

# BMJ Open Quality Improving ward round documentation using the *Heidi Health* application

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## ABSTRACT

**Introduction** Accurate and timely documentation during surgical ward rounds is critical for ensuring patient safety, effective multidisciplinary communication and continuity of care. In high-demand surgical settings, resident doctors often experience delays in completing documentation due to competing clinical priorities. This quality improvement project aimed to assess whether an artificial intelligence (AI) transcription tool, *Heidi*, could reduce documentation time in a busy ear, nose and throat (ENT) department within a tertiary centre.

**Methods** Baseline data on time taken to complete conventional ward round documentation were collected over a 4-day period. The *Heidi* AI tool was then implemented to transcribe real-time discussions during ward rounds and automatically format the information using a structured template adapted from the SHINE Surgical Ward Round Toolkit. Documentation times using the AI system were recorded over a subsequent 4-day period.

**Results** The implementation of *Heidi* led to a statistically significant reduction in documentation time compared with conventional methods.

**Conclusions** Using AI tools can not only improve timeliness of clinical records but also free resident doctors from scribing duties, allowing greater participation in patient care and enhancing educational opportunities. This intervention demonstrated the potential of AI-assisted documentation to improve workflow efficiency and patient flow while supporting resident doctor training and reducing administrative burden in a surgical setting.

## INTRODUCTION

Efficient and timely documentation during surgical ward rounds is essential for patient safety, effective communication and clinical decision-making. However, the fast-paced and complex nature of surgical environments often results in delays in documentation, which can compromise continuity of care, hinder multidisciplinary communication and pose medicolegal risks. Delayed documentation has also been associated with increased workload, reduced time for direct patient care and lower staff satisfaction.<sup>1</sup>

Studies have shown that surgical ward rounds often suffer from inefficiencies in both process and workflow. Shetty *et al* found that resident doctors spent a disproportionate amount of time documenting ward rounds, often several hours after patient

reviews, leading to reduced accuracy and potential information loss.<sup>2</sup> Similarly, Talia *et al* observed that untimely documentation contributed to delays in task execution and handover inefficiencies, particularly in high-volume surgical units.<sup>3</sup> These challenges underscore the need for targeted quality improvement strategies to streamline documentation processes.

Several interventions, including structured documentation templates and electronic note systems, have been shown to improve documentation timeliness. Chaudary *et al* reported that the introduction of a structured ward round checklist reduced average documentation time per patient without compromising quality.<sup>4</sup> Additionally, the adoption of real-time electronic documentation tools has been associated with more accurate and timely entries.<sup>4</sup>

This quality improvement project (QIP) aimed to reduce the time taken to document surgical ward rounds by implementing an artificial intelligence (AI) electronic documentation tool (*Heidi*).

## METHODS

This QIP was conducted in a busy ENT department within a tertiary centre to evaluate the impact of AI-assisted documentation on ward round documentation.

Initially, the time taken to complete conventional ward round documentation was recorded over a 4-day period for all inpatients. Documentation was completed by resident doctors following the ward round, as per standard practice. Resident doctors refers to Foundation Year 2, GP trainee and Core Surgical Trainee doctors. Following this, an AI-based medical scribe (*Heidi Health*) was implemented. *Heidi* transcribed real-time discussions between clinicians and patients during ward rounds, generating structured documentation automatically. The output was formatted using a custom template developed by the clinical team, based on the SHINE Surgical Ward Round Toolkit provided by the Royal College of Surgeons



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of Edinburgh.<sup>5</sup> After implementation, the time taken to complete ward round documentation using *Heidi* was measured over a subsequent 4-day period. Timing started when the document was created and finished when the document was saved on the electronic health record program. This included the time taken to review the documentation to ensure accuracy. Comparative analysis was then performed to assess the time-saving potential and workflow impact of the AI-assisted documentation system.

Pre-*Heidi* and post-*Heidi* ward round documentation times, measured in minutes, were compared using the Mann-Whitney U test (also known as the Wilcoxon rank-sum test). Values are expressed as median (IQR). P value < 0.05 was statistically significant. All statistical analyses were performed using BlueSky Statistical software version 10.x (BlueSky Statistics LLC, Chicago, Illinois, USA).

## RESULTS

A total of 41 ward round documentations were timed with manual documentation over the initial 4-day period. The median time taken to document was 5.00 min (IQR 4.00–7.00). Following the implementation of the *Heidi* application, a total of 33 ward round documentations were timed within another 4-day period. The median time taken to document reduced to 2.13 min (IQR 1.82–2.75). P value < 0.001 deemed this reduction to be statistically significant. These results are illustrated in table 1. There were no examples of inaccuracies or AI hallucinations found on any ward round documentation.

## DISCUSSION

The implementation of the *Heidi* transcription application significantly reduced the time resident doctors spent on ward round documentation in a high-pressure surgical environment, without a loss of accuracy. Resident doctors working in high-acuity specialties are particularly vulnerable to administrative overload, and tools like *Heidi* offer a sustainable solution by rebalancing clerical and clinical demands. Recent studies have shown that the introduction of AI-based documentation tools can reduce clinical documentation burden, freeing up clinician hours while maintaining accuracy.<sup>6</sup>

**Table 1** Table illustrating time taken, in minutes, to document ward round before (n=41) and after (n=33) the use of *Heidi* AI scribe tool

	Pre- <i>Heidi</i> timing, minutes (n=41)	Post- <i>Heidi</i> timing, minutes (n=33)
Median	5.00	2.13
(Q1–Q3)	(4.00–7.00)	(1.82–2.75)
P value	<0.001	
Q1, shortest duration; Q3, longest duration.		

Timely documentation is vital in surgical departments, where delays in recording clinical decisions can disrupt continuity of care and compromise patient safety. Retrospective documentation is prone to errors and memory decay, which can affect the accuracy of records.<sup>4</sup> By transcribing consultations in real time, the *Heidi AI scribe* ensured that decisions made during ward rounds were captured and formatted instantly, reducing the risk of omissions and supporting more immediate communication across multidisciplinary teams.<sup>7</sup> Operationally, real-time documentation also facilitated improved patient flow. With immediate access to clear, structured ward round notes, other healthcare professionals—including nurses, pharmacists and physiotherapists—could act on clinical decisions without delay.<sup>8</sup> Such immediate documentation has been linked to reductions in task backlogs and improved multidisciplinary coordination in similar hospital settings.<sup>7</sup>

Importantly, shifting the responsibility for documenting from resident doctors to AI systems enables them to re-engage in clinical participation—interacting with patients, contributing to decision-making and conducting examinations. This transition from passive scribe to active learner supports resident doctors' professional development, consistent with findings that greater involvement in clinical care improves educational outcomes and job satisfaction.<sup>4</sup>

Using a structured documentation framework such as the SHINE Surgical Ward Round Toolkit enhanced the consistency and completeness of generated notes.<sup>3</sup> AI-generated summaries have previously been found to produce reliable clinical documentation drafts that clinicians can quickly review and approve, thereby preserving quality while improving speed.<sup>3</sup> Nevertheless, concerns remain regarding the completeness and accuracy of AI-generated content, highlighting the continued importance of clinician oversight.<sup>9</sup>

Limitations of AI-based transcription include variable accuracy depending on environmental factors (eg, background noise, accents). It is essential that AI-generated notes are checked for accuracy before being signed off by the clinician. The technology must be continuously monitored and updated to ensure safety and reliability.<sup>10</sup>

## CONCLUSION

In conclusion, the introduction of the *Heidi* AI tool improved documentation efficiency, enhanced clinical accuracy, reduced resident doctor workload and promoted more meaningful clinical engagement—contributing to safer, more efficient patient care in a busy surgical department.

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**Patient consent for publication** Not applicable.

**Ethics approval** As this was a service evaluation and audit of existing clinical practice, formal research ethics approval was not required. The audit complied

with data governance regulations and Good Clinical Practice standards. Consent was gained from patients prior to use AI application and inclusion in the quality improvement project.

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#### REFERENCES

- 1 Royal College of Surgeons of England. Good surgical practice. 2025. Available: <https://www.rcseng.ac.uk/standards-and-research/good-surgical-practice/>
- 2 Shetty K, Poo SXW, Sriskandarajah K, *et al.* "The Longest Way Round Is The Shortest Way Home": An Overhaul of Surgical Ward Rounds. *World J Surg* 2018;42:937–49.
- 3 Talia AJ, Drummond J, Muirhead C, *et al.* Using a structured checklist to improve the orthopedic ward round: a prospective cohort study. *Orthopedics*. 2017 Available: <https://journals.healio.com/doi/10.3928/01477447-20170509-01>
- 4 Chaudary MI, Zeb J, Arshad F, *et al.* Comparison of Digital Versus Conventional Documentation of Ward Round in Terms of Staff Satisfaction, Effect on Education, and Adherence to British Orthopaedic Association Guidelines. *Cureus* 2022;14:e27598.
- 5 Royal College of Surgeons of Edinburgh. SHINE surgical ward round toolkit. 2024. Available: <https://www.rcsed.ac.uk/career-hub/learning-resources/shine-surgical-ward-round-toolkit>
- 6 Shah SJ, Devon-Sand A, Ma SP, *et al.* Ambient artificial intelligence scribes: physician burnout and perspectives on usability and documentation burden. *J Am Med Inform Assoc* 2025;32:375–80.
- 7 Kim W-Y, Baek A, Kim Y, *et al.* The Impact of Real-Time Documentation of In-Hospital Medication Changes on Preventing Undocumented Discrepancies at Discharge and Improving Physician-Pharmacist Communication: A Retrospective Cohort Study and Survey. *J Multidiscip Healthc* 2024;17:2999–3010.
- 8 Al Kuwaiti A, Nazer K, Al-Reedy A, *et al.* A Review of the Role of Artificial Intelligence in Healthcare. *J Pers Med* 2023;13:951.
- 9 Perkins SW, Muste JC, Alam T, *et al.* Improving Clinical Documentation with Artificial Intelligence: A Systematic Review. *Perspect Health Inf Manag* 2024;21:1d.
- 10 Leung TI, Coristine AJ, Benis A. AI Scribes in Health Care: Balancing Transformative Potential With Responsible Integration. *JMIR Med Inform* 2025;13:e80898.