

QUALITY IMPROVEMENT Using a checklist within simulation improves trainees' confidence on ward rounds

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ABSTRACT

Ward rounds are integral to maintaining patient safety in everyday clinical care. Junior doctors are often expected to conduct independent rounds on graduation, but many feel ill-equipped to do so. We developed a safety checklist and simulation sessions to improve junior-led ward round practice at one district general hospital. We found that embedding a checklist within simulation is an effective way to teach ward round skills and increase confidence among undergraduate and postgraduate medical trainees.

KEYWORDS: ward round, simulation, checklist, training

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Introduction

Ward rounds are a cornerstone of hospital practice: crucial for improving patient safety, flow and satisfaction.¹ Optimising ward rounds, following best practice guidance from the Royal College of Physicians (RCP) and the Royal College of Nursing (RCN), is a means of safeguarding quality of care and reducing costs.²

RCP reports have found that 69% of consultants do not lead a ward round every day; thus, the task regularly lies with junior doctors, 19% of whom reported 'difficulty accessing senior clinician advice'.^{3,4} Another survey confirmed that 84% of juniors were conducting ward rounds alone on ≥ 2 days a week and many (89%) felt unprepared.⁵

Checklists can guide comprehensive ward round reviews, but their brevity means that they alone are unlikely to provide sufficient support for those who lack specific training.⁶ The RCP/RCN advocate supplementing checklists with simulation for training.² Previous studies support this as an effective way to improve ward round skills and confidence.^{6–9}

Our team of junior doctors and a supervising consultant physician developed a medical ward round checklist and simulation training package. This educational quality improvement project aimed to equip medical trainees with essential ward round skills and improve their confidence: engraining best practice early in their professional careers.¹⁰

Methods

A safety checklist was developed to facilitate comprehensive medical ward rounds at the Royal United Hospitals Bath NHS Foundation Trust (RUH), in line with the RCP/RCN guidance (Fig 1).² Following its introduction in simulations at trust induction in August 2020, it was disseminated across all medical wards.

The simulation was based on ward round scenarios commonly encountered in the authors' clinical practice, using authentic paper and electronic resources (an outline can be found in supplementary material S1). Learners were invited to conduct a ward round assessment to identify problem areas, then formulate and document a management plan within 30 minutes, reflective of real-life time pressures experienced as a junior doctor. They were also provided with the safety checklist as an *aide memoire* to support a structured and comprehensive approach. This training was delivered by two facilitators to small groups of new foundation year-1 (FY1) doctors at induction in August 2020, and then to fourth-year undergraduate medical students from the University of Bristol on clinical attachment at the RUH.

Learners were asked to self-report their confidence on a scale of 0–10, where 0 was the lowest level of confidence and 10 was the highest. Confidence, divided into confidence leading and confidence documenting a ward round, was measured before and after the simulation, as used in a similar study by Powell *et al.*⁶ Feedback on the simulation and checklist was also collected after each session. The data collected were ordinal, anonymous and not normally distributed. Therefore, we have described it using median and interquartile range (IQR), and unpaired analysis was performed using two-tailed Mann–Whitney *U* tests with a significance level of $p < 0.05$.

Results

Training was delivered to a total of 56 learners: 34 FY1s and 22 students. The pooled analysis in Table 1 demonstrates that simulation incorporating a safety checklist improved confidence universally in both documenting and leading ward rounds across all groups.

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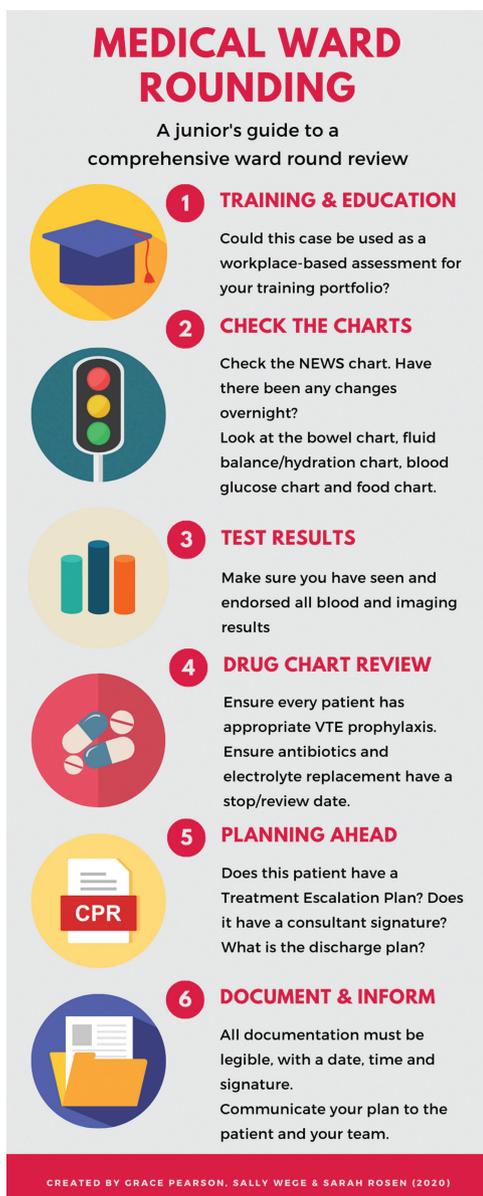


Fig 1. Medical ward round checklist for use at the Royal United Hospitals Bath NHS Foundation Trust. The checklist was specifically designed to be eye-catching and easy to follow, including all the core aspects required for a comprehensive ward round assessment in a logical order. The content and design were reviewed and refined by three junior doctors of varying grades and one consultant physician until consensus was achieved.

In the FY1s, median confidence in documenting a ward round increased following the simulation from 7/10 (IQR 6–7) to 8/10 (IQR 7–8), $p=0.008$. Likewise, median confidence in leading a ward round also increased considerably from 4/10 (IQR 2–5) to 7/10 (IQR 6–8), $p<0.001$. In the undergraduates, initial median confidence in contemporaneous documentation improved from 6/10 (IQR 5.3–7) to 8/10 (IQR 7–8) post-simulation, $p=0.001$. There was a substantial increase in undergraduates' median confidence leading a ward round from 3/10 (IQR 2–5) to 7/10 (IQR 5–7), $p<0.001$.

Table 1 demonstrates that, irrespective of whether learners were undergraduates or postgraduates, their confidence documenting

Table 1. Summary of self-rated confidence in documenting and leading a ward round

	Pre-simulation	Post-simulation	Mann-Whitney <i>U</i> value
Foundation year-1 doctors, n	29	34	
Confidence documenting, median (IQR)	7 (6–7)	8 (7–8)	301 ($p=0.008$)
Confidence leading, median (IQR)	4 (2–5)	7 (6–8)	131 ($p<0.001$)
Medical students, n	22	16	
Confidence documenting, median (IQR)	6 (5.3–7)	8 (7–8)	62 ($p=0.001$)
Confidence leading, median (IQR)	3 (2–5)	7 (5–7)	42 ($p<0.001$)
Pooled data, n	51	50	
Confidence documenting, median (IQR)	7 (6–7)	8 (7–8)	640 ($p<0.001$)
Confidence leading, median (IQR)	4 (2–5)	7 (5–8)	321 ($p<0.001$)

IQR = interquartile range.

ward rounds was consistently higher than their confidence leading, but the greatest increase observed was in confidence leading ward rounds. This is supported by pooled data, where median confidence documenting increased from 7/10 to 8/10 ($p<0.001$) and confidence leading increased from 4/10 to 7/10 ($p<0.001$), pre- and post-simulation. Furthermore, it is notable that pre-simulation confidence was consistently lower among students than FY1s.

In feedback, learners rated the training on average 4.8/5 stars ($n=50$), describing the session as 'useful' and 'engaging'. They also rated the ward round checklist, giving it on average 4.6/5 stars ($n=50$).

Discussion

Our intervention was successfully delivered to undergraduates and postgraduates. Confidence pre-simulation was lower in undergraduates reflecting differing levels of experience and reinforcing a need for ward round teaching to be integrated into undergraduate medical education. Extending training inter-professionally will also be prudent.

Our intervention can be reproduced at a low cost, without specialist facilities, and the sessions themselves offer an opportunity for early-career clinicians to undertake peer-to-peer teaching. However, the organisation of larger groups may be more

labour- and resource-intensive. Our small convenience sample resulted in unequal numbers of observations between groups. Use of a non-standard assessment tool has limited the extent to which we can determine whether the improvement seen was meaningful to learners. In future, we will consider consenting learners to link their pre- and post-simulation responses, to enable paired data analysis, and carefully select the tools used to evaluate the success of the intervention.

We acknowledge that there are weaknesses with using self-assessed confidence. Following on from the success of this training, we can expand its provision and scope. We are considering ways to implement independent assessment of documentation and simulation recordings. A qualitative evaluation would help us better understand 'how' and 'why' our intervention works; this could be undertaken in real time via ward round debriefing.

Conclusion

The 'art' of medical ward rounding encompasses a skillset that can and should be taught to maintain patient safety and support delivery of quality care. Our simulation-based training package is one way of educating junior doctors to discharge this duty effectively and with confidence. ■

Supplementary material

Additional supplementary material may be found in the online version of this article at www.rcpjournals.org/fhj:

S1 – Outline of scenarios and resources used in the ward round simulation.

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