# The underperforming doctor in simulation: a framework proposal for simulation educators

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## Abstract

The use of simulation in all its forms as an educational tool is rapidly expanding. Implicit in many simulation encounters is the need to make assessments of learner performance, and translate this to judgement on clinical practice. Defining appropriate standards of performance, and hence what falls below this remains a challenge. Where underperformance is identified, there is a dearth of guidance available to the educator on how to proceed.

There is evidence and guidance available related to the management of underperformance in the clinical realm. We discuss the evidence available to the educator, and propose a framework for those involved in the planning and facilitation of simulation events to use in the event of underperformance being identified. The link between simulation and clinical performance, and minimum standards to apply is discussed, as well as strategies to document and manage when underperformance has been identified.

## Introduction

Simulation-based medical education is being increasingly integrated within healthcare to facilitate training in both technical and non-technical skills. Simulation provides the opportunity to practice skills and behaviours and make mistakes without compromising patient safety. As the scope of simulation training increases, the eventuality of learner underperformance is likely to become one that educators will encounter and be required to manage. This may be especially true of those using simulation as a tool for the assessment of performance, especially in a summative fashion, but conversely may present a greater challenge at times when no formal assessment is planned. In debriefing for simulation, we are making a judgement on the performance of our learners, and in addition to the responsibility we carry towards our learners, as clinicians we carry a responsibility to patients. A recent survey by the authors found that 63% of Paediatric Consultants in the Yorkshire and Humber region agreed that concerns regarding trainee underperformance in a simulated environment would trigger the consideration of further action, especially if observed in more than one simulated scenario (n=98). The nature of further action varied widely, and 91% of respondents were not aware of appropriate guidance related to this (unpublished data, Stephenson and Purva 2014). Whilst guidance is available for supervisors of trainees in clinical posts who display underperformance, this does not appear to translate directly to simulation scenarios. The relationship between simulation educator and trainee is markedly different to that between clinical supervisor and trainee, and we believe that underperformance within simulation is potentially a grey area, where guidance is lacking. The challenges posed by this dilemma are numerous. Questions to be answered are;

- How do we define underperformance?
- How does this correlate with real world clinical performance?
- How can the concern be addressed?
- Should concerns be escalated any further?
- What guidance is available?

This work will explore these issues further and define a framework for educators to consider when planning and running simulations. This framework is aimed at simulation educators and as a support document for clinical supervisors and programme directors to understand the conceptual justification for the approach that might be taken.

## Defining Underperformance

To underperform, an individual should exhibit a level of performance that is below standard. For UK doctors, underperformance describes individuals who persistently fail to achieve the standards identified in the General Medical Council Good Medical Practice (GMC GMP). These are the duties of a doctor as defined by their

regulatory body. This is defined as the standard which patients can expect from their doctors. For speciality trainees, speciality specific curricula determine the minimum expected standards and competences at varying levels of training in terms of knowledge and skill acquisition. Achieving these competences depends upon training, experience and effective supervision. Other healthcare professional groups have their own standards. There are mandatory competency requirements in areas such as resuscitation and radiation protection and therefore proficiency in knowledge and skills in these areas is expected where appropriate. [1]

Even in the presence of recognised training curricula, defining competence and more importantly minimum required standards of performance can be challenging. The domain of performance in question will be a factor in this; technical skill performance may be an area in where clearly defined standards of performance exist, with validated assessment tools and standards available. In other domains such as attitudes and professional behaviours, the minimum required standards of performance may be more challenging, dependent on cultural norms and societal values. There will be scenarios in which multiple potential pathways can be followed to reach the desired outcome, and in such cases a deviation from what the educator would have done should be a trigger to discussion and exploration of the reasons behind this for debriefing.

One of the key strengths of simulation is the ability to recreate clinical scenarios with reproducible events, and learning outcomes which directly match any assessment tools being used. This is especially true where simulation is being used as a summative assessment. In order for the assessment to be reliable, each assessee should be assessed under the same conditions and with the same standards of performance for reference. Assessment tools used should, where possible rely on objective metrics however this will not always be possible and some assessments will carry a degree of subjectivity. This is seen with the workplace based assessment tools used in clinical practice such as the mini-CEX. Making the assumption that trainees have met the minimum required competencies of speciality curriculum may not be appropriate and is unlikely to stand up to scrutiny. [2]

Performance standards should be agreed and a policy for their use and actions in case of

concern adopted prior to running simulations, to reduce any claims of unfairness. Facilitation of effective performance assessment within simulation therefore relies on robust, realistic, and specific learning objectives appropriately tailored to professional curricula, taking into consideration the regulatory body standards from the outset. These should reference the minimum expected standard, which should the learner fail to demonstrate, would be considered as unacceptable performance. This will assist in identifying performance areas, requiring closer examination. It will be also useful to consider actions or performance that would lead to patient harm in the clinical environment. This will need to be addressed whilst giving feedback, but may also merit further action. [1,3–5]

### Guidance concerning clinical underperformance

The GMC is clear that doctors have a duty of care to act upon concerns regarding the performance of colleagues or any threat to patient safety. Should performance concerns be raised, a trainee may be referred to as a 'doctor in difficulty'. Although serious performance issues amongst trainees are rare, doctors may also be identified as being in difficulty for a variety of reasons including clinical performance issues relating to skills and knowledge, personality or behavioural issues, personal health and environment issues. [6,7]

National guidance from the National Association of Clinical Tutors (NACT) UK has been adopted by the GMC and many of the royal colleges and deaneries, including Yorkshire and the Humber. This guidance emphasises that patient safety is paramount and that underperformance is a 'symptom, not a diagnosis', which should be identified as early as possible to facilitate appropriate investigation and intervention to ensure that 'trainees in difficulty' are managed effectively and successfully. Whilst supervisors in clinical practice are directly responsible for trainee doctors and have a clear role in the 'doctor in difficulty' process, the GMC also expects educators to raise potential concerns regarding trainees. [6-9]

Simulation is recommended as a potential intervention strategy for some trainees in difficulty. In Scotland, Foundation doctors (within the first two years of postgraduate training) in difficulty unsuccessfully managed at local ward or departmental levels are performance assessed in a tailored postgraduate ward simulation exercise. Although, there is no formal specific guidance to address underperformance in the simulated environment, one could argue that guidance to address concerns in the real world could be

applied to the simulated environment.[10]

## Performance in Simulation Vs Real Clinical Practice

One of the key controversies when considering learner performance in simulated environments is whether it is truly reflective of real clinical practice. The perfect scenario in assessment terms would be where the participant could not tell the difference between the simulation and real life. An example of this is the use of unannounced simulated patients used in general practice[11]. In reality, although great care is taken to create an accurate analogue, there will be discrepancies such as location, equipment, paperwork, time and staffing. Whilst in-situ simulation can overcome many of these challenges, others may persist including the learner reacting differently to the simulator compared to real patients due to the limited ability of the simulator to mimic real clinical signs. The use of simulated patients may go some way to addressing this.

Learners may not attach the same urgency to actions, or situational changes, may engage in riskier or untried behaviour, or may simply fail to consider the activity serious or relevant to their clinical practice and disengage from the process. Learners may also experience unease when simulations are video recorded or observed by their peers, which may in turn influence performance. [12–15]

It is also important to understand that human performance is naturally variable, both between and within individuals. Individual performance may vary considerably based on numerous factors including fatigue, distraction and stress. Such factors however affect every day clinical life, not just simulation. Just as in clinical practice, a single observation made in simulation may be anywhere on the scale from personal best to personal worst and repeated opportunities and observations may be needed to gain a better understanding of the individual ability range. Whilst there is no data on the optimal number of assessments that need to be made to accurately reflect competence, it is acknowledged that immersion within simulation facilitates suspension of disbelief and consequently people act and communicate, as they would do in real life [16–18].

Educators need to address the issue of psychological safety of the learner. Confidence and subsequent performance may be affected if the simulated environment is used as a method of assessing clinical competence. Learners may experience heightened anxiety at the prospect of mistakes potentially leading to negative consequences. However, it must be remembered that patient safety is at the forefront of patient care and that educators have a responsibility to raise concerns regarding trainee performance within educational settings, which increasingly includes simulation.[19]

## Scoring criteria for underperformance

When considering underperformance, it is important to recognise that there will be no single model which is likely to cover all potential eventualities, and as described above, the relationship between underperformance observed in simulation to clinical practice which may cause threat to patient safety is not fully established. We propose domains which the educator may use to frame their concerns and a severity scale on which to grade them (Table 1).

In many cases, it is likely that the initial suspicion of an underlying problem will arise during facilitation by a single educator, for example the leader of an educational course during the

*Table 1 Scoring rate to grade underperformance in the simulated environment*

| Underperformance Criteria |
|---|
| **Domains** |
| 1. Lack of technical skills appropriate to level of training |
| 2. Failure of recognition of key clinical issues |
| 3. Lack of application of clinical knowledge |
| 4. Failure to demonstrate non-technical skills appropriate to level of training e.g. communication, teamwork, leadership |
| 5. Probity concerns (may represent a severe concern by itself) |
| All these criteria should be considered in the context of the grade of trainee and their speciality curricula. |

| Number of Criteria Concerns | Underperformance Severity Category |
|---|---|
| 1 | Minor |
| 2 | Moderate |
| ≥ 3 | Severe |

- If any one criterion is of sufficient magnitude it may warrant escalation. This remains at the discretion of the simulation educators.
- Any doubts about the ability of the trainee to provide safe patient care triggers a severe concern.

debriefing of a scenario. In such situations, it is unlikely to be appropriate that concerns are directly escalated but this should trigger the educator to seek help and advice from colleagues, with either video review of the existing scenario (where available) or reassessment.
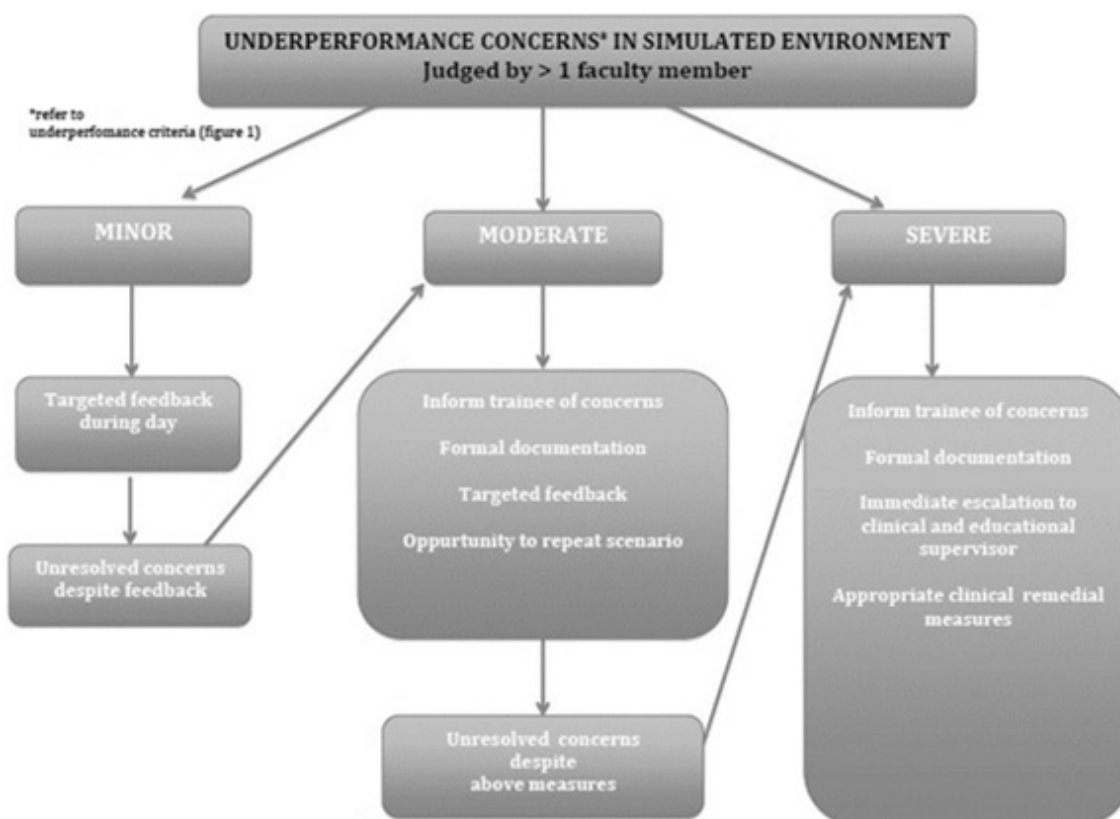
We propose a set of criteria based on GMP guidance (Table 1) to define underperformance and provide a framework for addressing concerns depending on severity (Figure 1). Ideally underperformance concerns should be agreed by more than one faculty member to promote objectivity. Once agreed the simulation faculty should decide upon the level of concern based upon pre-determined generic criteria considering speciality specific curricula and the training level of the doctor.

Minor, moderate, and severe categories were chosen to reflect the model employed in the GMC and National Association of Clinical Tutors (NACT) UK guidance relating to remediation pathways once doctors in difficulty have been identified. It is anticipated that the majority of concerns will be minor in nature and can be dealt with through targeted feedback within conventional debriefing (Figure 1). For the moderate and severe concerns, the opportunity to repeat the same or another

simulated scenario should be offered to provide further observation of performance (Figure 1). As advised by NACT UK guidance, trainees should be informed of the concerns and formal documentation should be completed, including notification to the clinical and/or educational supervisor dependent upon the level of concern. On the rare occasion that severe concerns emerge where patient safety is deemed an immediate and realistic threat, both the clinical and educational supervisors should be immediately notified, They would then be responsible for any appropriate remedial action in accordance with 'doctor in difficulty' guidance taking into consideration their clinical performance.[1,8]

It is important to appreciate that it is not the sole responsibility of the simulation educators to investigate underperformance but merely decide upon the level of concern, explore potential rationale for the performance concern within the context of the simulated environment, within the debrief and escalate concerns appropriately. Out with the context of a summative assessment setting, simulation is after all intended as a safe learning space which allows mistakes to be made and it is the responsibility of the person receiving the concern to investigate further in line with the 'doctor in difficulty' guidance as appropriate.[8]

Figure 1: Framework to deal with underperformance in the simulated environment



UNDERPERFORMANCE CONCERNS* IN SIMULATED ENVIRONMENT
Judged by > 1 faculty member

*refer to underperfomance criteria (figure 1)

MINOR — MODERATE — SEVERE

Targeted feedback during day

Unresolved concerns despite feedback

Inform trainee of concerns
Formal documentation
Targeted feedback
Oppurtunity to repeat scenario

Unresolved concerns despite above measures

Inform trainee of concerns
Formal documentation
Immediate escalation to clinical and educational supervisor
Appropriate clinical remedial measures

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**Targeted feedback and debriefing during simulation**

It is envisaged that the majority of minor and moderate concerns would be points for discussion in the debriefing. We consider insight and willingness to discuss personal development as important discriminators in this regard; the learner who is unwilling to acknowledge the existence of potential limitations, or unwilling to engage in a discussion about their practice will benefit no further from simulation based learning, and hence any further action should happen in a different context. Similarly, those unwilling to engage with the teaching may not have displayed a true representation of their clinical performance.

Simulation educational activities should be accompanied by debriefing (facilitated reflection and feedback) with an opportunity to practice again thereafter. This enables performance concerns to be identified and discussed, reflection to be encouraged and mental models to be challenged by exploring alternative methods. Engagement with this process may produce fundamental changes in performance. The learner who fails to engage or lacks insight into their performance poses a much greater problem for the educator. A failure to engage may be a reflection of poorly designed simulation scenarios, or alternatively a learner who will not entertain this method of education. Insight is often referred to in the context of errors made during simulation but can be difficult to define. Insight potentially has three components: awareness of one's own performance, awareness of others performance, and the capacity to reflect upon both and make a judgement. Insight can be influenced by inadequate feedback, poor debriefing techniques, and also the notion that sometimes we do not know what we do not know. It is important to explore all these potential contributory factors prior to escalation. Whilst the engaged learner may be amenable to debriefing and further simulation opportunities, the disengaged learner and those who cannot demonstrate insight are likely to require alternative approaches. [20–22]

Simulation and debriefing are typically done as part of a team or a group exercise with peers, seniors, juniors and other professionals contributing. The educator should consider this when a potential trainee in difficulty is encountered. Whilst it is important that learning outcomes are addressed for all involved, the potential embarrassment or humiliation of the trainee of being debriefed in front of their peers after underperformance may significantly reduce the educational benefits and potentially promote disengagement. It is recommended that the faculty consider this, prior to embarking upon debriefing, as such candidates may benefit from being debriefed individually, alongside separate debriefing and discussion with other learners. It is prudent for two faculty members, where possible, to debrief. Debriefing should follow best practice recommendations such as using the advocacy-enquiry model where appropriate by simulation educators with appropriate debriefing expertise. It should be made clear to learners that their performance has been a cause for concern and what follow up action is to be taken. [10,23–25]

**Documentation**

Following faculty discussion, the lead faculty member should complete formal documentation of moderate and severe underperformance concerns in the form of a narrative statement of events or completion of a workplace based assessment signed by two faculty members and the learner. Documentation should include the concerns, the context in which they were identified, an overview of the debriefing discussion and the structured feedback offered. Whichever method is employed, this should be shared with the learner and appropriate supervisors. The use of e-portfolios can facilitate this. A copy should also be held securely at the simulation centre to assist in any potential follow up action and as a record for the educators. Where video recordings are used in simulation, it may be worth considering holding a copy securely at the simulation centre. This raises the importance of obtaining consent for video recording prior to simulation, with explicit policies available to learners regarding storage and dissemination of footage. Any documentation should be of a quality able to withstand external scrutiny where appropriate, and may form part of a quality assurance process for simulation centres and educators. Whether the debrief should also be recorded may be an additional consideration. [26–28]

**Conclusion**

Clear guidance exists for clinical and educational supervisors regarding doctors identified as being in difficulty in clinical environments. Whilst educators are expected to raise concerns regarding trainee performance in educational settings, there is little in the literature concerning the approach to underperformance within simulation. Concerns regarding simulation performance being a true representation of clinical performance are valid but improved with increasing fidelity and candidate immersion. However, recognition of performance issues is likely to increase in frequency as the adoption and application of simulation evolves. Those engaging in simulation delivery should equip themselves with a robust plan to deal with such eventualities in advance of them occurring. We believe that our framework will provide simulation educators with the guidance needed to deal with the challenges of underperformance in simulation so that it can be dealt with appropriately and effectively.

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