



Completeness in clerking: The surgical admissions proforma



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HIGHLIGHTS

- A study comparing the implementation of a surgical clerking proforma vs. freehand clerking.
- The coherency of patient notes before and after proforma implementation was assessed.
- 5 of the 17 criteria showed significant improvement post proforma implementation.
- Fewer healthcare staff were required to revisit patient notes following proforma implementation.
- The study illustrates that the implementation of a surgical admissions proforma improves patient documentation.

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ABSTRACT

Background: The accessibility of surgical patient data is a key safety concern, and relies on efficient clerking and handovers. This project assessed whether the introduction of a surgical clerking proforma improved the recording of patient information in the surgical admissions unit (SAU) at Northwick Park Hospital.

Materials and methods: Existing patient notes were assessed on content and ease of access, using two independent surveys conducted over a 5-day period. The first survey audited patient notes before (n = 28) and after (n = 23) the introduction of the proforma. It assessed whether key patient details were documented, in line with the 17 criteria set out in the Guidelines for Clinicians on Medical Records and Notes by The Royal College of Surgeons in England. The second survey questioned healthcare professionals before (n = 25) and after (n = 17) proforma implementation on the accessibility of patient data and coherency of patient notes.

Results: 5 of the 17 criteria showed significant differences post proforma implementation. Of these differences, the recording of height and occupation was most notable (p < 0.01). Medication history, weight and investigations also showed significant increases in documentation (p < 0.05). In all 3 questions asked to healthcare professionals, fewer healthcare professionals were required to revisit archived notes following proforma implementation (p < 0.05).

Conclusion: Our study illustrates that a comprehensive surgical clerking proforma improves patient data documentation and saves healthcare professionals' time compared to the freehand clerking method. The implications of such work are far reaching, and if well implemented could allow a new reliable platform for further clinical audits.

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1. Background

Good quality patient care relies on the completeness of information, to which accurate documentation is essential [1]. Failure to produce accessible notes can lead to delayed patient treatment. For

effective communication to take place between healthcare professionals, patient information must be recorded as accurately as possible. However, notes are notoriously inaccessible and poorly maintained [2].

The Royal College of Surgeons of England (RCSE) have produced Guidelines for Clinicians on Medical Records and Notes [3]. This sets out 17 criteria that should be included in all surgical patient documentation. This includes the patient's name, address, date of birth, unique identification number, occupation, patient history,

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Surgical Pro forma for New Patients

Date of Admission: _____

Time of Admission: _____

Next of Kin (N.O.K.): _____

N.O.K. Telephone no: _____

Patient Occupation: _____

Marital Status: _____

Height: _____

Weight: _____

ALLERGIES:

Presenting Complaint:

History of Presenting Complaint:

Past Medical History:

Medications:

Past Surgical History:

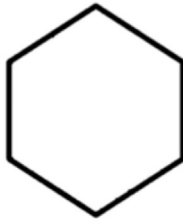
PLEASE TURN OVER

Sticker: This is where a pre-printed patient sticker is stuck which already contains the patient's address and postcode and NHS number (if available)

Fig. 1. The Surgical Clerking Proforma. A double sided A4 document where patient details can be documented.

Examination Findings:

Working Diagnosis:



PLAN:

Additional Comments:

NAME (PRINTED):	GRADE:	DATE:
PHONE/BLEEP:	SIGNATURE:	

Fig. 1. (continued).

Table 1

Score sheet used to assess patient notes before and after implementation of the proforma.

Criteria	YES/NO
Hospital Record	
Date of Admission	
Time of Admission	
NHS Number	
Address and Postcode	
Date of Birth	
Next of Kin	
Occupation	
Marital Status	
Registered GP	
Details of Clinical Record	
Presenting complaint	
History of Presenting Complaint	
Full Medication History	
Examination Findings	
Patients height	
Patients weight	
Working diagnosis	
Medical/Surgical Plan	

handwritten clerking method to a new surgical clerking proforma for patients admitted to the Surgical Admissions Unit of a large teaching hospital, and to qualitatively assess its impact on the opinions of healthcare staff towards patient notes.

2. Methods

A prospective study of all patients admitted to the Surgical Admissions Unit was conducted during two separate one-week periods, whereby a full audit cycle was completed. The surgical admissions clerking proforma was designed based on the 17 criteria set out by the RCSE, with additional input from senior consultants (Fig. 1). It also included a section where the clerking healthcare professional could identify themselves by name, grade, date and phone/bleep number (Fig. 1).

The study was split into 3 phases:

- 1) an initial audit of traditional free-hand patient notes
- 2) the design and implementation of a new clerking proforma
- 3) a re-audit of patient notes on the new clerking proforma

All patient notes from surgical admissions between the hours of 8 am to 5 pm over the course of 5 consecutive days were assessed in each arm of the audit. Completeness of documentation was assessed according to the presence or absence of the 17 criteria set out in RCSE guidelines (Table 1).

To allow staff to familiarise themselves with the new system, a one-week introduction period was in place. Reminders during staff meetings were in place to raise awareness of the new system. Following the introduction period, the new proforma was audited against the same RCSE guideline score sheet used in phase 1.

Questionnaires were distributed amongst healthcare professionals on the ward before and after the implementation to evaluate views towards the completeness and accessibility of patient information (Table 2). Questions were answered anonymously and responses were recorded in a simple yes/no tick box.

A T-Test assuming unequal variance was applied to compare the difference in completion of documentation and healthcare professionals' attitudes before and after the implementation of the proforma. A p-value < 0.05 was considered statistically significant.

3. Results

Patient notes were assessed before and after the implementation of the new clerking proforma (n = 28 and n = 23 respectively). Of the 17 criteria for completeness of documentation, 13 showed increased rates of completion, 5 of which were statistically significant (see Table 4).

The most significant increases (Fig. 2) were noticed in height (95% CI +43%, p < 0.01) and occupation (95% CI + 66%, p < 0.01). Significant improvements in documentation of medication history (95% CI +21%, p < 0.05), weight (95% CI +34%, p < 0.05) and investigations since admission (95% CI +30%, p < 0.05) were also

Table 3

Qualitative assessment of patient notes utility by healthcare professional staff.

	Before (% YES)	After (%YES)	Change
Have you been required to revisit archived notes regarding this patient's care?	24	0	-24
Have you needed further clarification by a fellow health care professional?	52	35	-17
Are the notes organised in a coherent and chronological manner?	48	71	23

Table 2

Score sheet used to assess healthcare professionals' attitude towards the completeness of patient notes before and after implementation of the proforma.

Criteria	YES/NO
Have you been required to revisit archived notes regarding this patient's care?	
Have you needed further clarification by a fellow health care professional?	
Are the notes organised in a coherent and chronological manner?	

past medical and surgical history, current medication, initial examination including patient's height and weight, a working diagnosis and a plan. Unfortunately one or more of these criteria are routinely omitted from documentation [4].

At Northwick Park Hospital the existing clerking system was not standardised, which meant that some information could only be accessed from previous ward notes. The method of choice for clerking was handwriting notes on lined paper. Studies have shown that healthcare professionals prefer printed forms when clerking patients in both general medicine and surgery [5,6]. Therefore, the implementation of a clear, comprehensive proforma warranted investigation.

The aim of this study was to compare the completeness of a

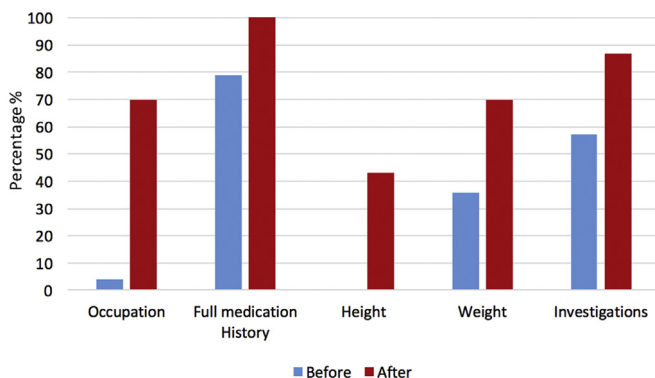


Fig. 2. Completion rates of 5 variables before and after the implementation of the clerking proforma.

Table 4

Comparison of completeness of documentation before and after implementation of proforma.

	Traditional clerking (%)	New Proforma (%)	p-value
Date and time of admission	96	100	0.33
NHS number	96	100	0.33
Address and postcode	100	100	1
DOB	100	100	1
Next of kin	86	78	0.5
Occupation	4	70	<0.01*
Marital status	79	83	0.72
Registered GP	86	91	0.53
PC	100	100	1
HPC	96	100	0.33
Full medication history	79	100	<0.05*
Examination findings	96	100	0.33
Height	0	43	<0.01*
Weight	36	70	<0.05*
Working diagnosis	96	100	0.33
Medical/surgical plan	100	100	1
Investigations since admission, with timings	57	87	<0.05*

*Denotes statistical significance.

found.

Before the implementation of the proforma, 25 healthcare professionals anonymously completed the questionnaire which ascertained the completeness of patient notes. 17 healthcare professionals were subsequently interviewed to identify whether there was a change in attitude towards the accessibility and coherency of notes (the results of which can be seen in [Table 3](#)). Fewer healthcare professionals were required to revisit archived notes ($p < 0.05$) or to clarify information with colleagues following the implementation. Similarly, a greater proportion of participants felt that the notes were organised in a coherent and chronological order after the proforma was in use, although the latter two findings were not statistically significant.

4. Discussion

We aimed to evaluate whether a standardised surgical admissions proforma improved the completeness of patient records. We also assessed whether the implementation of a proforma makes it easier for healthcare professional to take coherent notes. This study illustrates that a surgical clerking proforma improves the quality of patient documentation, which is consistent with previous studies [2,7–9].

The need for complete and coherent clerking notes is key, since this often forms the basis of information whilst the patient is hospitalised. Clerking notes are a routinely accessible source of the patient's hospital record, their clinical record and their immediate care plans. Indeed, one of the leading causes of unnecessary repeat lab tests is a lack of awareness about previous requests for the same test [10]. Ensuring this information is readily available to clinician is the only way to prevent such inefficiencies. As demonstrated in this study, the documentation of investigations performed increased from 57% to 87% following implementation of the clerking proforma.

Use of structured proformas, as opposed to free lined-sheets, can have the added benefits of ease of access of information, which can in turn improve efficiency. They not only improve the ease of finding information but also avoid delays in the clinical setting [8,11]. Similarly, consistent use of subheadings in the same structure reduce the likelihood of the unnecessary error associated with healthcare professionals forgetting to enquire. Previous work has shown that the performance of the clerking clinician has

improved following the introduction of a standardised proforma [1], which raises questions regarding the true extent of the impact of clear notes on patient outcomes.

This study showed dramatic improvements in documentation of height, weight, occupation, investigations performed and medication history, all of which have implications on patient care. Height (0%), weight (34%) and patient occupation (4%) were among the most under-documented categories before implementation. Weight monitoring was a particular area of concern, since administration of the correct drug dosage is often dependent on this information [12]. The under-reporting of occupational information also demonstrates a disregard for the fact that surgery can cause significant delays in returning to the workplace.

This study's initial questionnaire highlighted that over half of healthcare professionals involved with a particular patient's care deemed notes to be unstructured, with almost a quarter having visited archived notes for clarification of information. As shown in this study, use of structured clerking documents increases the quantity of information available, and the perceived reliability of the notes. In doing so, this study's results have suggested that healthcare professionals are spending less time clarifying information with archived records and colleagues. The importance of this potential benefit cannot be understated. This has knock-on effects on the speed at which investigations and treatments can be ordered. Although the implemented proforma did not eliminate the need to consult colleagues regarding patient information, it included the name, grade, date and phone/bleep number of the clerking professional, making it very easy to identify who needs to be contacted.

This study does have some methodological limitations, not least the small sample sizes. Due to short timeframe the audit was conducted over, the total number of notes available for assessment was limited to the number of admissions over the 2 one-week periods. The small sample sizes restrict its ability to accurately identify differences in documentation rates. Secondly, many of the proformas were accompanied with free hand notes, with a few doctors saying that there was 'not enough space on the proforma to write down all the information'. This could negate any benefit in time saved in the accessibility of the notes, although future consultations with staff could allow a restructuring of the proforma to accommodate this criticism. Furthermore, a challenge faced during the evaluation of healthcare professionals' view of the notes was that not all of the staff had necessarily seen the proforma by the time they were questioned, and were potentially commenting on their wider, perhaps more established, views on notes. This limited the ability to truly identify whether staff found the introduction of a standardised clerking proforma beneficial compared to free-hand notes.

Whilst this study demonstrated an improvement in the quality and quantity of information documented, it was not designed to elicit the impact it can have on patient outcomes, which is ultimately the goal with healthcare intervention. Standardised proformas may also impact the productivity of staff, although again this study did not directly evaluate this. Further audits are required to demonstrate whether these advantages can be achieved with standardised clerking proformas. In future, such hand-written clerking may be replaced by electronic records, which may make it far easier to access patient records and avoid paper work. A better approach is however needed in the meantime.

In conclusion, our study illustrates that a comprehensive surgical clerking proforma improves patient data documentation. The implications of such work are far reaching, from patient safety to staff productivity. If well implemented, the use of a surgical clerking proforma could lay a sturdy foundation on which to conduct further clinical audits.

Ethical approval

This study was approved by the ethics committee at Northwick Park Hospital and the research undertaken was in accord with the principles outlined in the Declaration of Helsinki.

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None.

Author contribution

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Role: Data collection, data analysis, proforma designer and author (role in drafting and revising the report).

Prashant Bamanan.

Role: Data collection, proforma designer and author (role in drafting and revising the report).

Kunal Bhanot.

Role: Data collection, proforma designer and author (role in drafting and revising the report).

Maria Samuel.

Role: Supervisor (role in data analysis and write up).

Josef Watfah.

Role: Supervisor (oversaw running of audit: data collection, proforma design and write up).

Conflicts of interest

All authors report no conflicts of interest.

Guarantor

Kunal Bhanot.

Josef Watfah.

Consent

Not required.

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