

# Improving the documentation of the daily review of patients in general intensive care

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## Abstract

Following the daily review of patients on the general intensive care unit (GICU), ongoing issues are addressed and a management plan formulated. Within our unit, the documentation of this daily review is freehand and should include all items covered within the local GICU daily review checklist. However, an initial audit of the daily review demonstrated an average completion rate of only 57%, with several aspects of care consistently missed, most notably: eye and mouth care in ventilated patients (44% and 40%, respectively), glucose control (33%), stress ulcer prophylaxis (54%), and inspection and need for peripheral and central lines (24%). The current system relied on doctors learning the requirements for the clerking and remembering to document them all. It is known that there is a low level of reliability in successfully applying proven medical evidence; this is partly explained by dependence on vigilance and hard work by the clinician, and absence of checklists and protocols to reduce the impact of human factors on results. The majority of doctors on the unit believe they consistently record all items of this checklist, highlighting the gap between the ideal that clinicians strive towards and the outcome. An abbreviated daily review checklist was therefore implemented in the form of a laminated bookmark into the medical notes, to act as a reminder of the items that should be considered in the daily review and prompt subsequent documentation. Bookmarks were implemented over two PDSA cycles and medical notes re-audited. Post-intervention, the documentation of the daily review improved to an overall completion rate of >77%, with notable improvements in eye and mouth care in ventilated patients (89%, 95% respectively), glucose control (67%), stress ulcer prophylaxis (100%), and inspection and need for peripheral and central lines (43%). The daily review checklist concisely summarised onto bookmarks were cheap and simple to create, durable and easy to use, and improved the overall documentation of the daily review. The effect of this outcome remains untested.

## Problem

Each day patients on the general intensive care unit (GICU) within our south London hospital are fully clerked and examined, with ongoing issues addressed and a management plan formulated. This daily review is at present documented freehand in the medical notes and is meant to follow a framework outlined in the local hospital GICU guidelines; this includes a full systems review checklist, the documentation of critical care observations, medications, management, and overall progression. The daily review checklist comprises important criteria that have been shown to have an impact on patient outcomes.

Although the current freehand documentation of the daily review leaves adequate space for a case-specific narrative, it has resulted in certain items of care being missed. In addition, each documented daily review clerking has become marginally different based on the individual doctor making the assessment, thereby creating inconsistency between daily reviews and ultimately affecting patient care. The daily review has been frequently audited in the past, and the documentation has always improved briefly following education and then gradually declined. It is known that healthcare clinicians apply proven medical evidence less than 80% of the time, mainly due to reliance on vigilance and hard work by staff and tolerance of provider autonomy. The use of a mixture of approaches for quality improvement, both audit and education (ie, relying on intent and vigilance), as well as the consideration of human factors and reliability science principles to increase sustainability, are recommended (1).

## Background

A comprehensive daily review is imperative for all patients on the GICU, as is the accurate documentation of this review. In practice, a systematic approach is carried out, whereby one doctor reviews a patient from top to toe, including medications and antibiotic courses, venous thromboembolism (VTE) prophylaxis, kidney and bowel function, pain management, and feeding regimens.

This review is then documented at the beginning of each day, along with a current management plan. The current method of documenting this review in our GICU is freehand, to enable plenty of space for a case-specific narrative and to invite other members of the multidisciplinary team (MDT) to document their reviews in series within the medical notes.

Unfortunately, this freehand method has subsequently led to important details not being documented as they are often missed or forgotten, and corresponding information is therefore not properly handed over or communicated well to other members of the GICU or MDT. Similar problems of documentation and subsequent errors of handover, within other units and Trusts, have shown improvements following the implementation of a memory aide, often in the form of a proforma (2). The Royal College of Physicians guidance on ward rounds in medicine acknowledge that mistakes are more likely in a chaotic environment such as a ward; however, a systematic human factor approach can reduce error by assisting in the identification of omissions and mistakes (3).

## Baseline Measurement

An initial audit of the daily review clerkings was performed for randomly selected patients in GICU to obtain a baseline measure. Daily entries were given a maximum score if all criteria outlined in the local GICU checklist were considered on the day and documented in the notes (eg, thrombosis prophylaxis, antibiotic stop dates, sedation plan). Only criteria applicable to the case were considered.

Of 42 daily review entries, we identified on average a 57% completion rate (figure 1: audit cycle 1, and table 1), with no variability across length of admission, day of the week or bed space occupied on the unit (figures 2 and 3). Several aspects of care were consistently missed and were lacking in the documented daily review, most notably: eye and mouth care in ventilated patients (44% and 40%, respectively), glucose control (33%), stress ulcer prophylaxis and inspection of peripheral and central lines (24%), noting their insertion dates and the need for continued use (table 2).

Interestingly, a pre-audit questionnaire conducted among GICU doctors revealed that the majority believed they were recording such items on a daily basis, at a rate of >70% consistency, which is in stark contrast to our findings – thus re-enforcing the need for change.

Please see the tables and figures attached for a complete breakdown of the baseline measures, including a full scoring criteria and subsequent results.

See supplementary file: ds3147.docx - "Figures\_ GICU Review\_v2\_230314"

## Design

Our aim was to improve the overall documentation of the daily review on GICU to achieve a minimum of 80% consistent completion, over 4 months, by introducing a visual reminder of the checklist. Our main outcome measure was overall completeness of the daily review, as per criteria set out in the local GICU Trust guidelines. We therefore proposed a paper based reminder to facilitate 'checks' during the daily review (described in PDSA cycles below). Following implementation, the medical notes were then re-audited to ascertain if the desired outcome was achieved and, based on results, further cycles were refined as appropriate.

## Strategy

PDSA cycle 1:

Plan: We created an A4 printout of the current checklist, using the local GICU guidelines.

Do: We then distributed these checklists throughout the GICU, and specifically placed them at the foot of every bed, on top of the well known observation chart. This location was ideal to increase awareness and use of the daily review checklist, and to act as a

reminder of which items need to be documented as part of a complete daily review.

Study: The medical notes were then re-audited at random over a 1 week period. Results from this audit cycle, as expected, demonstrated an improvement in the overall documentation of the daily review to from 57% to 65% (figure 1: audit cycle 2). However, problems associated with this intervention included issues with missing or damaged checklists and the general opinion that adding another piece of paper to the top of the immense set of notes constantly in use in GICU was cumbersome.

Act: A re-design of the checklist took place to incorporate the suggestions from cycle.

PDSA cycle 2:

Plan: Results from PDSA cycle 1 clearly demonstrated that documentation of the daily review is improved with a memory aide; however a re-design was necessary to make the checklist more user friendly. We therefore decided to implement a smaller, more succinct paper-based tool to further improve our initial results and help achieve our overall aim. We then designed a laminated daily review checklist in the shape and size of a bookmark (schematic 1).

Do: The bookmarks were introduced into the active page of the patient notes, acting as a reminder to consider important details often forgotten (eg, lines in situ). Bookmarks were designed to be eye catching, narrow enough to fit within the page margin, and contained a punched-out edge in order to be easily moved from the previous day to the current page.

Study: A re-audit of the notes revealed that documentation of the daily review increased further to an overall 77% completion rate (figure 1: audit cycle 3). However, bookmarks often disappeared from the unit as patients were discharged, requiring a retrieval from the ward at times.

Act: The nursing staff was informed of the need to retain the bookmarks in the unit, as they would need to be introduced into the next patient's notes. In addition, a minor edit was introduced onto the bookmark which read "If found, please return to GICU".

Please see attached image for a schematic of the implemented bookmark.

Please see tables 1 and 2 and figures 1-4 for a complete breakdown of the baseline measures, including the full scoring criteria and subsequent results post PDSA cycles.

See supplementary file: ds2665.docx - "Schematic"

## Post-Measurement

Following implementation of a memory aide during cycle 1, an increase in the overall rate of completion and documentation of the daily review was noted (65%, up from a previous 57%). Implementation of the bookmark during cycle 2 improved overall

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documentation of the daily review even further, to an average of >77% (figure 1, table 1). Notable improvements were demonstrated in the following areas: drug chart completion (92%), the prescription of analgesia (76%), eye care and mouth care in ventilated patients (89% and 95%, respectively), elevation of the head of the bed (65.9%), stress ulcer prophylaxis (100%), documentation of glucose control (67%), stool frequency (93.3%), VTE chart completion (100%), and the inspection of peripheral and central lines (43%) (table 2, figure 4A). Of the remaining items within the daily review checklist, no consistent change was observed following implementation of the bookmark (figure 4B,C).

It is important to note that during the course of this study we observed a common, yet rarely discussed, feature of audit cycles/quality improvement projects, wherein improvements were demonstrated for some items (within the daily review), while others were not. Quite often, emphasis on a specific initiative contributes to awareness and improved outcomes in that area. A subsequent waning period is then often observed, either in other areas of care or in the original initiative until a subsequent audit cycle resumes. This inherent behaviour is one of many human factors that contributes to the variability observed among doctors and healthcare staff.

Our project therefore demonstrates that the use of a prompt or memory aide can assist in maintaining awareness in the areas of care considered essential. It is important to note that while improvements were not necessarily seen in every aspect of care, a consistent overall improvement was noted post-intervention. Furthermore, the results of this study stimulated discussion among senior staff to implement this concept of the 'bookmark' into the electronic platform soon to be introduced into the Trust.

Please see figure 4 and table 2 for a full breakdown of the daily review scoring criteria and results.

See supplementary file: ds3146.docx - "Tables\_GICU Daily Review\_v2\_230314"

### Lessons and Limitations

Carrying out this project revealed many challenges and learning points:

1. The GICU team, although on board with the desired aim, requested that the implementation not be in the form of a proforma, as previous attempts at using a proforma rendered the daily review process to a mere tick-box exercise; thus, proposing this concept initially was rejected over concerns of patient safety. We therefore faced the challenge of conceptually creating a suitable memory aide, which ultimately led to the concept of a bookmark.
2. Creating and distributing the bookmarks, although simple at first, became logistically problematic as they would often disappear as patients were discharged from the unit. The staff responsible for moving patients on discharge were then informed about the need to retain the bookmarks within the unit for future patients, and in comic fashion, the bookmarks

were then fashioned to read "If found, please return to GICU".

3. Although overall documentation was improved following the use of the bookmark in cycle 2, the breakdown of individual items revealed that there still remains a large deficit in certain items of care, eg, documentation of lines in situ, a sedation plan, etc. In our current medico-legal era, failure to document can lead to assumptions of lack of care; therefore, we need to continue to re-model the bookmark as required to ensure a greater percentage of consistency within the medical notes.

### Conclusion

The initial problem identified was the incompleteness of the documentation of the GICU daily review (57%). Following implementation of a memory aide in the form of a bookmark, which summarised and highlighted important aspects of care related to patient outcomes on GICU, there was a clear improvement in the overall documentation of the daily review (>77%). Despite increased overall performance, there was a decrease in the documentation of some items of care, highlighting the need for more sophisticated processes to reduce error over and above aide memoirs and vigilance. The bookmarks were cheap, easy to create, durable, and staff found them simple and easy to use. As the Trust moves towards an era of electronic documentation, the bookmark is going to be considered as a drop-down option to facilitate the adequate and complete documentation of the daily review in the future. This electronic approach will provide a more robust system which addresses the need for the addition of human factors and reliability science principles to the current system to allow for a real increase in reliability.

### References

References:

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### Declaration of interests

Nothing to declare.

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