

# Virtual Ward Round Teaching Pilot - A new education method.

Mayven Tien Li Siow (✉ [mayven.siow@nhs.net](mailto:mayven.siow@nhs.net))

Maidstone and Tunbridge Wells NHS Trust <https://orcid.org/0000-0001-8658-2758>

Alexander Myles Robertson

Maidstone and Tunbridge Wells NHS Trust

Austin Begbey

Maidstone and Tunbridge Wells NHS Trust

---

## Research article

**Keywords:** medical education, ward round, simulation, ward round simulation, continuing education

**DOI:** <https://doi.org/10.21203/rs.3.rs-61588/v1>

**License:**   This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

---

# Abstract

## BACKGROUND

Final year medical students at King's College London undergo an 8-week module to enable transition to Foundation Year 1 (FY1). New graduates often cite ward rounds as a challenge and we undertook this pilot to enhance skills not formally incorporated into the curriculum. A teaching session simulating a ward round for final year medical students was piloted at Tunbridge Wells Hospital.

## METHODS

Two-hour teaching sessions were facilitated by medical trainees on a one-to-one basis, where students would see several real patients under direct supervision and conduct a simulated ward round. Facilitators gave feedback on students' consultation skills after the session.

## RESULTS

Quantitative feedback from students was 97% positive overall, and comments showed that students felt the session increased their confidence. Facilitators agreed that the session was good way to help the transition to becoming a real doctor and found it beneficial to get teaching experience themselves.

## CONCLUSION

Ward rounds are an integral part of daily life as a new doctor. However, previous studies have shown that final-year students lack ward round skills, and that this can be improved by simulation. This pilot shows that it is feasible and cost-effective to simulate a ward round involving real patients and thereby preparing students to step up when the time comes.

## Background

On ward rounds, newly qualified doctors (in the United Kingdom termed as Foundation Year One or FY1 doctors) are expected to communicate effectively with patients and colleagues, review and present notes and investigations, properly document entries, and prioritise large numbers of jobs<sup>1</sup>. Medical students are often taught these skills in isolation, and according to the General Medical Council (GMC) Preparedness Survey Report 2014, FY1 doctors feel underprepared for combining these skills in a clinical setting<sup>2</sup>. Since September 2019, King's College London (KCL) have been working on a simulated ward round module for the final year medical curriculum. The module was piloted during students' transition to FY1 (TTF1) rotation at Tunbridge Wells Hospital from January to February 2020. TTF1 is an eight-week placement at

the end of the final year designed to bridge the gap between the final year of medical school and the start of clinical practice as an FY1.

## Method

Ethics approval was not deemed necessary according to the National Health Service Research Ethics Committee. Institutional ethical clearance from King's College London was also not required, as the teaching sessions formed part of an existing taught course module for which there was already the requisite ethical clearance.

In total, seven final-year students and five facilitators participated in the pilot. The sessions ran twice per week during the TTF1 period (January to March 2020) in the medical wards of Tunbridge Wells Hospital, with one Internal Medical Trainee (IMT) doctor facilitator and one student per session. Sessions lasted two hours and ran from approximately 17:00-19:00 on weekday evenings.

Before each session, the facilitator identified two to three suitable patients and obtained consent from them. A patient was suitable if they met the following criteria: not medically fit for discharge; well enough to see and able to communicate; admitted for less than 3 days with an uncomplicated history.

We provided a session structure to facilitators, although it was not prescriptive. Facilitators were encouraged to tailor the format relevant to the patients they had found. The advised session structure was as follows:

- read through patient notes;
- review investigations done during current admission;
- carry out the ward round under direct supervision and perform a relevant focused examination;
- review prescription chart, and other charts as appropriate, e.g. capillary blood glucose, fluid, stool, food;
- chase outstanding jobs and investigations from previous ward round entries;
- generate and prioritise a jobs list;
- prepare the patient's discharge letter;
- make necessary referrals or request investigations by practicing with students;
- identifying deteriorating patients and knowing when to escalate to seniors or other healthcare professionals;
- discuss ceiling of escalation;
- document the ward round using the hospital continuation sheet;
- handing over outstanding jobs to out-of-hours medical team;
- debrief & give feedback to student.

Facilitators were encouraged to give feedback on the consultation and clinical skills of the student, the quality of their documentation, and on the jobs list they produced. This was done by comparing the students' ward round entry to the entry done by the parent team of the patient that day, and ensuring they are up to the standards set up by the Royal College of Physicians (RCP). The RCP states that "Every entry should have a time, date and identifiable author... Multidisciplinary notes should be used for ... recording progress reports and noting down any questions relating to patients' care. Discussions with patients, carers or relatives should also be centrally documented..."<sup>3</sup>

## Results

All seven students and five facilitators completed a survey containing multiple-choice and open answer questions at the end of the TTF1 rotation. All the multiple-choice questions were worded as statements, with respondents asked to rate to what extent they agreed with the statement. 1 indicated "strongly disagree", 2 indicated "disagree", 3 indicated "neutral", 4 indicated "agree" and 5 indicated "strongly agree". Student feedback was 97% positive (percentage of answers "agree" / "strongly agree" given), and by the same metric, facilitator feedback was 93% positive. The timing and the duration of the sessions on weekday evenings suited most students and facilitators, with room for swaps to be arranged if they were unable to attend.

Students particularly relished the one-to-one teaching structure, and the opportunity for immediate feedback tailored specific to them. Some have found that it was a better experience overall to be able to practice in a supervised and safe setting instead of having to do a real ward round unprepared. They reported that the session could be improved by adding a separate decision-making exercise, and focusing more on escalating to seniors, a remark echoed by facilitators. One student commented that escalating to seniors is something they feel is not covered in the current curriculum, so it may be that students felt less confident in this task compared to other skills covered in the session.

Facilitators valued the scheduled teaching experience in a one-to-one setting and commented that the session was helpful for final year medical students in transitioning to FY1 doctors.

	Student feedback responses				
	1	2	3	4	5
1. Location of the session was convenient for me	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (100%)
2. Timing of the session was convenient for me	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (100%)
3. After the session, I feel more confident to carry out a ward round on my own	0 (0%)	0 (0%)	0 (0%)	2 (29%)	5 (71%)
4. After the session I feel more confident in producing & prioritising a list of clinical jobs	0 (0%)	0 (0%)	1 (14%)	3 (43%)	3 (43%)
5. After the session I feel more confident in handing over patients and referring to other specialties	0 (0%)	0 (0%)	0 (0%)	4 (57%)	3 (43%)
6. This session enabled me to practice proper medical documentation	0 (0%)	0 (0%)	0 (0%)	1 (14%)	6 (86%)
7. After the session, I have a better awareness of when to escalate a patient to my senior colleagues/other healthcare professionals	0 (0%)	0 (0%)	1 (14%)	4 (57%)	2 (29%)
8. My facilitator was engaging during this session	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (100%)
9. My facilitator was knowledgeable during this session	0 (0%)	0 (0%)	0 (0%)	0 (0%)	7 (100%)

*Responses: 1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, 5 – strongly agree*

	Facilitator feedback responses				
	1	2	3	4	5
1. Timing of the session was convenient for me	0 (0%)	0 (0%)	1 (20%)	3 (60%)	1 (20%)
2. I had a clear idea of the teaching objectives for this session	0 (0%)	0 (0%)	0 (0%)	4 (80%)	1 (20%)
3. The format of the session enabled the teaching to run smoothly	0 (0%)	0 (0%)	0 (0%)	2 (29%)	3 (60%)
4. The length of the session was sufficient to cover the learning objectives *	1 (20%)		4 (80%)		0 (0%)
5. My student(s) were engaged during the session	0 (0%)	0 (0%)	0 (0%)	1 (20%)	4 (80%)
6. I was able to find relevant patients for this session	0 (0%)	0 (0%)	0 (0%)	1 (20%)	4 (80%)

*Responses: 1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, 5 – strongly agree*

*\* Question 4 - the options were 1 – not enough time to cover the learning objectives, 3 – enough time to cover the learning objectives, and 5 – too much time to cover the learning objectives*

## Discussion

Students broadly agreed that this teaching met their learning objectives, although they reported being less confident than in other tasks such as prioritising a list of jobs and escalating to seniors. To improve the quality of the feedback, a pre-session questionnaire asking the same closed questions would show a baseline level of students' confidence in ward round skills to compare with the post-session feedback.

Engagement with the sessions was good, with students and facilitators rating each other's contributions highly. One comment from a facilitator suggested expanding the session to include several students each doing a different part of the ward round – however, most students stated that they enjoyed the opportunity for 1-on-1 teaching and feedback.

One potential advantage of this format of ward round simulation is that it does not require high-fidelity simulation equipment or a dedicated simulation suite, which are costly and require trained staff to maintain. By using real patients and junior doctors working on the same wards the sessions were based on, this pilot was simple and cost-effective to set up, and could easily be scaled out into any hospital specialty or setting.

Ward round tasks such as presenting patients, interpreting investigations and summarising medical notes require FY1 doctors to process large amounts of text and memorise large sets of figures and results. This may present a challenge to some students with neurodiversity such as dyslexia or

dyscalculia. Dyslexia is present in up to 2% of medical students.<sup>4-7</sup> By implementing ward round simulation, it may be possible for those students with dyslexia to identify ward round skills as a particular challenge prior to starting FY1. Students could then liaise with occupational health and student support in medical school or use the Supporting Trainees Entering Practice system to get support for these specific issues before they become a source of stress for trainees in the workplace. Identified challenges in learning can then be communicated to foundation schools to enable optimum support of FY1s.

## Conclusion

Simulated ward rounds enable students to combine clinical, communication, and organisational skills in a realistic setting, and previous studies have shown that ward round skills can be improved by simulation<sup>8-10</sup>. This pilot shows that it is feasible and cost-effective to simulate a ward round involving real patients and thereby better prepare students for future practice.

### Next steps

To improve upon this pilot in the next cohort of students, we intend to introduce a standardised sheet to use to document the simulated ward round. We hope that this would be freely available to download from the university's online portal known as King's E-learning and Teaching Services (KEATS) or a similarly accessible location. This would increase the fidelity of the simulated ward round and give students something to take away and compare to real-world examples to improve their documentation skills.

Longer term, we would like to involve the multidisciplinary team in this simulation to enhance skills in team working and communication.

One student commented that the teaching could be improved by having a talk on ward rounds as a cohort before the individual sessions take place. To help standardise the sessions across sites and remove the need for room bookings and scheduling, we will be uploading a video on this session to KEATS for students to access prior to the sessions, which includes useful tips and tricks. This would enable risk reduced learning during the ongoing Coronavirus Disease 2019 (COVID-19) pandemic.

## Abbreviations

COVID19 - Coronavirus Disease 2019

FY1 - Foundation Year 1

GMC - General Medical Council

KCL - King's College London

KEATS - King's E-learning and Teaching Services

IMT - Internal Medical Training

RCP - Royal College of Physicians

TTF1 - Transition to Foundation Year 1

## **Declarations**

### Ethics approval & consent to participate

Ethics approval was deemed unnecessary by the National Health Service Research Ethics Committee review. Verbal consent was taken from participants. The study did not involve any identifiable data collection, tissue/organ retention, involvement of any vulnerable individuals, or use of medicinal products. Ethical approval was not required from King's College London as the teaching sessions were part of an existing taught course module for which there was already ethical clearance.

### Consent for publication

Not applicable.

### Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

### Competing interests

The authors declare that they have no competing interests.

### Funding

This project did not receive funding from any source.

### Authors' contributions

MS designed, organised, and ran the study including the delivery of teaching and data collection. AR aided in designing the study, was a major contributor in writing the manuscript, and produced the surveys used for data collection. AB was a major contributor in writing and editing the manuscript, and delivered teaching. All authors read, edited, and approved the final manuscript.

### Acknowledgements

We would like to thank Dr Leila Frodsham (King's College London, Guy's & St Thomas's NHS Trust) for overseeing the project and giving us guidance throughout the process.



We would also like to thank Dr Cheron Bailey (King's College London, Maidstone & Tunbridge Wells NHS Trust) for approving the project at the trust level, allowing us to film teaching videos within the trust and providing the necessary staff and equipment, and advising us during the project.

### Authors' information

#### **Dr Mayven Siow MBBS BHSc**

*Internal Medicine Trainee (IMT2) at Maidstone & Tunbridge Wells NHS Trust, Associate College Tutor (Royal College of Physicians).*

#### **Dr Alexander Robertson MBBS iBSc**

*Foundation Year 1 trainee at Maidstone & Tunbridge Wells NHS Trust.*

#### **Dr Austin Begbey MBBS MRCP**

*Clinical Fellow in Respiratory Medicine at Maidstone & Tunbridge Wells NHS Trust.*

## References

1. Ward rounds in medicine: principles for best practice | RCP London [Internet]. [cited 2020 May 2]. Available from: <https://www.rcplondon.ac.uk/projects/outputs/ward-rounds-medicine-principles-best-practice>
2. General Medical Council. UK Medical Graduates Preparedness for Practice: Final Report to the GMC. [Internet]. 2014 [cited 05 May 2020]. Available from: <https://www.gmc-uk.org/-/media/gmc-site-images/about/how-prepared-are-uk-medical-graduates-for-practice.pdf?la=en&hash=1D87E30FB8A260AB20D662629D0F654FB64695FA>
3. Royal College of Physicians, Royal College of Nursing. Ward rounds in medicine: principles for best practice. London: RCP, 2012.
4. Gibson S, Leinster S. How do students with dyslexia perform in extended matching questions, short answer questions and observed structured clinical examinations? *Adv Heal Sci Educ*. 2011 Aug 21;16(3):395–404.
5. Shrewsbury D. State of play: Supporting students with specific learning difficulties. *Med Teach* [Internet]. 2011 [cited 2020 May 13];33(3):254–5. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/21452400>
6. Hafferty FW, Gibson GG. Learning disabilities and the meaning of medical education. Vol. 76, *Academic Medicine*. Association of American Medical Colleges; 2001. p. 1027–31.
7. Some problems in determining the prevalence of dyslexia. *Electron J Res Educ Psychol*. 2:5–12.
8. Behrens C, Dolmans DHJM, Leppink J, Gormley GJ, Driessen EW. Ward round simulation in final year medical students: Does it promote students learning? *Med Teach*. 2018 Feb 1;40(2):199–204.

9. Carus C, Cooper M, Fishwick R. 0196 Evaluating the use of a simulated ward round to improve medical students' confidence in paediatric skills. *BMJ Simul Technol Enhanc Learn*. 2015 Nov 1;1(Suppl 2):A65.3-A66.
10. Thomas I. Student views of stressful simulated ward rounds. *Clin Teach* [Internet]. 2015 Oct 1 [cited 2020 Apr 29];12(5):346–52. Available from: <http://doi.wiley.com/10.1111/tct.12329>