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ReviewArticle

MANAGEMENT AND PRESERVATION OF HEALTH RECORDS IN SOME SELECTED HOSPITALS IN LAGOS STATE, NIGERIA

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The study examines the preservation and management of records in some selected hospitals in Lagos State, Nigeria. A survey design was used while a total of 70 hospital staff was sampled. Questionnaire was used as instrument for data collection. Data gathered were analyzed using frequency counts and simple percentages. Findings revealed that admission register has 100 records; patient case note has 97 records; nursing and ward has 93 records; x-ray has 91 film records; while other records are less than 90 records. The analysis of mechanism put in place for effective management of records in surveyed hospitals revealed that care in handling hospital records, Confidentiality of records, security of records and avoidance of water contact/bad weather are major mechanism employed in the hospitals.The major preservation methods/techniques applied in keeping records in surveyed hospitals are computerization, binding and lamination.The study recommends among other things in hospital surveyed; provision of infrastructural facilities for record preservation; formulation of preservation policies and application of ICT in management and preservation of hospital records.

INTRODUCTION

The art of preserving is as old as human civilization itself. In a way it may be said to derive from the instinct of self-preservation common to all animate beings. Preservation can be seen as a branch of library and information science that concerned with maintaining or restoring access to artifacts, documents and records through the study, diagnosis, treatment and prevention of decay and damage. Preservation of records in hospital is necessary as records are memory of the internal and external transaction of an organization. Preservation of health record enhances easy access to record when needed for referencing or in an attempt to retrieve information from them (Baranski *et al*., 2000). For nearly two millennia the preservation of works of art on paper has been practiced in the far East. Originating first in China at the beginning of the Christian era, conservation techniques and material quickly spread to Japan and subsequently to other areas. A fifth-century Chinese writer, Chia Ssu-hsieh, raised points in conservation that are familiar to paper conservation today: care in handling objects, choice of correct material for conservation, correct storage and vigilant against infestation, exposure at correct level of humidity, and exclusion of sunlight (Popoola, 2000).

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Records may be defined as recorded information, irrespective of form or medium, received or created and maintained by establishments in pursuance of their legal or statutory obligations or record keeping of any kind. This comprises any paper, books, photography, microfilm, map, drawing, chart, magnetic tape, computer print-out and any other machine readable records. However, efficient and effective records management must begin with the establishment and implementation of records management programme. Popoola (2001) viewed records management programme as a set of related activities or tasks that are directed towards achieving the effectiveness and economy in managing records through their life-cycle, that is, records creation, active records, semi-active records, inactive records and records disposition.

Objectives of the study

The main purpose of this study is to examine the management and preservation of records in some selected hospitals in Lagos State. The specific objectives of the study are to:

- Ascertain health records available in the selected hospitals
- Find out the mechanisms put in place for effective management of records in selected hospitals
- Determine the preservation methods/techniques applied in keeping records in the selected hospitals.

Research Questions

The following research questions will be addressed in the study

- What are the health records available in the selected hospitals?
- What mechanisms are being put in place for effective management of records in selected hospitals?
- What are the preservation methods/ techniques applied in keeping records in the selected hospitals?

Scope and Delimitation of the Study

The study sets out to investigate the preservation and management of health records in two selected hospitals in Lagos State by assessing theiravailable health records; these consist of: Nigeria Army Reference Hospital, Yaba and Ajayi Medical Centre, Ikorodu; both in Lagos State. While General hospitals and other private owned health institutionsin Lagos State were not covered for the study.

Significance of the Study

The study will contribute to the body of literature on preservation and management of medical records in Nigerian Hospitals. It will also provide a more effective and reliable tool for improving the management of records in the hospitals. Besides, it will provide a detailed analysis of the types of records kept in the hospital as well as the preservation/management practices that are currently in place cum the challenges encountered in record handling in Nigerian Hospitals. Finally, it is expected that it will provide a direction for the remedy to the problem of record preservation and management in the Hospitals surveyed.

Literature Review

The National Hospitals Office (2007) refers to healthcare record as all information collected, processed and held in both manual and electronic formats pertaining to the patient and patient care. It includes demographics, clinical data, images, unique identification, investigation, samples, correspondences and communications relating to the patient and his/her care. The healthcare record is a legal document designed to provide an overview of the patient's state of health before, during, and after a particular therapy.

Also, hospital deals with the life and health of its patients. Good health care relies on well-trained doctors and nurses and on high-quality facilities and equipment. Good health care also relies on good record keeping. Without accurate, comprehensive up-to-date and accessible patient case notes, medical personnel may not offer the best treatment or may in fact misdiagnose a condition, which can have serious consequences. Associated records, such as X-rays, specimens, drug records and patient registers, must also be well cared for if the patient is to be protected. Good records care also ensures the hospital's administration runs smoothly: unneeded records are transferred or destroyed regularly; keeping storage areas clear and accessible; and key records can be found quickly, saving time and resources. Records also provide evidence of the hospital's accountability for its actions and they form a key source of data for medical research, statistical reports and health information systems. (Roper & Millar, 1999)

However, records management in hospital is the systematic and consistent control of all records throughout their lifecycle (Roper & Millar, 1999). The authors reiterated that record management in hospital should include: systematic: records needed to be managed in a planned and methodical way; consistent approach: records of the same kind should be managed in the same way. Whether in electronic or paper-based, the management of the record must be consistent; consistency over time: managing records is always vital whether resources are adequate or scarce; Control: Organizations need to control how records are produced, received, organized, registered, stored and retrieved, retained, destroyed or permanently preserved; and all records i.e.all documents, active and inactive, formal ones and informal regardless of the medium in which they are held.

Consequently, inaccurate or irrelevant records cause constant confusion, and they could even have serious or shocking clinical or legal consequences. Poor organisation of records leads to inefficiency, wastes time, means poor communication and decision making across the Trust and it can also cause serious trouble if important or vital records cannot be readily located. Poor storage of records wastes space and money and can cause a health and safety hazard. A lack of organisation means trivial records are kept longer than necessary. Uncontrolled clear-outs can throw away important records and poor disposal of records takes huge security risks. To sum it up, patient care will be adversely affected if correct records are not properly maintained or if patient records are inadequately managed (York Hospitals NHS Trust, 2014; Maxwell-Stewart, Sheppard & Yeo, 1996).

Therefore, awell-structured and effective records management programme, covering all departments and all records irrespective of media, should be the aim of every hospital. To comply with good records management code, Maxwell-Stewart *et al* (1996) posited that all hospitals should ensure that:Complete and accurate records of the hospitals' activities and decisions pertaining to patient care are created as soon as possible after the event; Each patient record is registered on the hospital information system; New information (whether created internally or received from elsewhere) is associated to its correct file title; Records are attached in the appropriate order for that file; non-record documentary material, where appropriate, is associated with the official file; Records are kept secure and cannot be tampered with; Patient confidentiality is maintained at all times; All areas used for the storage of records are free of obvious hazards, are protected from fire and flooding, have stable levels of temperature and humidity, and are kept clean and tidy; When a file has been closed, nofurther documents may be added; All documents received for filing should bear the appropriate file number in which the record is to be filed; Paper clips and pins must be removed from papers before filing, as these can damage the paper, and when rusted can be a health hazard; File covers should provide adequate protection for papers, and should be replaced if they become torn or damaged; Files must not contain any loose papers; Avoid duplication of papers only one copy of papers need be filed; Files should not start with a paper referring to another paper that is not in the file (copy from another file if necessary); Everyone has a responsibility to ensure that all records are put in the correct order in the appropriate files; Staff member, who initiates a document, is responsible for filing it, or ensuring that it is filed; also, staff member who issues a

document for comment or a form for completion, must ensure that a copy is placed on file; and If replies or comments are received in response to this document, these replies/ comments must also be filed. However, in order to solve the problem brought about by the paper-based health record, an electronic-based format has to be introduced. Thus, World Health Organization (2012) posits that electronic patient information systems have the potential to improve health by giving health professionals improved information about their patients. They can also improve the quality of health care and help control costs through improved efficiency.

Therefore, a large proportion of the data required for information management purposes is derived from activities taking place within the hospital, and not least from the various interactions between hospital staff and patients. There is often a requirement for summary information about the numbers of patients attending the hospital in a given year, or the numbers who fall within particular age groups or live in particular districts of the country (Adeyemi, 2012).Data on patients' diagnoses can be collected using tally sheets, and in many hospitals out-patient morbidity statistics are derived from data collected this way in the various clinics. Particularly in the case of in-patients, however, data can be obtained more reliably from the patients' casenotes, where the clinicians' final diagnoses should be recorded. Each diagnosis can be classified in accordance with a recognized disease classification scheme (Victoria Public Record Office, 1987).

The creation and management of hospital records is essential, hence, the first issue to address is whether to retain casenotes at the hospital or give custody of them to the patient. However, Brigthwit (2007) in Adeyemi (2012) recommends retaining case-notes at the hospital for proper evaluation and to serve as reference point for medical support for patients. Certain types of records relating to individual patients must be stored separately from his or her case-note file, either because of their format or because they require storage in special conditions. Examples are X-ray films and pathological specimens and preparations. It is important not only that these special format materials can be linked with the rest of the documentation for the same patient, but also that each item, whether an X-ray, other diagnostic test or laboratory preparation, can be individually identified (Adeyemi, 2012).

X-ray films are large in size and weight, and are best kept in stiff, standard-format envelopes or packets. There are several different ways of identifying individual X-rays, but the simplest is to rely on the date of the X-ray and the patient's name and number. Whether the patient has been referred to the hospital by an external medical practitioner, or whether the X-ray or test has been requested from within the hospital, the patient should be registered before the X-ray is made. Requests for X-rays should be made on a standard form.

The design of the form should include designated spaces for the patient's name and unitary file number, as well as the date of the request and the name, signature and department of the requesting clinician.Patient registers are kept in departments throughout the hospital. Characteristically, such registers are kept in bound or loose-leaf volumes, with horizontal lines to mark off the data about each patient, and columns to record appropriate details about the patient and his or her diagnosis, treatment or progress through the hospital or the department concerned. There must be a system for storing and retrieving registers once they have been closed. For example, ward registries when full will need to be transferred to the records department where they may be arranged by ward and, within ward, chronologically. Drugs are valuable commodities in any hospital. Comprehensive record keeping is necessary to provide an audit trail in the event of error in the prescription, dispensing or administration of drugs, or in case of misuse or theft of drug supplies. In addition, full records of drug trials must be kept.

Copies of order forms for stock, and all delivery notes, should be kept for an agreed number of years. The management of minutes, reports and files of correspondence and working papers is crucial and the principles and practices set out there will be broadly applicable to administrative records in hospitals. However administrative filing systems in hospitals will usually be on a much smaller scale than those in central government ministries.Registration of individual documents is not usually practice in hospital administration, while file titles and classification and coding schemes can often be much simpler than in the civil service context.

Like other institutions, hospitals produce financial records, which in a paper-based system generally comprise series of accounts such as ledgers and cash books together with supporting documents (invoices, delivery notes, purchase orders, receipts) and payroll records. Hospitals that are responsible for their own personnel functions, educational records of staff, files for current and former staff as well as nursing activities are kept. It may also be necessary to keep separate records relating to recruitment, staffing structures, remuneration schemes and so on. Some hospitals also keep details of individual staff on index cards, in registers, on microfilm or fiche, or in electronic databases.

Research Design and Instrument

The research design that was used for this study is Ex-post facto design. The variables of the study are already in existence, so they only need to be observed in their natural occurrences, thereby the independent variables were not manipulated.

Population and Sample Size of the Study

The targeted population of this study wasthe entire employees of the selected hospitals. This includes Doctors, Nurses, Health Record keepers, Specialists, Admin. Officers, Clerks, Personal Assistants, Accountants and Cleaners. The total enumeration method was used to select 70 respondents as sample size for the study. The classified respondents are presented in the table below:

Research Instrument

The researchers designed questionnaire instrument for this research work and it is divided into the following sections: A - Demographic Information; B - Health records available in the selected hospital; C - The preservation technique applied in keeping records in the selected Hospital; and D- The probable measures of improving the preservation of health record in the selected hospital.

Table 1. Distribution of respondents from the selected hospitals

Hospital	Doctor	Health record keeper	Specialist	Admin.Officers	Cleaners	AccountOfficer	Total
Ajayi Medical Centre, Ikorodu	4	2	6	4	4	3	23
Army Hospital, Yaba	8	4	10	12	8	5	47
Total	12	6	15	16	12	8	70

Method of Data Analysis

The statistical methods used by the researchers for the analysis of data comprise of simple percentage, frequencies, mean and standard deviation.

Data Analysis and Discussion

This chapter section deals with the presentation and discussion of results. Descriptive statistical tools of frequency count and percentage were used for testing the research questions.

Demographic Data

Table 2. Distribution of respondents by gender

Sex	Frequency	Percent
Male	34	48.57
Female	36	51.43
Total	70	100

Table 2 above shows the distribution of respondents by gender. The result indicates that 34 (48.57%) of the respondents are male while 36 (51.43%) are female. By implication, the majority of the respondents surveyed are female.

Table 3. Distribution of respondents by marital status

Marital Status	Frequency	Percent
Single	25	35.71
Married	35	50
Widow	10	14.29
Total	70	100

Table 3 shows the distribution of respondents by marital status. The results show that 25 (35.71) are single, 35 (50%) are married while 10 (14.29%) are widow. The results indicate that majority of the respondents are married.

Table 4. Distribution of respondents by working experience

Working Experience	Frequency	Percent
0-5yrs	15	21.43
6-10yrs	10	14.29
11-15yrs	5	7.14
16-20yrs	30	42.86
21-25yrs	8	11.43
Over 25yrs	2	2.86
Total	70	100

Table 4 above shows the distribution of respondents by working experience. The results indicate that 15 (21.43%) had working experience of 0-5yrs; 10 (14.29%) are within the range of 6-10yrs; 5 (7.14%) had 11-15yrs working experiences; 30 (42.86%) had 16-20yrs; 8 (11.43%) had 21-25yrs while 2 (2.86%) had more than 25yrs of working experience.

Data Analysis by Research Questions

Research Question 1: What are the available health records in the selected hospitals?

Table 5. Available Health Records in the selected hospitals

Hospital Records	Frequency	Percentage
Admission Register	100	11.34
Patient case-notes	97	11
Nursing and wards	93	10.54
x-ray films	91	10.32
Financial records	87	9.86
Personnel records	87	9.86
Patient indexes/records	85	9.64
Pharmacy/drug records	84	9.52
Pathological specimen	83	9.41
Central administrative records	75	8.5
Total	882	100

Table 5above shows the available health records in the selected hospitals. The results indicate that; admission register has 100 records (11.34%); patient case notes has 97 records (11%); nursing and wards has 93 records (10.54%); x-ray films has 91 records (10.32%); finance has 87 records (9.86%); personnel has 87records (9.86%); patient indexes has 85 records (9.64%); pharmacy/drug has 84 records (9.52%); pathological specimen has 83 records (9.41%) and central administrative has 75 records (8.5%) constitute the available health records in the selected hospitals in Lagos State.

Research Question 2: What are the mechanisms put in place for effective management of records in hospitals surveyed?

Table 6. Mechanisms put in place for effective management of records in hospital surveyed

Data integrity/security	Frequency	Percent
Care in handling hospital records	95	15.97
Confidentiality of records	93	15.63
Security of records	93	15.63
Records are kept away from water contact/ bad weather	91	15.29
Movement register for document	86	14.45
Use of indexing card or tagging of records for easy retrieval	82	13.78
Regular control of insect attack	55	9.24
Total	595	100

Table 6 shows the mechanisms put in place for effective management of records in the surveyed hospitals. The results show that; care in handling hospital records is95 (15.97%); confidentiality of records is 93 (15.63%); security of records is 93 (15.63%); and records kept away from water contact/ bad weather is 91 (15.29%) constitute the major mechanisms put in place for effective management of records in surveyed hospitals. Other mechanisms include: movement register for document is 86 (14.45%); use of indexing card or tagging of records for easy retrieval is 82 (13.78%) and regular control of insect attack is 55 (9.24%).

Research Question 3: What are the preservation methods/ techniques applied in keeping records in the surveyed hospitals?

Table 7. Preservation methods/ techniques applied in keeping records

Preservation Methods	Frequency	%
Computerization	93	7.31
Binding	90	7.07
Air Conditioner	89	6.99
Vinyl disc	88	6.91
Video disc	87	6.83
Lamination	86	6.76
Microgroove disc	84	6.60
Shellac disc	83	6.52
Mylar	79	6.21
Floppy discs	79	6.21
Magnetic tapes	78	6.13
Cellulose acetate	78	6.13
Microfilming	67	5.26
Bar pen	60	4.71
Encapsulation	45	3.53
Magnetic Ink Character Ink	44	3.46
De-acidification	43	3.38
Total	1273	100

Table 7 shows the preservation methods/ techniques applied in keeping records in the surveyed hospitals. The results indicate that: computerizationhas 93 records (7.31%); binding has 90 records (7.07%); air conditioner has 89 records (6.99%); vinyl disc has 88 records (6.91%); video disc has 87 records (6.83%); lamination has 86 records (6.76%) microgroove disc has 84 records (6.60%) and shellac disc has 83 records (6.52%) constitute the main preservation methods/ techniques applied in keeping records in the surveyed hospitals.Other preservation methods/ techniques applied in keeping records in the surveyed hospitals include mylarhas 79 records (6.21 %); floppy disc has 79 records (6.21%); magnetic tape has 78 records (6.13%); cellulose acetate has 78 records (6.13%); microfilming has 67 records (5.26%); bar pen has 60 records (4.71%); encapsulation 45 records (3.53%); magnetic ink character ink has 44 records (3.46%) and de-acidification has 43 records (3.38%).

Summary of Findings

The summary of findings is as follows

- The result revealed that needed health records are available in the surveyed hospital even though the proportion of availability varies i.e. admission register has 100 records ; patient case note has 97 records; nursing and ward has 93 records ; x-ray has 91 film records; while other records are less than 90 records
- The analysis of mechanism put in place for effective management of records in surveyed hospitals revealed that care in handling hospital records, Confidentiality of records, security of records and avoidance of water contact/bad weather are major mechanism employed in the hospitals.
- The major preservation methods/techniques applied in keeping records in surveyed hospitals are computerization, binding and lamination.

Conclusion

Management and preservation of health records is an integral part of medical service delivery as it goes a long way in enhancing better service delivery as well as serving as a basis for following patient health trend overtime. It also serves as a basis for effecting referral service. Hence effort should be made to ensure regular preservation and management of hospital records. Besides, the knowledge and skill of hospital record management and preservation should be incorporated into the hospital staff through training and re-training, formulation of record management policies, infrastructural development, proper funding, computer skill training, etc as these will help to ameliorate the problem of poor hospital record preservation and management and its attendants negative impact on health care delivery.

Recommendations

Based on the above findings, the study therefore recommends:the provision of infrastructural facilities in hospitals for record preservation; formulation of preservation policies and application of ICT in management and preservation of hospital records.

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