

## Clinical governance in action

# A random cross-sectional observational study on 100 orthopaedic inpatient case notes in order to evaluate their filing standards

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### ABSTRACT

Properly maintained medical records carry a long-lasting medico-legal significance. The Royal College of Surgeons of England recommends that the hospital records must be maintained in a tidy condition and proper maintenance ensured. The King's Fund filing guidance suggests that no papers should be left loose in the notes, and records should be bound and stored properly, so that loss of documents is minimised. We performed a random cross-sectional observational study on 100 case notes of hospital inpatients in an orthopaedic firm in a university teaching hospital of the UK, with regard to their existing filing standards.

We found that the quality of filing standards of case notes is poor. Good filing is important for the longevity of the files. Voluminous loading with unnecessary contents in the file and its pocket leads to premature file fracture and pocket perforation. Better education of the junior and nursing staff and ward clerks, and regular auditing of medical records could improve this.

**Keywords:** case notes, filing standards, orthopaedic firm

### Introduction

Both hand-written and computer-based medical records are important in the delivery of quality healthcare. Manual records are considered as more authentic evidence in medico-legal proceedings and their reliability judged on the basis of conciseness, accessibility and organisation of information.<sup>1</sup> The virtual or paperless or computer-based patient record (VPR or CPR) is an emerging technical possibility, enabling collection and management of all the relevant health data; however, unscrupulous manipulation and unwanted loss due to technical faults remains a risk.<sup>2</sup>

The quality of medical record keeping is being subjected to increasingly close scrutiny.<sup>3</sup> Accurate

medical record keeping is an important element of risk management; poor medical records may prejudice possible medico-legal cases.<sup>4</sup> Properly maintained medical records carry a long-lasting medico-legal significance.

Good filing standards are necessary to keep manual records safe and secure, preserving the patients' data from inadvertent loss. There are no studies published in the literature assessing and quantifying the filing standards of manual case notes. The aim of this study was to randomly assess the overall filing standards of a representative sample of hospital inpatient medical records in terms of their file physique, and the condition and contents of the inner pocket, and to analyse whether the paper arrangement was chronological for sequential admissions.

## Methods

A random cross-sectional observational study was carried out by the first author (HS) on 100 case notes related to elective and emergency inpatients admitted to an orthopaedic firm in a university teaching hospital of the UK. As the case notes were selected and reviewed randomly, this sample size was thought to be adequate and representative for the index study aiming to analyse the existing facts.

The variables studied were the condition of the filing cover of the case notes, the condition of the inner pocket, the contents of the inner pocket, paper arrangement in the first and second half of the file, chronological paper arrangement of sequential admissions, location of the case notes in the ward trolley at the point of study, and the status of current admission clerking papers.

## Results

One-quarter of the case notes and 26% of the inner pockets of the case notes were partially or completely torn (see Table 1).

Five case notes had no identity labels for the patients in their inner pockets. In addition, the inner pocket had consent forms, current and previous admission clerking papers in folded form, investigation requests, diagnostic reports, discharge summaries, clinic letters, general practitioner (GP) referral letters, X-rays, photographs and miscellaneous sheets (see Table 2).

Fourteen per cent of case notes had non-chronological paper arrangement in the file. Loose papers were found in 45% of case notes. Five per cent of case notes were not located in the designated place in the ward trolley (see Table 3). In 71% of case notes, there was more than one fault.

**Table 1** The status of the file cover and inner pockets

Status	Number of filing covers of the case notes ( <i>n</i> = 100)	Number of inner pockets of the case notes ( <i>n</i> = 100)
Intact	74	74
Partially torn	23	26
Completely torn	3	0

**Table 2** Analysis of the inner pocket contents

Contents of inner pocket	Number of case notes ( <i>n</i> = 100)
Investigation reports	59
HMR forms	55
Diagnostic request forms	45
Clinic letters	21
Patients' personal papers	17
Nursing notes	15
GP letters	9
Consent forms	8
X-rays	6
Routing cards	5
Medical enquiry forms	5
Clinical photographs	4
Medical record tracers	3
Previous admission notes	3
Arthroscopic prints	2
Anaesthetic notes	2
Memoranda	2
Current admission notes	1
Theatre data record sheet	1
Ambulance sheet	1
Referral letter	1
No identity labels	5

## Discussion

Keeping the case notes in a properly arranged and well secured intact file is of crucial importance to prevent the data from inadvertent loss. Good filing is an adjunct to a long life expectancy for case notes.<sup>5,6</sup> We have found no studies assessing the filing standards of manual case notes. This study has highlighted that the quality of filing standards of case notes is poor.

The Royal College of Surgeons of England has published guidelines for clinicians on keeping medical records and notes, and recommends that the hospital records must be maintained in a tidy condition and

**Table 3** Review of the case notes to analyse the chronological paper arrangement, location and status of current admission clerking papers

Findings in the study	Number of case notes ( <i>n</i> = 100)
Improper paper arrangement	
In first half of case notes	5
In second half of case notes	5
Non-chronological paper filing	1
Loose papers from previous admissions	19
Loose papers from current admissions	17
Papers not in file, but in folder	4
Papers neither in file, nor in folder	1
Files in the wrong slot in the trolley	5

proper maintenance ensured. Adequate arrangements should be made by hospitals for staff to support this activity. Furthermore, policies should be established locally to safeguard information in the records against loss, damage, or use by unauthorised persons.<sup>5</sup> King's Fund filing guidance suggests that no papers should be left loose in the notes during admission. Current admission papers should be filed consecutively.<sup>6</sup> Properly made and maintained records will set out the optimal content and clear instruction regarding filing of documents and will ensure that records are bound and stored so that loss of documents is minimised.<sup>6</sup>

At this time, it is not clear whether a manual or computerised system is better. The VPR, the union of all collections of health-relevant data that accumulates over a person's lifetime in any institution that that person has contact with, is a technical possibility in the age of networked computers. Stratmann *et al* (1982) studied the two record systems, assessing a sample of 69 matched pairs of patient records drawn from two different ward settings. No difference was perceived between the two records with respect to the reliability of information or the analytical reasoning of providers. Information in the Problem Oriented Medical Information System (PROMIS) records was judged to be slightly more thorough. The format of the manual record was judged better on the basis of

conciseness, accessibility, and organisation of record information.<sup>2</sup>

The hospital record is a primary source of information to the clinicians who have a major responsibility for patient management. In summary, information from medical records is employed for immediate and long-term patient management, medical research, epidemiological surveys, compilation of morbidity statistics, data checking and cleaning, clinical teaching, medical audit, the assessment of outcome indicators, litigation, and data subject access requests.<sup>6</sup> There are two aspects of overall medical record assessment: informational content and structural format. Informational content is evaluated by thoroughness, reliability and analytical reasoning.<sup>2</sup> This study has addressed only the structural aspect, i.e. the filing condition and filing content of the case notes.

Evidence suggests that implementing a multi-step model could lead to a gross reduction in the volume of reports filed after discharge.<sup>7</sup> Quality healthcare needs a quality document system. Standards of record keeping in the NHS are frequently and justifiably the subject of adverse criticism. However, the NHS is not unique in having problems in managing either paper or electronic files.<sup>8</sup>

It has been suggested that all hand-written notes, laboratory reports, and correspondence should be filed separately in strict chronological order, while inactive notes and ephemera should be identified and destroyed, subject to medico-legal constraints.<sup>9</sup> In this study, we found one in four case notes and their inner pockets were torn (see Table 1). The abnormal location of the consent forms, clinic letters, and important diagnostic reports in the inner pockets make them highly vulnerable for inadvertent loss (see Table 2). Nursing notes in the first half of the file and clerking notes in the second half of the file indicate lack of attention while filing. Excessive unwanted papers in the inner pocket lead to fatigue failure of the files and the inner pockets. Patients' personal papers, investigation request forms, duplicated investigation reports (computer printouts as well as pathology reports) are unnecessary and should be removed by a responsible team member of the unit during the current hospital stay of the patient. A supplementary file should be prepared in advance before case notes tear apart. Serial investigations can be written down in a common chart. Appropriate filing of loose papers and timely replacement of torn and bulky files can make a significant improvement in maintaining good filing standards (see Table 3).

The life cycle of a record flows from stage one: creation; stage two: use; stage three: storage and stage four: either disposal or archiving.<sup>2</sup> Preservation of the records forever may not be a viable option. The minimum retention period for all routine medical

records recommended by the Department of Health is eight years after the conclusion of treatment, or six years after the date of the last entry, or three years after death.<sup>10</sup> Bulky hospital patient case records create problems with their retrieval and storage. An assessment should be made of the physical condition and completeness of the records from time to time. With well maintained filing status, the record preservation can be ensured. The findings from this study could be extrapolated to generalise the facts across hospitals and over the different regions in the NHS. However, there is an obvious need to conduct more research to review the medical records in different specialities and in several NHS hospitals across the region. A prospective comparison study between manual and electronic records should be contemplated to know whether a manual or computerised system is better.

## Conclusion

In conclusion, paper patient records are proving increasingly inadequate as well as poorly maintained to meet the modern information needs. We found that the quality of filing standards of case notes is poor. Voluminous loading with unnecessary contents in the file and its pocket leads to premature file fracture and pocket perforation. Better education of the junior and nursing staff and ward clerks, and regular auditing of medical records could improve this.

Good filing is important for the longevity of the files. Theoretically, electronic records can store unlimited data, which are easily traceable and accessible. The information technology for storing all the patients' hospital records is improving, but is still in an early phase in the UK. By investing in a computerised patient record system, practices can optimise revenue by saving labour costs associated with record retrieval, photocopying, filing, and other processes. Computerised patient records can improve physician access to patient information and thereby improve patient care and management of outcomes management.

## REFERENCES

- 1 Baigrie RJ, Dowling BL, Birch D and Dehn TC. An audit on the quality of operation notes in two district general hospitals. Are we following Royal College Guidelines? *Annals of the Royal College of Surgeons of England* 1994; 1(suppl.):8–10.
- 2 Stratmann WC, Goldberg AS and Haugh LD. The utility for audit of manual and computerized problem-oriented medical record systems. *Health Services Research* 1982; 17(1):5–26.
- 3 Reed MW and Phillips WS. Operating theatre lists – accidents waiting to happen? *Annals of the Royal College of Surgeons of England* 1994;76:279–80.
- 4 Bateman ND, Carney AS and Gibbin KP. An audit of the quality of operation notes in an otolaryngology unit. *Journal of the Royal College of Surgeons of Edinburgh* 1999;44:94–5.
- 5 The Royal College of Surgeons of England. *Guidelines for Clinicians on Medical Records and Notes*. London: The Royal College of Surgeons of England, 1994.
- 6 The King's Fund. *Hospital Clinical Records*. London: King's Fund Centre, 1985.
- 7 Reducing the volume of reports filed after discharge in the medical record department at Abbott Northwestern Hospital. *The Quality Letter for Healthcare Leaders* 1993; 5(1):21–3.
- 8 Gould T, Merrett H and Newton C. Hospital records – asset or liability? *Health Services Management* 1994; 90(1):17–18.
- 9 Hamlyn AN. Case notes chaos. *British Medical Journal (Clinical Research Education)* 1987;May 2;294(6580): 1161.
- 10 Department of Health. *For the Record: managing records in NHS trusts and health authorities*. HSC 1999/053. London: Department of Health, 1999.

## CONFLICTS OF INTEREST

None.

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Received 7 March 2004

Accepted 8 March 2004