of various health records management techniques will jointly contribute meaningfully to quality health of care services in our health institutions. Health records management technique by all standards is the back bones of heath care delivery systems, which must be well organized to enable patients, enjoy value for their money and time. The information contained in the health records, needs to be compiled, analyzed, interpreted and disseminated in the right quantity at the right time for effective decision making and feedback for efficient allocation of resources for quality health care delivery services.

CONCLUSION AND RECOMMENDATIONS

In the course of this study, inferences were drawn from existing literature and postulated theories that contemporary and effective health records management techniques positively influence quality of health care services, as evident in the finding obtained from the literature and the work of Omole (2008) which reports that the quality, efficiency, and effectiveness of health care services depends on a good health records management practices, for generation of accurate and reliable health information for action. Effectiveness of heath information system depends on the extent to which health records management techniques are taken seriously by health care professionals in various health institutions so as to promote a sense of order because systematic arrangement of health records facilitates easy retrieval of health information for improved health care service delivery. Therefore government at all levels are advised to give maximum support and required encouragement to records management techniques so as to ensure availability of accurate health data and information for action towards ensuring quality health care service in Nigeria. On the basis of the conclusion above, the following recommendations are made:

i. Government at all levels, should facilitate procurement and installation of appropriate information technology to enhance functional health records management techniques in all health facilities
ii. Government at all levels via their respective human resources management department should employ more health records managers, and ensure regular training for capacity building on contemporary health records management techniques
iii. Medical and health professionals should have the right attitude and perception towards health records management practices to facilitate national health care research
iv. Government at all level should facilitate standardization of patient records management facilities and ensure adequate financing of health data infrastructure.

REFERENCES

Abubakar, A. A. (2014). Overview of Disease Surveillance Activities in Osun State. Seminar paper presentation at State Ministry of Health, Osogbo

Adindu (2008). Epidemic preparedness. *Nigeria Bulleting of Epidemiology, IDSR contribution and surveillance data flow in Nigeria*, 9, 1.

AHIMA (2013). Contemporary issues in e-HIM implementation worldwide. *Journal of AHIMA*, 71 (6) 15-23

Akanji, D. O. (2014). Health Records Officers Registration Board of Nigeria and its relationship with Health Information Managers association of Nigeria. Seminar paper presented at school of Health Information Management, OAUTHC, Ile Ife; April, 2014

American Health Information Management Association (2014). e-HIM Task Force 2014: Vision of the e-Him future, a report from the AHIMA e-HIM Task force supplement *to Journal of AHIMA*, 76 (7), 24-25

Austin, C. J. and **Boxerman, S. B.** (2013). *Information System for health Administration* (7th ed.). Chicago: Health Administration Press

Benjamin, B. (2001). *Medical Records Pub.* London: Willian Heinemann Medical Book Limited

Bowen, R. K. (2015). *Legal issues in health information management; Health Information management concepts, principles and practice* (Fourth edition). Chicago: AHIMA Press.

Fatiregun (2014). Clinician sensitization for reporting of priority diseases in Nigeria. WHO – State office of Osun State: September, 2014

Gazette (1989). *Federal Republic of Nigeria official gazette.* vol. 76 (71) of 11th December 1989. Lagos: Federal Government Press, Nigeria

Huffman, E. (2011). *Health Records Management* (modern edition). Illinois: Physicians Records Company.

Makata, E. O. (2015). Health information: An important instrument to both the living and the dead. Abuja: Solid Rock Press, Nigeria

Olaniyan A. O. (2015). Impact of diseases surveillance and Notification system on diseases control strategist in Ife-North Local Government area of Osun-State. A project submitted to College of Health Sciences, Hondegbe North American University, Cotonoun, Benin Republic.

Omole S. M. (2008). Unpublished work on Effect of Disease Surveillance and Notification on Prevention and control of diseases M.HIM thesis.

Omole, S. M. (2013). Career prospects of health information management in the new millennium. A seminar paper presented at college of health technology, Offa, Kwara State, April 2013

Omole, S. M. (2015). Health Records management practice and disease surveillance and notification system in Atakumosa West Local government Area of Osun State. Seminar paper presentation.

Omole, S. M. (2016). Health Records management practice and disease surveillance and notification system in Atakumosa West Local government Area of Osun State. Seminar paper presentation.

Omosanya, B. A. (2016). Problems militarily against effective diseases surveillance and notification system in Ayedaade Local Government Area of Osun Sate. A project submitted to the Department of Health Information Management, University Ibadan.

Osundina K. S. (2014). Unpublished work on Ethical and legal practices and management of patient records. Ph.D. Thesis

Osundina, K. S. (2012). Principles and practice of Health Records Management (Revised Edition). Osogbo: Hosanna Prints.

Oyeniran, E. O. (2013). A training manual on surveillance and notification of diseases in Nigeria. Abuja: Federal Ministry of Health.

Perry, H. N. (2015). Planning an integrated disease surveillance and response.

Popoola S. O. (2000). *Information and Development.* Ibadan: Centre for External Studies, University of Ibadan.

Popoola, S. O. (2008). *Information and Development.* Ibadan: Distance Learning Centre Publication of University of Ibada.

Popoola, S. O. (2010). An assessment of records management practice in private universities in Nigeria. *Journal of Advance studies in Education management*, 10(5), 15.

Russell, L. A. (2011). Not what we were in 1928: A new professional. *Journal of AHIMA*, 72 (4), 48 A-48D

Schellenberg, T. R. (1998). Modern archives: Priciples and Techniques (Repr. Ed.). Chicago: SAA.