

Full Length Research Paper

Medical record system in Nigeria: observations from multicentre auditing of radiographic requests and patients' information documentation practices

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Medical requests as made on simple structured forms worldwide could serve as a reliable Medical Records (MRs) to meet requirements for researches if properly documented and handled. This study sought to identify correctable deficiencies (omissions and inconsistencies) in medical requests filling and medical records handling. Settings and Design: Six Nigerian tertiary hospitals. Radiographic requests for the month of December, 2009 were examined for documentation of patients' names, hospital number, age, sex, requesting doctor's identities, consultant in charge, patient sources, Clinical information/history, diagnosis and date of request. Medical records handling and archiving were assessed by examining the unit record books of Radiology and other departments of the hospitals. These were compared for mutilations, missing pages and storage. Statistical analysis used: SPSS 15.0 for Windows. In all centres, there were variable non-documentation of patients' age and sex, hospital number, doctors' names and date of request. The names of patients and consultants in charge were commonly indicated. Unit record books generally suffered mutilations and in 27.2% - 33.2% of the requests, clinical information was inadequate or not provided. Radiological requests information provision and handling in our tertiary hospitals were inadequate. Therefore, we encourage regular auditing, training and re-orientation of medical personnel for good record practices, and discourage the use of large volume record books to reduce paper damages and sheet loss from handling. Electronic back up of records is a must at every registration unit; else what is recorded today may neither be useful nor be available tomorrow.

Keywords: Medical record, Nigeria, Radiographic requests, record handling, record archiving

INTRODUCTION

Worldwide medical requests are generally made on simple structured form. If properly filled and handled, it could serve as a reliable and useful medical records (MR) for continuing patient care; protection of the legal interest of the patients, the physician and the Hospital; and meets requirements for standard and researches (Abdulkadir et al., 2010; Wald et al., 1994, Girish and Richard, 2006; Faramarz et al., 2008; Bateman et al., 1999). Incomplete,

illegible handwriting, use of confusing abbreviations and inappropriate request could limit the value of medical requests (Abdulkadir et al., 2010; Girish and Richard 2006; Faramarz et al., 2008; Bateman et al., 1999; Shocket, 1995; Parkes, 2001). With these considerations in mind, we carried out quantitative and qualitative analyses of radiographic requests and record archiving in six Nigerian tertiary hospitals to identify specific deficiencies, inconsistencies and omissions in recording as an indirect projection into problems of Hospital MR system in Nigeria.

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Table 1A. comparing documentation of some basic and specific variables

Variables	CENTRE 1		CENTRE 2		CENTRE 3		CENTRE 4		CENTRE 5		CENTRE 6	
	Documented	Not documented	Documented	Not documented	Documented	Not documented	Documented	Not documented	Documented	Not documented	Documented	Not documented
Age	211/ 58.0%	152/ 42.0%	187/ 58.8%	131/ 41.2%	163/ 60.1%	108/ 39.9%	237/ 74.3%	82/ 25.7%	242/ 81.2%	56/ 18.8%	273/ 90.7%	8/ 9.3%
Sex	354/ 97.5%	9/ 2.5%	312/ 98.1%	6/ 1.9%	263/ 97.0%	8/ 3.0%	206/ 64.6%	113/ 35.4%	296/ 98.7%	4/ 1.3%	300/ 99.7%	1/ 0.3%
Hospital Number	329/ 90.6%	34/ 9.4%	275/ 86.5%	43/ 13.5%	242/ 89.3%	29/ 10.7%	274/ 85.9%	45/ 14.1%	272/ 90.7%	28/ 9.3%	276/ 91.7%	25/ 8.3%
Date of request	337/ 93.1%	26/ 6.9%	248/ 78%	70/ 22%	245/ 90.4%	26/ 9.6%	306/ 95.9%	13/ 4.1%	293/ 97.7%	7/ 2.3%	294/ 97.7%	7/ 2.3%
Requesting Doctor's identities	38.0% Appropriate worst @ GOPD		60.1% Appropriate worst@ GOPD		35.4% Appropriate worst@ GOPD		Nil Appropriate		76.3% Appropriate worst @ GOPD		0.3% Appropriate	

SUBJECTS AND METHODS

Radiographic requests and record books of six Nigerian Tertiary Hospitals (three Federal Medical Centres and three Teaching Hospitals) having sufficient specialists for good medical practices were examined. The objectives were to observe radiographic request practices to identify correctable omissions or deficiencies in recordings and handlings. We therefore scrutinized request forms for the accuracy and inclusion of the following data: patients' full names, hospital number, age, sex, requesting doctor's identities, consultant in charge, patient sources, clinical information/history, working diagnosis, date of request, request appropriateness and request form design. Units record books of Radiology and some other departments that include Theatre, Paediatrics, Medicine, Outpatient, Laboratory and Central record units of all the centres were examined and compared for mutilations, missing pages and storage. Statistical analysis was done with SPSS 15.0 for Windows.

RESULTS

In five of the six centres, radiographic request form comes as single page and in triplicate in only one centre.

In all centres, patients' names and consultants in charge (especially where patients emanated from the wards) were stated on all request forms. However, there were variable non-documentation of patients' age, sex, and hospital number, date of request, requesting doctor's identities and the clinical diagnoses (Table 1a, 1b and 2) in different centres. Generally, units' record books (registers) were in bad state (Figure 1) while archives were in shambles without an appreciable difference between the Federal Medical Centres and the Teaching Hospitals. Radiographic reporting was done on the request card or form in all the centres. Request card in Centre 4 have provision for requesting doctor's signature only rather than names and signature (Table 1a and b)

DISCUSSION

Radiographic request is an information or instruction and not all who will carry out the instructions have adequate clinical and patient's background. Therefore, request form must be filled completely and accurately to provide detailed information that will justify administration of ionizing radiation on any human, to be meaningful in patient care and to serve as good medical record when it is reported. Inappropriately filled radiographic request

Table 1B. comparing documentation of some basic and specific variables

Variables	CENTRE 1		CENTRE 2		CENTRE 3		CENTRE 4		CENTRE 5		Centre 6	
	Documented	Not documented	Documented	Not documented	Documented	Not documented	Documented	Not documented	Documented	Not documented	Documented	Not documented
TOTAL FORMS STUDIED	363		318		271		319		300		301	
Age	58.0%	42.0%	58.8%	41.2%	60.1%	39.9%	74.3%	25.7%	81.2%	18.8%	90.7%	9.3%
Sex	97.5%	2.5%	98.1%	1.9%	97.0%	3.0%	64.6%	35.4%	98.7%	1.3%	99.7%	0.3%
Hospital Number	90.6%	9.4%	86.5%	13.5%	89.3%	10.7%	85.9%	14.1%	90.7%	9.3%	91.7%	8.3%
Date of request	93.1%	6.9%	78%	22%	90.4%	9.6%	95.9%	4.1%	97.7%	2.3%	97.7%	2.3%
*Requesting Doctor's identities	38.0% Appropriate		60.1% Appropriate		35.4% Appropriate		Nil Appropriate		76.3% Appropriate		0.3% Appropriate	
	* Documentation of the requesting doctors' identity was assumed appropriate when name and signature are provided. Inappropriate documentation was worst @ GOPDs											

Table 2. Requesting Doctor's Identity Documentation

		Documentation of Requesting Doctor's Identities by Centres in Percentage (%)					
		CENTRE 1	CENTRE 2	CENTRE 3	CENTRE 4	CENTRE 5	
Doctors' Identification	Names & Signature	38.0	60.1	35.4	0.0	6.3	0.3
	Names only	15.7	15.0	16.6	9.1	5.0	1.0
	Signature only	44.1	16.7	45.4	77.4	6.0	97.3
	Initials only	0.0	3.5	0.0	0.3	12.7	0.7%
	Nil	2.2	4.7	2.6	13.2	0.0	0.7%
TOTAL		100	100	100	100	100	100

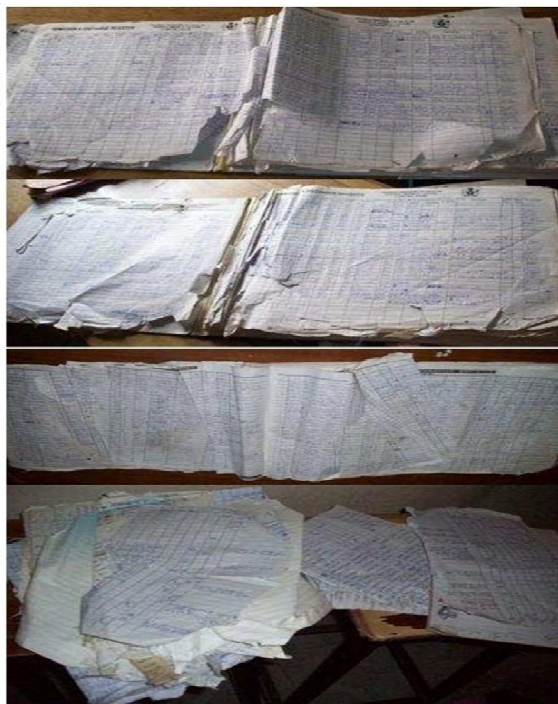


Figure 1. Some sample unit record books from different centres showing different degree of mutilation.

form may not give sufficient justification for radiographic examinations resulting in high rate of request rejects, improper or unnecessary exams, high rates of repeats and the attendant radiation effects on patients, staff, hospital economy, equipments, increased work load on staff. Health practitioners must remember that Radiology department in some instances serves several departments, clinics or hospitals and must therefore ensure that all requests are genuine, appropriate and justifiable. When in doubt, we advocate collaboration between the requesting doctor and the radiologist. On the other hand, Radiology department should not only reject all inappropriately filled forms but should educate/correct the staff involved.

Auditing, a tool employed in this study, provides quantitative and qualitative means of checking Medical Records for specific deficiencies, inconsistencies and omissions, which may signify that the records are inaccurate or incomplete (Abdulkadir et al., 2010).

An incomplete MR is often not useful in medical researches since obtaining data from such collection for retrospective studies will be a nightmare. The used medical records for research have played a critical role in medical progress (Wald et al., 1994; Girish and Richard 2006; Bateman et al., 1999; Shocket, 1995; Marik, 2002).

The piteous state of units' record books (registers) and archives without an appreciable difference between the Federal Medical Centres and the Teaching Hospitals in

this study signify that attitudes to recordings and handlings are similar in Nigeria. Attitude of user departments and record departments largely and to some extent that of the patients contributed.

In the presence of the observed deficiencies in our paper based medical record system (see Tables 1 and 2 and Figure 1), it is not out of place to conclude that paper based medical record (PMR) have a negative impact on optimization of information management in health care. It could reduce productivity and quality of care provided because records may sometimes be unavailable, important information may not be written on them, and the handwriting of a health professional may not be legible (Abdulkadir et al., 2010; Faramarz et al., 2008; Melton, 1997). In addition, accessing PMR may be a time-consuming work, since the paper can be in only one place at a time, and it cannot be shared between two or more specialists from different places simultaneously unlike electronic medical record (EMR) (Melton, 1997). Paper mutilation from inappropriate handling is another issue (Abdulkadir et al., 2010). Thus, we make case for introduction of EMR in all admission units and in the backing up of investigation results.

The poor attitudes to recording and archiving in our tertiary hospitals call for concern. Unless good record practices is imbibed and the use of large volume record books that will increase paper damages and sheet loss from handling is discouraged, what is recorded today may neither be useful nor be available tomorrow. Hence,

we must strive to make appropriate medical recording and good record handling a habit today, because our tomorrow may depend on it.

Periodic review of records, an inexpensive and efficient tool to audit medical records for appropriateness and completeness, should be institutionalized. In addition, there is the need to set up regulatory standard for hospital medical records including radiological request forms, the need for appropriate training and re-orientation of records/registration officers, and the need to brace up supervisory role in hospitals to guarantee continuing good clinical practices in the entire health system and particularly among younger doctors. Large volume registers should be discouraged to reduce the rate of mutilation and missing pages.

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