

PRHO views on the usefulness of a pilot ward simulation exercise

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There are concerns that pre-registration house officers (PRHOs) lack the expertise to initially manage acutely-ill patients. Simulation can support them in this role by providing a safe yet authentic setting. This paper shares PRHOs' views of a ward simulation exercise. The positive feedback has resulted in further development of the exercise to support PRHOs who have given cause for concern in their practice.

INTRODUCTION

Pre-registration house officers (PRHOs) prepare for 5–6 years to care for patients in their role as a newly-qualified doctor (General Medical Council, 2003). However, there is concern that, despite being given a more structured and accountable education, they are still not able to recognize, and initially manage, the acutely-ill patient (Smith and Poplett, 2002). This may be because this is the first time they are faced with the responsibility of using their professional skills, e.g. team-working, prioritizing and ethical decision-making, and applying these skills in the context of a busy acute admitting medical ward.

Traditionally, skills have been acquired by the apprenticeship approach of 'learning by doing' or 'practising on patients'. Owing to the complexity of care patients now require, and also because patients no longer desire to be the 'guinea pig', this approach is no longer acceptable.

Novice PRHOs can be supported in the process of developing their professional expertise by giving them relevant, repeated opportunities to practise (Arthur et al, 1998). Practising in an authentic setting in which they, and not

the patients, are the centre of attention can often help develop their confidence and competence (Turner and Brewster, 2000; Kneebone et al, 2003), ensuring they are fit for practice (General Medical Council, 2003).

The past few years have seen an increase in the use of simulation by high-reliability organizations, like the NHS (Good, 2003), which require an effective, yet safe, system of care where errors are kept to a minimum through recognizing how professionals make mistakes (Leape 1994, Health and Safety Executive, 1999).

The advantages of simulation to novice PRHOs are that it can enable them to rehearse their skills in a realistic context without compromising patient care, or to demonstrate how errors can occur by highlighting the factors that influence professional behaviour (Ker et al, 2003). Simulation also provides an opportunity to identify strengths and weakness in performance, especially in areas such as communication with nurses and patients, decision-making and team-working, which are often difficult to systematically observe in practice (Glavin and Maran, 2003).

One of the crucial requirements of any effective learning opportunity in simulated practice is to provide feedback to ensure the learning cycle is completed, and areas for remediation are identified in a non-threatening setting (Kurtz et al, 1998).

This article shares the development of a ward simulation exercise that was piloted with a group of PRHOs during their first 6 months in medicine in an 800-bedded teaching hospital and shares their evaluation of the exercise.

METHOD: THE WARD SIMULATION EXERCISE

Preparation

A multistage process was used to inform the design of the exercise, including:

- Shadowing PRHOs
- Focus groups
- Reviewing the literature (Pearse et al, 1999; Bleakley, 2002; Smith and Poplett, 2002)
- Reviewing patient admissions.

Two PRHOs were shadowed for a 12-hour shift. The shadowing exercise had two components: a time and motion study, and a focus on specific tasks carried out by the PRHOs.

Focus group interviews were held with each of the three professional groups most closely associated with the day-to day-working of a PRHO, i.e. senior house officers (SHOs), senior nurses and PRHOs. Typical areas of practice identified were pre-ward-round preparation, clerking, locating boarded out patients, and the use of job lists and boards for communicating with staff. Areas of PRHO practice which concerned SHOs and nursing staff were task prioritization, ordering appropriate investigations, writing referral letters, communication skills and reluctance to ask for help when busy.

With regard to the literature, a survey of disease profiles seen in teaching hospitals was a key contributory source in deciding which scenarios to use in the exercise (Pearse et al, 1999).

An internal review of the admission data for acute medical emergencies over a 1-week period in the general medical wards was another influencing source on the design of the exercise.

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Design

Simulated patients were recruited and trained in their roles before the exercise. All simulated patients who participated were given cues and instructions on timed interruptions during the exercise. An intermediate fidelity simulator, SimMan (Laerdal Medical AS, Norway) with a dedicated medical operator from the accident and emergency department was utilized to simulate the emergency scenario. In addition, a venepuncture trainer arm was available for cannulation and blood-letting, and placed alongside one of the simulated patients. A staff nurse who had education and acute medical care experience was also recruited to participate, and given cues and instructions on timed interruptions. Allied health professionals were also included in the exercise using timed telephone calls.

The exercise was designed to provide a balance between acute and elective admissions on a medical ward, as well as the development of complications. These included:

- Acute emergency, i.e. acute asthma attack
- Documentation and communication, i.e. dealing with a death
- Semi-elective admission, i.e. patient with vomiting and passing black stool

- In-patient complications, i.e. cardiac problems and/or chest infection

- Potential prescribing pitfalls

The errors in documentation, in conjunction with the timed interruptions, represented the realism of clinical practice in a busy medical ward, and contributed to the evaluation of safe practice.

Observers

The performance of each participant was directly observed and assessed by a minimum of three consultants who completed a performance evaluation sheet based on good medical practice (General Medical Council, 2003) for each PRHO independently, in order to give constructive feedback.

Implementation

The ward simulation exercise comprised four parts: the ward handover, the exercise, the debriefing ward hand-back and a feedback session on performance.

The ward handover of patient care was standardized using a written format. Each PRHO was responsible for the medical ward for a fixed time period and allowed to prioritize as they saw fit.

Using convenience sampling which encompassed a wide spectrum of abil-

ity, thirteen PRHOs were recruited to participate in the exercise. Each PRHO was allocated 25 minutes for the exercise. The exercise commenced with the PRHOs receiving the ward handover from one of the observers. This was followed by the exercise as previously described.

Post-exercise

All participants were encouraged to reflect on their performance and received verbal feedback from their observers. These feedback sessions lasted approximately 15 minutes.

THE EVALUATION OF THE EXERCISE

PRHOs were given a questionnaire which included open and closed questions (Table 1). The PRHOs were asked to rate the exercise on eleven items using a 5-point Likert scale (Cohen et al, 2000). The PRHOs were also invited to make further positive, or negative, comments on the exercise (Table 2). Completed forms were returned to an independent evaluator.

RESULTS

A total of thirteen PRHOs participated in the pilot ward simulation exercise. Of these, twelve returned a completed questionnaire.

For ten (83%) PRHOs, the exercise reflected a snapshot of life as a PRHO in the ward, and all twelve (100%) valued the feedback given at the end of the exercise. Eleven (92%) appreciated having their strengths reinforced and 9 their weaknesses identified.

DISCUSSION

The exercise tried to achieve realism in a safe, simulated, environment. For the majority of PRHOs, the experience was a realistic reflection of their daily work in a medical ward having to manage an acutely-ill patient in the context of several other patient problems to deal with. A minority, however, felt the inclusion of manikins inhibited their performance during the exercise. Their use, however, allowed the inclusion of emergency scenarios, which would be very difficult to replicate by other means, and gave the observing clini-

TABLE 1.
Results of of questionnaire given to pre-registration house officers after simulation exercise

Please rate the statements below on a scale of:	SA	A	U	D	SD
The exercise reflected a snapshot of life in the ward as a PRHO	2	8	1	1	-
I gained insight into my abilities as a PRHO from the overall experience	1	8	2	1	-
I valued the feedback given to me at the end of the exercise	4	8	-	-	-
I had areas of weakness identified	3	6	3	-	-
The exercise is a useful way of identifying any areas of PRHO weakness	-	6	5	1	-
The feedback can be used to give advice with regard to rectifying any identified weaknesses	-	10	1	1	-
I had my strengths pointed out to me	2	9	1	-	-
The exercise is a useful way of identifying a PRHO's strengths	1	5	5	1	-
The exercise is long enough to be able to identify strengths and weaknesses	1	3	4	3	1
This would be a useful exercise for PRHOs who are struggling	1	8	2	1	-
This would be a useful exercise for all PRHOs	1	4	3	4	-

SA = Strongly Agree; A = Agree; U = Uncertain; D = Disagree; SD = Strongly Disagree;
PRHO = Pre-registration house officer

TABLE 2.
Positive and negative comments made by pre-registration house officers (PRHOs) in response to simulation exercise

PRHOs are invited to make further comments, positive or negative, on the exercise	
Positive	Very realistic experience Useful to have sessions on a regular basis, e.g. beginning and end of PRHO year to gain insight into improvements, strengths and weaknesses. Good gauge of PRHO performance
Negative	Not an accurate snapshot because of the dummies, and having four consultants watching was off-putting – but a useful exercise overall. 20 minutes was not long enough to assess many aspects Don't feel simulated exercise highlights strengths and weaknesses sufficiently – make believe – dummies; hard to have empathy with 'pretend' relative Exercise was unrealistic with all the consultants in the room
Neutral	If performing well, preregistration house officer appraisal and assessment system (360 degree – four rater performance screening tool (Hesketh et al, in press)) enough; if struggling, ward simulation exercise beneficial Ward simulation exercise may be helpful in PRHO prep block Useful for assessing PRHOs with difficulties or for students to gain insight into a busy shift

cians an opportunity to directly observe their performance in context. Despite the unease expressed, the majority of PRHOs performed well.

The exercise was structured so that PRHOs, with the help of experienced clinicians, could identify their own strengths and weaknesses. However, uncertainty was expressed that the length of time given was sufficient to identify strengths and weaknesses in practice. PRHOs felt under pressure to complete all tasks. The exercise, however, was designed, in part, to observe their performance under a realistic level of pressure. Prioritization of tasks was essential but their completion was not.

Another factor that will need to be resolved as a result of the PRHO evaluation is the presence of the observing clinicians in the ward. This could be addressed by remote viewing, using cameras.

Interestingly, the PRHOs who participated in the pilot thought the exercise would be more beneficial for PRHOs who are struggling, while less than half felt it would be a useful exercise for all PRHOs. The strength of this exercise is that it compares and contrasts simulated performance with real practice. There are, however, constraints of costs and time in providing this exercise for PRHOs. One of the PRHOs suggested

that the ward simulation exercise would be useful in the preparation block before becoming a PRHO.

CONCLUSIONS

Overall, the exercise was beneficial to PRHOs, and valued by them. A key success of the exercise was that it encouraged PRHOs to reflect on their performance. With practice being directly, and closely, observed by senior clinicians, this reflective process was encouraged through discussion (Ker, 2003). This feedback was valued by the PRHOs.

The authors' experiences show that this exercise can be employed to enable PRHOs to gain detailed insight into their performance in a safe, realistic context. Further refinement of the

exercise has already taken place in light of these findings and successfully re-run for individual trainees in need of additional support. **HM**

Conflict of interest: none

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KEY POINTS

- A multi-staged design process assisted the creation of this realistic and useful simulated ward environment.
- Simulation offers a safe environment to practice the management of acutely-ill patients.
- The exercise provides a unique opportunity for consultants to closely observe pre-registration house officer (PRHO) performance.
- PRHOs gained valuable insight into their own performance, through reflection and feedback from senior clinicians.
- Ward simulation could offer an additional and valuable tool to support poorly performing trainees.