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12-7-2019

## THE MANAGEMENT OF HEALTH RECORDS LIBRARIES THROUGH THE LENS OF RANGANATHAN'S THEORY

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Opele, Jacob Kehinde Dr; Omole, Michael Segun Dr.; and Adebayo, Tajudeen Temitayo, "THE MANAGEMENT OF HEALTH RECORDS LIBRARIES THROUGH THE LENS OF RANGANATHAN'S THEORY" (2019). *Library Philosophy and Practice (e-journal)*. 3733.  
<https://digitalcommons.unl.edu/libphilprac/3733>

**Keywords:** *Ranganathan's Five Laws, Librarianship, Management, Health Records, Library*

## **Introduction**

The records of an organization constitutes her corporate memory which supplement human memory and serve as guide for effective planning and decision making (Sophia, Stein, Zwass, 1995; Jennex, Olfman, Panthawi & Tong-Tae, 1998; Baird & Cross, 2000). In order to take advantage of the past experiences, accurate records and good records keeping are bedrock of planning for the future in any organizational system (Ackerman & Halverson, 2000). Correspondingly, health records is a systematized way of storing the required data, information and other relevant documents with the objective of making easy availability of necessary data at the time of its need (Kumar, Smith, & Telang, 2011).

A health record is a document that contains complete and accurate description of a patient's history, conditions, diagnostic and therapeutic treatment and the results of treatment. The International Federation of Health Records Organizations (IFHRO) defined medical/health records "as an essential part of a patient's present and future health care. As a written collection of information about a patient's health and treatment, used essentially for the present and continuing care of the patient" (IFHRO, 1996). It is a chronologically written account of a patient's examination and treatment that includes the patient's medical history and complaints, the physician's physical findings the results of diagnostic test or procedures, medications and therapeutic procedures (The American Heritage Stedman's Medical Dictionary, 2002).

Health record involves the orderly written document encompassing the patients' identification data, health history, physical examination findings, laboratory reports, diagnosis, treatment and surgical procedures and hospital courses (Davis & LaCour, 2002; Judson & Harrison, 2010). These records contain sufficient data to justify the investigations, diagnosis, treatment, length of stay, result of care, and future courses of action (Huffman, 1990; Huffman, 1994; American Health Information Management Association, 2012). Health record serves as an easy reference for providing continuity in

patient care, an informational document used in quality review of patient care (LaTour & Eichenwald, 2002; Skurka, 2003). Medical records are used in the management and planning of health care facilities and services, for medical research and the production of health care statistics (World Health Organization 2006; Judson & Harrison, 2010; American Health Information Management Association, 2012).

According to Huffman (1990), medical records has the function of recording the facts about a patient's health with emphasis on events affecting the patient during the current admission or attendance at the health care facility, and for the continuing care of the patient when they require health care in the future. He posited further that a patient's medical record should provide accurate information on who the patient is and who provided health care; what, when, why and how services were provided; and the outcome of care and treatment. In addition to direct patient care, health records serve other clinical purposes. Through concurrent and retrospective analysis, health records are relied on by medical, nursing and scientific communities as a primary source of information for research (IFHRO, 1996).

By identifying specific incidences of disease, health records assist the public health community's efforts to control disease and monitor the overall health status of a population. The medical record includes a variety of types of "notes" entered over time by health care professionals, recording observations and administration of drugs and therapies, orders for the administration of drugs and therapies, test results, x-rays, reports. Besides information about physical health, these records may include information about family relationships, sexual behavior, substance abuse, and even the private thoughts and feelings that come with psychotherapy. Information from medical records may influence patients' credit, admission to educational institutions and employment. It may also affect patients' ability to get health insurance. The maintenance of complete and accurate medical records is a requirement of health care providers and is generally enforced as a licensing or certification prerequisite (Johns, 2002; Kierkegaard, 2012).

The multiple functions and use of a health records have culminated into its numerous nomenclature such as medical records (MR) (Huffman, 1990), hospital charts (HC), outpatient records (OR), clinical records (CR) (Sophia, Stein, Zwass, 1995) and electronic health records (IFHIMA, 2012). No matter how good and how adequately

documented, the criticality of health records library in the storage and retrieval of patient health information cannot be overemphasized (Jennex, Olfman, Panthawi & Tong-Tae, 1998; Baird, & Cross, 2000; Kierkegaard, 2012). Health records management in many developing countries has suffered from the traditional paper-based for centuries until recently when electronic health records system became popular for effective storage and retrieval of patients health records (Barber2002; Laerum, Karlse & Faxvaag, 2004). The challenges associated with the traditional paper based system, which include time wasting in the paper documents had led to the development of electronic health records system. Mishra et al. (2012) conducted a study on electronic health records assimilation and physician identity evolution from the perspectives of Identity Theory and found that because physicians would need to use a handheld device or a computer to enter and access information, they would not be able to focus on the patient and discuss their problems and treatment options, resulting in adverse patient reactions, including dissatisfaction (DesRoches et al. 2008, Ford et al. 2009, Jha et al. 2009).

Mishra et al. (2012) reported that a physician noted, “I still write a lot of paper scripts. When I’m in an exam room, I write things on paper. I don’t want the device in the room. I’m very old-fashioned. I walk out of the exam and enter a script and then give it to my assistant to enter. I don’t want my patients waiting for me.” Another doctor stated, “My patients are used to it. But sometimes patients stop talking when I’m working on the computer in the exam.” Unlike traditional manual paper-based, EHRs enable physicians to access all the medical information about patients efficiently at one place, thereby enabling them not only to retain control of information resources but also to use their time more effectively for synthesizing this information, diagnosing patient problems, and determining treatment regimens for them (WHO, 2006).

Electronic Medical Record (EMR) has been used to describe automated systems based on document imaging or systems which have been developed within a medical practice or community health centre. Electronic health records include clinical information entered by the healthcare professional at the point of care (Pharow & Blobel 2005). In today’s environment it is generally accepted as a longitudinal health record with entries by healthcare practitioners in multiple sites where care is provided. In the USA the current definition of an EHR is:

The electronic health record includes all information contained in a traditional health record including a patient's health profile, behavioral and environmental information. As well as content the EHR also includes the dimension of time, which allows for the inclusion of information across multiple episodes and providers, which will ultimately evolve into a lifetime record (Mon, 2004, Amatayakul, 2004).

In the USA the term Computer-based Patient Record (CPR) was introduced in the 1990's. This was defined as a collection of health information for one patient linked by a patient identifier. The CPR could include as little as a single episode of care for a patient or healthcare information over an extended period of time (Amatayakul, 2004). Literature have shown that early CPR's focused on functions such as medical alerts, medication orders, providing integrated data on a patient's registration, admission, and financial details, and recording information from nurses, laboratory, radiology, and pharmacy (Merrell, Merriam & Doarn , 2004). With the arrival of electronic health records, is it possible for the institution/government to move from a paper health record to a fully deployed electronic health information system. In an electronic health records system, information flow for inpatients should be the same as for manual medical records.

The record commences on the admission of the patient with registration and identification data verified. In the ward, all healthcare data would then be entered electronically at the bedside or Nurses station via a terminal or other electronic device by attending healthcare practitioners. Other data would be added to the patient's records electronically from other departments such as pathology, biochemistry, radiology, etc. On discharge or death the health record would be checked electronically for completion, diseases and procedures coded, and statistics compiled. The introduction of an EHR should aim at increasing the efficiency of healthcare delivery by the institution and or country, and containing costs by eliminating the unnecessary duplication of services. In addition, as for current paper records, it must ensure the confidentiality of data, improve the quality of care and help to promote the health and wellbeing of the population (Mon, 2004).

Manual and electronic health records management are in place in countries like the USA, Canada, Australia, Africa, United Kingdom, Malaysia, Japan, China, and India

Therefore this paper applied Ranganathan's five laws of librarianship in the management of a health records library. The next section takes a look at a typical health records library and its administrative structure for effective management of patients' health records.

### **Health Records Library**

Health records are stored in the main hospital designated health records library in most countries. There are other locations where physical records may be stored or held for use, such as consultant offices or clinic/audit departments, off-site storage facilities contractor managed and other hospitals. The health record library is established for tracking system so as to ensure the location of every set of case notes is recorded and to make sure they are available for use at every episode of care to eliminate possible clinical risk. Electronic health records may also be held on software systems. Health records could also be scanned and be held on microfiche. Health records library can be described as a building in a health institution where patients' case notes are stored for planning, research and for effective treatment of the various ailments. The library is designed to assist physicians, health professionals, students, patients and medical researchers in finding health and scientific information to improve, update, assess or evaluate medical care. Health records library accommodate medical record file area that requires plenty space, which must be available for filing medical records, clean, tidy and has good lighting system. The Yeovil District Hospital NHS foundation Trust stipulated that:

Case notes pertaining to patients who have been discharged or deceased for less than eight years but more than five years may be scanned on to the Optical Disk Imaging System. This is managed by the records library supervisor and constant "weeding" of notes is done on a weekly basis.

Case notes that have been identified for scanning are then boxed and recorded on PAS and sent to an off-site service for scanning. Each box is bar-coded and cross-referenced against the YDH registration number. These case notes will be confidentially destroyed once they have been scanned and appropriate case note "flag" assigned to the registration number on PAS.

Data quality checks are carried out on 10% of each batch sent for off-site scanning. Once scanned and quality checked, the notes are disposed of by the scanning company and Certificates of Destruction kept in the Health Records Manager's office (<http://www.yeovilhospital.co.uk/wp-content/uploads/2016/01/Health-Records-Management-policy-v2.1.pdf>).

The library usually has desks for the medical record clerks to sort medical records and make out tracers and space for records awaiting filing or completion (Huffman, 1990). In a medical records library, filing shelves are used; this can be wood or metal filing shelves. The Medical Records Library supervisor continuously monitors archived deceased notes from the Lovington store so that those that are no longer required under the guidance of the Retention and Disposal document can be destroyed.

Health records library is organized into different collections. Also, shelf rectification is undertaken to ensure the records are kept on the shelves as per prescribed order, taking out worn out folders and other material for repair or binding, preparing stack room guides, and shelving volumes returned after use. Health records library is designed to assist physicians, patients, health professionals, medical researchers and information specialists find health and specific information to improve, update assess or evaluate health care. Health records library is usually organized in a way that will foster a positive and safe work environment for the health care workers allowing them to render services for effective patient service delivery. Health records library is organized to provide an individual with continuity of care across the network of services, health conditions and levels of care. Health records library services is usually of high quality i.e. effective, safe, centered on the patient's need and given in a timely fashion

### **Ranganathan five laws of library science and its relevance in a health records library**

Ranganathan, L.R, a famous Indian and information scientist has propounded certain laws of library science which have become the guiding principles of librarianship. The principles are contained in his five laws of library science which are;

1. Books are for use.
2. Every reader his [or her] book.
3. Every book its reader.

4. Save the time of the reader.
5. The library is a growing organism

**First law: Books are for Use:** The first law constitutes the basis for the library services. Ranganathan observed that books were often chained to prevent their removal and that the emphasis was on storage and preservation rather than use. While he did not reject the notion that preservation and storage were important, he however asserted that the purpose of such activities was to promote the use of them. Without the use of materials, there is little value in the item. By emphasizing use, Ranganathan refocused the attention to access-related issues, such as the library's location, loan policies, hours and days of operation, as well as such facilities like library furniture and the quality of staffing (Rubin, 2004). Access to patient specific health information is a complex issue governed by a variety of legal rules (Gritzalis, 2004). According to the U.S. Department of Health and Human Services' Office of Civil Rights, Privacy and Security, to request a copy of patients' medical records, patients must print and fill out the ProHealth Care Authorization form to Release Protected Health Information form. In other hospitals, the patients have the right to receive copies of their health information from their doctors and from other providers, such as physical therapists and social workers. In other situations, if the health care provider keeps patients health records electronically, they would have a right to receive them in either electronic or paper form.

The privacy and security of patient health information is a top priority for patients and their families, health care providers and professionals and the government in many health facilities globally (Ueckert & Prokosch, 2002; Ruotsalainen, 2004, Pharow & Blobel, 2005). In some countries, federal laws require many of the key persons and organizations that handle health information to have policies and security safeguards in place to protect the health information whether it is stored on paper or electronically. In the event that the patient's wishes to access his/her health records electronically, the patients will need to provide an answer to how he/she want to receive them (via the web, on a flash drive, on a CD, etc.). However, depending on the doctor's or hospital's policies, the patients may have to make requests for health information in writing, and he/she may be asked to pay a small fee to cover the doctor's costs for furnishing the patients with the information.

Many health care providers particularly those still using paper-based systems may not have all of the patients records available immediately, so it might take them a while to fulfill the patients request. In some limited circumstances, the doctor may refuse to comply with the patients' request. In such cases, they must supply an explanation in writing. However, health care providers are charged under the law with the obligation to maintain patient-specific health information in a confidential manner. At the same time, health care providers are charged with the obligation to allow third parties and patients access to patients-specific health information, if appropriately requested. Understanding the balance between these obligations is essential to the health-care provider's practice and compliance with the laws governing access.

In a health records library, while the primary focus is on the preservation and storage of patient files, it is equally important to clearly demarcate who should have the right to retrieving records out of the library for whatever reason. Furthermore, to encourage use as Ranganathan emphasized, the health records library should be located in a place within the hospital for easy access by anybody who may need the services of the library for whatever purpose as the case maybe. Besides, there should be a clearly written policy that guides movement of files in-and-out of the library as a way to enhance control.

The policy should equally address the issue of confidentiality and privacy of patients' health information such as detailed of his or her health conditions and outcome of care. Besides, the days and hours of library operation should also be clearly stated in the health records policy document for the community to be fully aware of the operation hours of the staff in the library and the alternatives that are available when the main library is closed on certain days of the week. The preservation of patient case files should also follow the internationally recognized standard for the files to experience their life cycle.

**Second Law: Every Reader his/her Book:** This law suggests that every member of the community should be able to obtain materials needed. Ranganathan felt that all individuals from all social environments were entitled to library service, and that the basis of library use was education, to which all were entitled. These entitlements were not without some important obligations for both libraries/librarians and library patrons. Librarians should have excellent first-hand knowledge of the people to be served.

Collections should meet the special interests of the community, and libraries should promote and advertise their services extensively to attract a wide range of readers.

Similarly, while the health records remain the property of both the hospitals and the patients, under the traditional approach, the health record was considered the sole property of the health care provider, and patient-specific health information was not considered separate from the medium used. Hence, decision on whether to allow access to the health records fell within the sole province of the health care provider. Encouraging access to patients records requires that the health records library staff make themselves available for the education of new employees who may need to visit the library for enquiries to which all were entitled. However, for the education to be effective, staff of the health records libraries should have excellent first-hand knowledge of the people to be served and their required services. Also, the staff of the library should promote and advertise their services extensively to attract wide range medical practitioners who may want to use the library for teaching and research.

**Third Law: Every Book its Reader:** This principle is closely related to the second law but it focuses on the item itself, suggesting that each item in a library has an individual or individuals who would find that item useful. Ranganathan argued that the library could devise many methods to ensure that each item finds it appropriate reader. One method involved the basic rules for access to the collection, most notably the need for open shelving with good cataloguing and classification system.

Unlike a typical academic library, the hospital is known for its multi-disciplinary in nature. However, each item in a health records library has an individual or individuals who would find that item useful. This include medical and paramedical students who are undergoing their trainings within the hospital, the nurses, physicians, the physiotherapist, medical social workers, the medical laboratory staff and the management of the hospital at large. Researchers from medical research centers and academic staff may also find health records library resourceful for their research. Hence, as outlined in the Ranganathan theory, the health records librarians could devise strategies to ensure that each item finds it appropriate user and that bureaucratic access to the records is less cumbersome, through the use of appropriate numbering, coding and indexing systems.

**Fourth Law: Save the Time of the Reader:** This law is in recognition of the fact that,

part of the excellence of library service is its ability to meet the needs of the library user efficiently. To this end, Ranganathan recommended the use of appropriate business methods to improve library management. He observed that centralizing the library collection in one location provided distinct advantages. He also noted that excellent staff would not only include those who possess strong reference skills, but also strong technical skills in cataloging, cross-referencing, ordering, accessioning, and the circulation of materials.

In the case of the health records library, meeting the needs of the users (patients, clinicians and the researchers) has remained a major problem in many developing nations including Nigeria. This is due to poor implementation of the basic health record's library systems (such as; numbering, filing, tracing, appointment, coding and indexing systems) which often results into issues of misfiling and mislaying of patients' case files within the health records library. This often occurs when a good number of library staff could not bring to bear the skills and competencies required for effective management and control of the records kept in the library for treatment, planning and research. In many Nigerian general and teaching hospitals library, more than 60% of the staff is usually clerical personnel who do not possess relevant skill to manage patients' records; they only possessed the skills needed for managing routine records at the administrative departments of the hospitals. It is however sad to mention that rather than seeing this problem as a major one by the concerned authorities, the usual saying is that 'health records professionals are mere card issuers' and hence, every dick-and-array should be recruited to issue out and keeping health records and or should work in the health records department.

Ranganathan observed that centralizing the library collection in one location provided distinct advantages. He also noted that excellent staff would not only include those who possess strong reference skills, but also strong technical skills in cataloging, cross-referencing, ordering, accessioning and the circulation of materials. Also, as it is the case in many hospitals, health records library is usually centralized for effective control until recently when some hospitals are beginning to decentralize their records due to expansion in the range of their services. However, what is yet to be fully address is the issues of personnel in the health records department and its various units. The current

situation across Nigeria require urgent need for those who possess strong technical skills in coding and indexing, health and vital statistics, registration and management of patients' health records as well as those who possessed interpersonal skills since the health records officers occupies the image making position being the first and the last point of call by every patients regardless of their conditions that visit the hospital.

**Fifth Law: The Library is a Growing Organism:** This law focused more on the need for internal change than on changes in the environment itself. He argued that library organizations must accommodate growth in staff, the physical collection, and patrons' use. This involved allowing for growth in the physical building, reading areas, shelving, and in space for the catalog. The fifth law actually complements the fourth in the case of a health records library. There is serious need for internal change than on changes in the environment itself. As emphasized earlier, health records library organizations must accommodate growth in staff, the physical collection, and patron use. While the library keeps expanding daily, there is a need for more staff with relevant skills and competencies to work at the health records libraries in the developing nations for sustainable health care delivery system.

### **Conclusion**

In the course of this study, inferences were drawn from existing literatures that, Ranganathan's five laws can be effectively applied in the practice of preservation and conservation of patients' health records in the health records library. These laws help to appreciate the importance of preservation of information materials for use by ensuring that they are adequately processed, organized and preserved for easy access and use by the hospital and its personnel. The five laws were recreated in the context of health records management practices and reads:

1. **Health records are for use:** This implies that health records containing information in the health records' library are mean to be consulted by users. Hence, there should be easy access.
2. **Every user his [or her] health records:** This principle emphasizes the need for systematic organization of health records' library materials. It is only when health records have been systematically organized especially through appropriate

numbering system and coding and indexing that users can easily locate the item they need.

3. **Every health records its users:** Like the preceding principle health records should be organized on the shelf in such that every record is uniquely identified in order to ensure that each item finds its appropriate user.
4. **Save the time of the health records user:** That is patients, attending physicians and researchers time should not be wasted; which can only achieved through excellent staffing and adoption of appropriate information retrieval systems to meet the needs of the library users in a timely manner.
5. **The health records library is a growing organism:** That is library is expected to be everlasting. The size of the library stock and other resources are supposed to be increasing or expanding with time as new health records are created daily.

As elaborated in this paper, proper application of Ranganathan's five laws of librarianship in the management of health records libraries are essential in ensuring effective preservation and conservation of health records library materials, for the benefits of the patients, the health care providers, the researchers, the hospital and the society at large. Therefore health information managers should put in place appropriate information retrieval systems that will facilitate easy access to health information that are resident in the health records library (that is; numbering system, filing system, tracing system, appointment system, coding and indexing system) for effective health records management practices in Nigeria.

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