Management of medical records at the surgical department of a tertiary hospital in Blackpool, UK: Results of an internal audit.

Abstract

Introduction: A medical record a fundamental component of a doctor's roles and responsibilities in providing objective and evidence-based care to his/her patients. It ensures that everyone treating the patients clearly understands the patient's needs. According to Good Medical Practice & Good Surgical Practice guidelines, medical records should be taken in real time and should be accurate, legible, comprehensive, honest, non-judgmental and up-to-date. In this study we audited medical records at the surgical department of our hospital in the UK to assess the practice of medical records taking at the hospital.

Materials and methods: This was a follow-up audit to a baseline audit conducted in April 2021. This study was conducted from 24th January 2022 to 30th January 2022 at the surgical admission unit of Blackpool Victoria Teaching Hospital. A total of 47 sets of records corresponding to 47 surgical patients were randomly selected and assessed in details against pre-determined assessment criteria. Data was analyzed in Microsoft excel software and summarized inform of count and percentages and presented in bar graphs.

Results: A total of 47 sets of records were assessed for completeness based on the selected parameters. Overall, there was improvement in recording patient ID, recording of reviewing physician's name, recording of examination findings, recording of patient management plan, and recording of final National early warning score **(**NEWS). Recording of reviewer name, date, and patient management plan had more than 80% improvement, while the rest were averagely recorded, ranging from 40 to 60%.

Conclusion: The result indicated that documentation in the surgical unit was still inadequate as only three parameters; reviewer name, date and plan were being well recorded. However, there is still a lot of room for improvement.

Key words: Management; medical records; surgical; department; Blackpool; audit.

Introduction

A medical record is a systematic documentation of a patient's medical history and care across time within one particular health care provider's jurisdiction [1]. It is a fundamental component of a doctor's roles and responsibilities in providing objective and evidence-based care to his/her patients, and ensuring that every other colleagues offering care to the patient clearly understands the patients situation and need [2]. Medical records include: handwritten clinical notes, filled electronic medical forms, diagnostic results and machine printouts among others [3]. They form a permanent account of a patient's illness, and are required when hospital undergoes patient care audit, legal challenges in the form of law suits or when a patient transfers to a different health care provider [4]. It is therefore essential that medical records are clear, legible, and accurate to ensure effective communication and the best care possible for the patient.

Good Medical Practice (GMP) guidelines (2019) recommend that medical records be taken in real time and should be accurate, legible, comprehensive, honest, non-judgmental and up-to-date, and enable easy recall of patient information to ensure continuity and follow-up of patients, as well as for future reference such as preparing reports or insurance forms [5]. The guidelines further emphasize that patients' records should be documented daily and in a chronological order to demonstrate continuity of care and response to treatment and should be comprehensive enough to enable a colleague to carry on from where the previous doctor left off. Oftentimes medical records are the only source of truth about a patient's situation and are more reliable than memory.

In surgical practice, good record keeping is equally vital. Good Surgical Practice (GSP) guidelines (2014) equally recommend surgeons to take in real time and keep accurate, comprehensive, legible, and accurate records of all their interactions with patients. It emphasizes that when a surgical team member makes case notes, it should have the patient's identification details, be legibly signed, and show the date, and in cases where the clinical condition is changing, the correct and accurate time should be recorded. The record should be in the name of the most senior surgeon seeing the patient at each postoperative visit. Moreover, all important events and communications with the patient or supporter on prognosis, potential complications or any change in the treatment plan should be recorded as well [6].

Blackpool Victoria Hospital is a Care Quality Commission (CQC) accredited teaching hospital that implements Good Medical Practice. The general surgery department handles cases related to endocrine surgery, endoscopy, gallbladder surgery, hernias, lumps and bumps, repair of femoral, inguinal and lumbar hernias, surgery for hemorrhoids, and varicose vein stripping [7]. As a

critical part of these surgical interventions, proper medical records keeping is paramount at the department, and as such, routine scheduled and unscheduled document audits are conducted by both internal and external quality assurance auditors to ensure accurate, legible, and reliable records are taken and maintained.

In this study we report the results of an internal re-audit of medical documentation and records conducted nine months after the previous audit (April 2021) to ascertain whether significant improvements have been made on the documentation gaps identified in the previous audit.

Materials and methods

This study was an internal audit of the medical records of patients who underwent surgery at the general surgery department of Blackpool Victoria Hospital, UK. The study was conducted from 24th January 2022 to 30th January 2022 at the surgical admission unit. It was a re-audit in follow up to a baseline audit conducted in April 2021. Permission to conduct the study was sought from the hospital administration at Blackpool Victoria hospital. A total of 47 sets of records corresponding to 47 surgical patients were randomly selected and assessed in details against pre-determined assessment criteria. Records of the identified patients taken on the day of admission was were assessed the following day for completeness and capture of the study parameters. All records assessed were only for patients admitted for surgical reasons and not any other reason. The assessment parameters were: Patient ID label OR 3 identifiers, date of admission, time of admission, reviewing physician name, reviewing physician role, name/signature of writing physician, contact details of writing physician, observations noted, examination findings, impression and management plan. These parameters were developed in accordance with the requirement of Good Surgical Practice (GSP) guidelines (2014) [6].

For easy analysis, the parameters were divided into four groups: Patient ID, date of admission, and time of admission in group 1; Reviewing physician's name, reviewing physician's role, writing physician's name, and writing physician's contact details in group 2; Examination findings, impression and management plan in group 3, and recording of National early warning score (NEWS) in group 4.

Data analysis

Data from the study were entered in predetermined proformas and later extracted into excel and cleaned. They were then analyzed using excel software (version 19) from Microsoft Inc. The data were summarized inform of counts, and percentages, and presented in bar graphs.

Results

Patient ID, date of admission, and time of admission

From the proforma, patient ID, admission date and time of admission were the first three parameters assessed. Here 17% of the records had patient ID entered in 2022 compared to only 7% in the 2021 audit. As far as date of admission was concerned, 89% had dates entered, slightly

lower than the 2021 audit which had 90%. Meanwhile, entry of time of admission also reduced to 74% in 2022 from 79% in 2021. **Figure 1**.

Reviewing physician's name, reviewing physician's role, writing physician's name, and writing physician's contact details.

Next we assessed information relating the reviewing physician's name, reviewing physician's role, name/signature of writing physician, contact details of writing physician. The results revealed that recording of reviewing physician's name increased from 97% in 2021 to 100% in 2022. However, recording of the role of the reviewing physician declined from 40% in 2021 to 30% in 2022. Similarly, recording the writing physician's name slightly reduced from 62% in 2021 to 60% in 2022, and so did recording of the writing physician's contact details from 37% in 2021 to 28% in 2022**. Figure 2**.

Examination findings, impression and management plan

We then assessed records pertaining to the findings of the physician, their impression of the case and management plan. Here recording of examination findings increased from 48% in 2021 to 68% in 2022. Similarly, recording the management plan increased from 95% in 2021 to 100% in 2022. On the contrary, recording the physician's impression of the case declined from 55% in 2021 to 51% in 2022. **Figure 3.**

National early warning score (NEWS)

Last, we assessed the recording of national early warning score (NEWS). This is a chart developed by the Royal College of Physicians that improves the detection and response to clinical deterioration in adult patients. It guides a medical worker (in this case surgical staff) to quickly determine how ill a patient is, enabling the staff to take immediate action if needed hence improving clinical outcome of the patient. It is based on the assessment of vital signs as indicated in **Figure 4.** In our audit findings, 9% of the attending staffs recorded the final NEWS score in 2022 compared to 3% in 2021. While 42% recorded the parameter and individual scores in 2022 compared to 57% in 2021. On the contrary, 49% did not record anything compared to 40% in 2021. **Figure 5**.

Discussion

Medical records are patient information that allows health care providers to determine the patient's medical history and provide informed care. They serve as the central repository for planning patient care and documenting every communication among patient and their health care providers and among professionals who are contributing to the patient's care [8]. Medical records ensure documentation of compliance with institutional, professional or governmental regulations, and serve as references in case of any legal challenges resulting from the care given to the patient [9].

In this audit, we assessed the medical records at the surgical department of Blackpool Victoria hospital with the aim of evaluating whether queries raised from the April 2021 audit had been

corrected, and whether staffs at the department were taking all the records required for a given patient. The areas assessed were: Patient ID label OR 3 identifiers, date of admission, time of admission, reviewing physician's name, reviewing physician's role, name/signature of writing physician, contact details of writing physician, observations noted, examination findings, impression and management plan.

Patient ID is the unique identification number or letters or combination of both that is assigned to every individual patient in the hospital and is linked to every record of the patient. Assigning every patient a single ID is important since it allows the patient to be tracked across multiple systems within the hospital [10]. In this audit, attending surgical staffs taking the notes recorded patient ID 17% of the time compared to 7% in 2021. The seemingly low rate of recording ID is probably because at Blackpool Victoria hospital, both paper and electronic record management systems are concurrently in use and so staffs taking notes may take it for granted to record the ID on paper. Having a correct patient ID is important and must be emphasized because in addition to simplifying cross department management of the patient, it also ensures that the surgeon does not operate on the wrong patient which could be catastrophic for both the surgeon and the patient. It also saves ample time for patient coming back for review as the surgeon can quickly pull up their records [11].

Concerning date and time of admission, the audit result showed slight drops in the recording of both parameters in 2022 compared to 2021. This is a laxity that we think should be emphasized on and addressed because both parameters are crucial in tracking patient prognosis. Correct date and time of admission enables the surgical staffs and nurses on duty to correctly follow up when and what time to administer medications to the patient, while also ensuring that the insurance desk or billing staffs calculate the right amount of money the patent will pay for the time spent in admission [12]. Recording date and time may be challenging at night as the surgeons and surgical staffs are sleep deprived and tired. However one study showed that there isn't significant errors in night record taking compared to day time record taking [13]. Similarly, we did not see any difference in the records taken at night compared to those taken during day time in this audit.

To ensure accountability and continuity in a patient's care, the reviewing physician or surgeon is expected to indicate their name and role in the patient's record taken. Sometimes the physician or surgeon is assisted by a junior surgical staff who takes the notes on their behalf. In this case the staff taking the notes includes his/her name and contact details in the records [14]. Our audit revealed that recording of reviewing physician's name increased to 100% in 2022, while recording the rest of the parameters declined in 2022. According to the requirements of Good Medical Practice (GMP) guidelines, following proper taking of records of the patient's investigations and treatment, the date, time and name of the doctor should be rubber stamped and signed on the form. The GMP standard states that "Medical records are integrated so that all healthcare personnel (doctors, nurses, allied health staff) are required to write management details on the same page and signed and stamped with their personal details" [5]. The decline in taking of these records observed in our audit suggests a move towards lack of accountability

which may make taking corrective and punitive actions difficult in case of any patient mismanagement claims. It is thus important that the surgical staffs are re oriented on the need to include these details in the medical records.

Results of the assessment of recording surgeon's observations on the case and examination findings, impression and management plan indicated that recording of patient's management plan rose to 100% in 2022 which was an excellent improvement from the 2021 audit results. Similarly, recording of the surgeon's examination results increased in 2022 compared to 2021, but recording of the surgeon's impression of a case reduced in 2022. The popular saying in continuous quality management is that "Any activity not recorded was not done" [15]. Taking detailed records of a case is not only important for continuity of patient care and follow up on prognosis, it also makes it easy for the department and the hospital to defend their medical practice in case of nay legal malpractice claims [8]. From this audit, we recommend that the surgical staffs and the surgeons are re oriented on the importance and legal liabilities involved in not taking good records of cases.

Lastly, results from the assessment of NEWS recording indicated that majority of the records had individual parameters and their corresponding scores as opposed to the final score being recorded or no record at all. Surprisingly, the number of records that did not have the NEWS score at all increased in 2022 compared to 2021. NEWS is an early warning chart that tells the attending medical worker the general condition of the patient allowing them to take immediate action if needed [16]. It is vital component of health care delivery in the UK adopted by 100% of ambulance trusts and 76% of acute care trusts, and various hospitals across the country [16]. This audit result indicated that there is still more sensitization work needed to ensure that our surgical staffs are able to always capture this score for every patient brought into the department.

Conclusion

In summary, this audit result indicated that there is still inadequate documentation at the surgical unit of Blackpool Victoria Hospital with only three parameters (reviewer name, date and plan) having more than 80% recording. We noted poor documentation of writer's name and contacts/bleeps making it difficult for nurses to clarify on issues documented, while stamps and ID stickers are not being used as well. This led to less than 20% of review pages having patient identifiers. The rest of the parameters where averagely recorded ranging from 40 to 60%. However, there is still a lot of room for improvement. Although this result may not be generalized for other hospitals, it still offers an opportunity for comparison and encourages more work to be done to ensure medical records are taken correctly.

Acknowledgement

NA

Author contribution

NM: Conceived the study, conducted data collection, data analysis and wrote the draft manuscript.

TM: Conducted data collection and reviewed the manuscript

AB: Reviewed the manuscript and supervised the study.

AM: Reviewed the manuscript and supervised the study.

ZAH: Reviewed the manuscript and supervised the study.

Conflict of interest

The authors declare no conflict of interest.

Funding

There was no external funding for this study

References

[1] "Medical record," *Wikipedia*. Jul. 17, 2022. Accessed: Jan. 25, 2023. [Online]. Available: https://en.wikipedia.org/w/index.php?title=Medical_record&oldid=1098862623#cite_note-1

[2] "CMPA Good Practices Guide - Importance of medical records." https://www.cmpa-acpm.ca/serve/docs/ela/goodpracticesguide/pages/communication/Documentation/importance_of_medical_records-e.html (accessed Jan. 25, 2023).

[3] "10 Components Of a Medical Record? The Best Guide 2023," Jul. 27, 2021. https://digitalhealth.folio3.com/blog/10-components-of-a-medical-record/ (accessed Jan. 25, 2023).

[4] "How Long Do NHS Records Have To Be Kept For?" https://www.cas.ltd/blog/how-long-do-nhs-records-have-to-be-kept-for (accessed Jan. 25, 2023).

[5] "Good medical practice." https://www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/good-medical-practice (accessed Jan. 25, 2023).

[6] "Good Surgical Practice — Royal College of Surgeons." https://www.rcseng.ac.uk/standards-and-research/gsp/ (accessed Jan. 25, 2023).

[7] "General Surgery - Blackpool Victoria Hospital - NHS." https://www.nhs.uk/services/hospital/blackpool-victoria-hospital/RXL01/departments/SRV0045/general-surgery (accessed Jan. 25, 2023).

[8] "The Importance of Medical Records Management." http://www.roadrunnerhealthservices.com/insights/the-importance-of-medical-records-management (accessed Jan. 26, 2023).

[9] "4 Major Reasons Why Medical Records Are Important In A Lawsuit," Oct. 04, 2021. https://www.mosmedicalrecordreview.com/blog/what-are-4-major-reasons-why-medical-records-important-in-lawsuit/ (accessed Jan. 26, 2023).

[10] “What is a Patient ID Number?” https://ahimafoundation.org/understanding-the-issues/what-is-a-patient-id-number/ (accessed Jan. 26, 2023).
[11] “Patient identification | Australian Commission on Safety and Quality in Health Care.” https://www.safetyandquality.gov.au/our-work/communicating-safety/patient-identification (accessed Jan. 26, 2023).
[12] RevCycleIntelligence, “Exploring the Fundamentals of Medical Billing and Coding,” *RevCycleIntelligence*, Feb. 24, 2022. https://revcycleintelligence.com/features/exploring-the-fundamentals-of-medical-billing-and-coding (accessed Jan. 26, 2023).
[13] I. Amirian, J. F. Mortensen, J. Rosenberg, and I. Gögenur, “Admission medical records made at night time have the same quality as day and evening time records,” *Dan Med J*, vol. 61, no. 7, p. A4868, Jul. 2014.
[14] S. Di Saverio, G. Tugnoli, F. Catena, A. Birindelli, C. Coniglio, and G. Gordini, “Surgeon accountability for patient safety in the Acute Care Surgery paradigm: a critical appraisal and need of having a focused knowledge of the patient and a specific subspecialty experience,” *Patient Saf Surg*, vol. 9, p. 38, Nov. 2015, doi: 10.1186/s13037-015-0084-3.
[15] M. G. De Marinis *et al.*, “‘If it is not recorded, it has not been done!’? consistency between nursing records and observed nursing care in an Italian hospital,” *J Clin Nurs*, vol. 19, no. 11–12, pp. 1544–1552, Jun. 2010, doi: 10.1111/j.1365-2702.2009.03012.x.
[16] “NHS England » National Early Warning Score (NEWS).” https://www.england.nhs.uk/ourwork/clinical-policy/sepsis/nationalearlywarningscore/ (accessed Jan. 27, 2023).

List of figures

Figure 1.

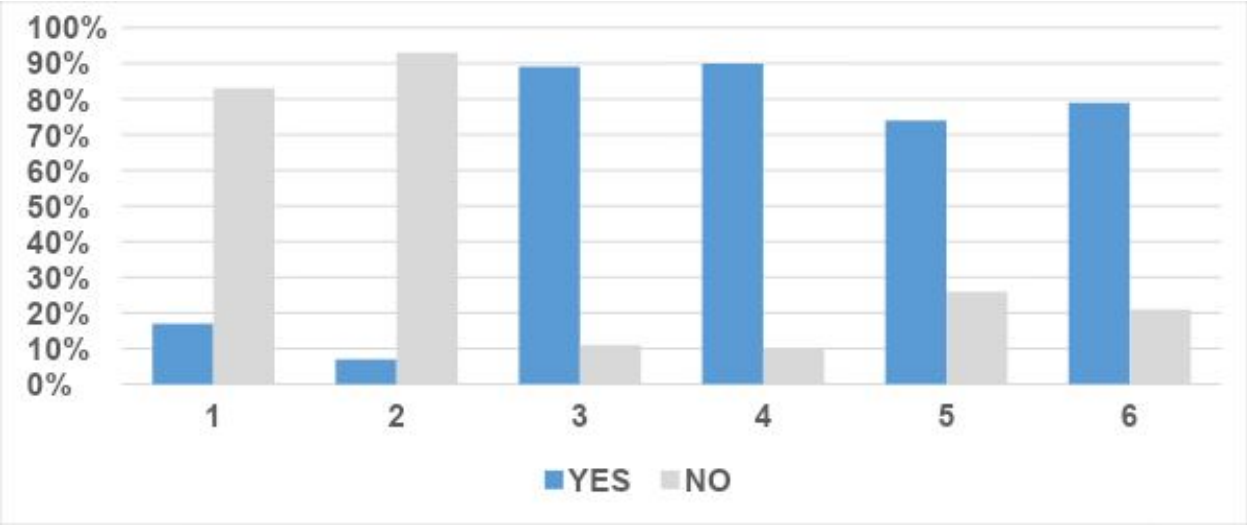

Figure 2.

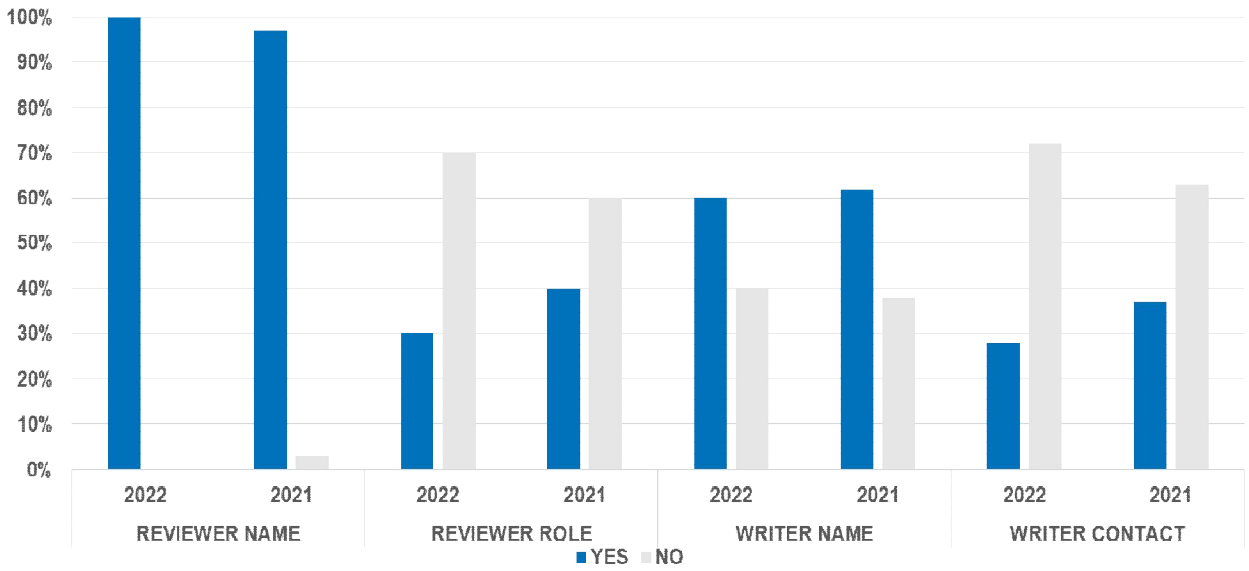
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2022
2021
2022
2021
2022
2021
2022
2021
REVIEWER NAME
REVIEWER ROLE
WRITER NAME
WRITER CONTACT
YES
NO

Figure 3.

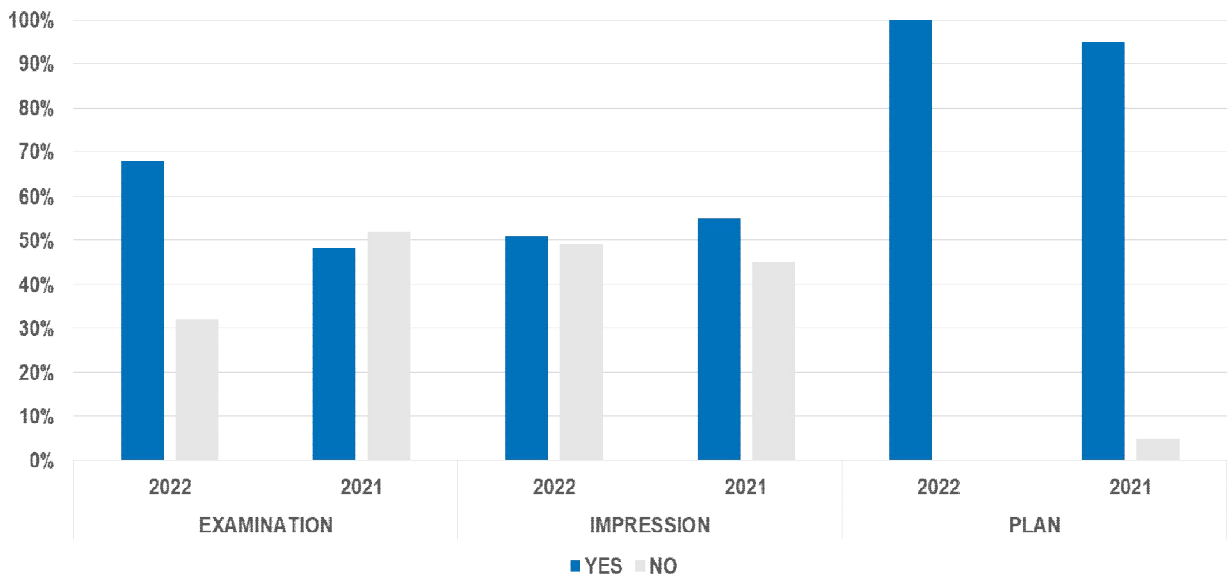
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2022
2021
2022
2021
2022
2021
EXAMINATION
IMPRESSION
PLAN
YES
NO

Figure 4

Physiological parameter	Score 3	2	1	0	1	2	3
Respiration rate (per minute)	≤8		9–11	12–20		21–24	≥25
SpO_2 Scale 1 (%)	≤91	92–93	94–95	≥96			
SpO_2 Scale 2 (%)	≤83	84–85	86–87	88–92 ≥93 on air	93–94 on oxygen	95–96 on oxygen	≥97 on oxygen
Air or oxygen?		Oxygen		Air			
Systolic blood pressure (mmHg)	≤90	91–100	101–110	111–219			≥220
Pulse (per minute)	≤40		41–50	51–90	91–110	111–130	≥131
Consciousness				Alert			CVPU
Temperature (°C)	≤35.0		35.1–36.0	36.1–38.0	38.1–39.0	≥39.1	

Figure 5.