

have been on the rise during the last few years in medicine ^[1] and presented an opportunity to produce safe, efficient and flexible inductions for our junior doctors ^[1].

Aim: The aim of the study was to produce a simulation-based departmental induction programme that would be equally effective to the traditional model.

Method/design: We started with identifying the components of a departmental induction and then held a multi-disciplinary team meeting to encourage the addition of topics felt to be important and often overlooked. Stakeholders were involved in a needs analysis on the induction material; previous and current departmental junior doctors, the lead pharmacist, medical registrars, emergency physicians, acute physicians, the clinical lead, the medical director and the director of medical education were all contacted with specific questions on content and junior doctors' needs. Components of the recent General Medical Council surveys were taken into account to allow for a more junior doctor-centred induction. Subsequently, scenarios were designed with input from the directors of simulation and approved by the acute medical unit (AMU) lead. With the help of our colleagues at Hull Institute of Learning & Simulation (HILS) the scenarios were filmed, edited, and filed to produce an educational tool.

Implementation outline: The end-product of our VR360 induction has been checked by the educational lead of AMU against specific variables and standards and was characterized as 'much more flexible and a potentially more effective educational tool for junior doctors' medical induction'. Initial feedback from junior doctors has been very positive; however, further feedback comparing traditional and VR360 induction is needed. Work is ongoing to produce an interactive VR360 induction video with the hope that this could replace face-to-face departmental induction within our hospital.

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GOING UPSTREAM: KEY CONSIDERATIONS WHEN MOVING A FACE-TO-FACE SIMULATION MODULE AND ASSESSMENT TO VIRTUAL DELIVERY

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Background: 'Preparing for on-call' is a level 6 physiotherapy module delivered face-to-face to enable synthesis of respiratory knowledge and application to real 'on-call scenarios', preparing students for the transition into clinical practice. Due to lockdown, we could not deliver this module face-to-face and changed it to a 'virtual delivery' for teaching and assessment.

Aim: The aim of the study was to deliver a face-to-face SBE module and assessment virtually.

Methods/design: We used the principles of SBE design ^[1] pre-brief, virtual simulation and debrief. We involved simulated patients (SPs) (in their own homes, with blurred background, thereby simulating a hospital environment). They were delivered appropriate props: hospital gown, range of oxygen masks, BP cuff and saturation probe. The SPs were trained online in how to portray respiratory deterioration, a nurse

facilitator was trained to give appropriate information about the patient and a physiotherapy clinical educator supported the students with their A-E assessment and management of the patient. Although normal 'hands-on' could not be achieved, we ensured that the students demonstrated their clinical reasoning using the 'think aloud' technique ^[2].

Implementation: We achieved a 'virtual on-call experience' by involving SPs, confederate nurse facilitators and physiotherapy clinical educators working synchronously with students via Microsoft Teams. With teaching groups of eight, we kept to the principles of SBE by pre-briefing, running a realistic scenario with clear learning outcomes, followed by a debrief facilitated by the nurse and physiotherapy educator. Students were able to rehearse their clinical reasoning by 'thinking out-loud'; these preparatory 'virtual on-call scenarios' enabled them to become familiar with 'performing' on Teams. This 'process-familiarity' led to a preparedness, professionally and psychologically for their subsequent 'virtual on-call assessments'. Four on-call scenarios were delivered in this module, enabling the learning outcomes to be achieved via this method of delivery. The virtual on-call assessment was run in three virtual rooms on Teams, with an SP, a clinical educator as an examiner, a confederate nurse, and one student in each room. The assessment scenario ran for 30 minutes replicating the normal examination time, giving students the opportunity to rehearse the skills they had learnt in the module. Additional supportive information was given to the students by sharing a 'patient monitor' (screenshots from the ALS Laerdal manikin monitors). In total, 28 assessments were achieved in 1 day, with two taken separately for extenuating circumstances. Student feedback has been positive with all students passing, enabling graduation this summer.

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A SIMULATION WITH NO PARTICIPANTS ONLY CO-FACULTY: USING SIMULATION FOR SYSTEMS INTEGRATION ON THE LARGE SCALE

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Background: The large-scale relocation of a paediatric hospital is a significant undertaking. New environments change the system, and ways of working must adapt to maintain quality healthcare. There are risks to patients and staff well-being, with high anxiety around change. There is evidence for the efficacy of simulation as a tool for safe training and rehearsal of staff and teams ^[1] but less so on such a large scale. Simulation for many is still perceived as a test of performance and a threat. We connected with the international simulation community to design a hospital-wide programme of Patient Environment Simulations for Systems Integration (PESSI). This paper outlines challenges in establishing buy-in from stakeholders and departments, developing a framework for implementation and our reflections on delivery of large-scale simulation activities to assist a hospital move.

Aim: How can simulation-based methodology be used to support clinical departments on a large scale to adapt/integrate/prepare in moving to a brand-new hospital?

Method/design: Collaboration with authors of PEARLS for system integration use ^[1], using it as the main framework for delivery and structure of PESSI. Stages of delivery were: pre-phase work, system testing day, debrief/reflection and evaluation. Immediate feedback of enjoyment and learning was collated from all participants. Three-month post-move feedback is planned to review ongoing impact/behaviour change plus analysis of safety incidents.

Implementation outline: Pre-phase work involved meeting stakeholders and establishing aims of testing. Ward managers were key departmental links, meeting with members of PESSI to plan scenarios. System testing days involved familiarizing themselves with the environment, followed by 'day in the life' simulations with a representation of the whole team. All participants were called 'co-faculty' and knew exactly what would happen. Debrief involved facilitated conversations with the whole team describing reactions, and deeper analysis of the key events, with concerted efforts by facilitators to give a balanced approach of positives and challenges. A short report was given back to the department detailing the findings teams would need solutions to. Solutions from simulation were implemented prior to the move, increasing staff confidence, with many feeling PESSI played a major role in feeling prepared for the new site. The PESSI framework is being utilized in adult services and we hope to publish our methodology to share with the wider simulation community.

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35 THE CREATION OF A 'CHOOSE YOUR OWN ADVENTURE STYLE' VR TRAINING PACKAGE FOR POST ANAESTHETIC CARE UNIT (PACU) STAFF

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Background: Lack of training materials for Post Anaesthetic Care Unit (PACU) staff leads to the creation of a 'choose your own adventure' style VR training package, working collaboratively with the TEL team and incorporating quality improvement methodology prior to rollout. The development of this training package was initiated following the introduction of a theatre-specific induction programme, during which it was discovered that the learning opportunities for PACU staff were limited, particularly during the COVID-19 response.

Aim: Therefore, the aim of creating this learning package was to make available more interactive learning opportunities for PACU staff, giving them the chance to develop their knowledge and skills in a safe environment, without the pressure of a live patient.

Method/design: Planning was completed in collaboration with a Theatre Practice Educator and Simulation and Human Factors Fellow. This was initiated with the use of a modified decision tree as shown in figure one. Following completion of this, the Technology-Enhanced Learning (TEL) Lead and clinical expert advice were sought to assist in the creation of high-quality content. Communication was

then sent out seeking actors and location/dates for filming were planned. Appropriate consent was gained from all participants involved. Filming had to be planned around theatre utilization; therefore, it was necessary for this to take place on audit sessions dedicated to training of theatre staff. After the completion of filming, further collaboration with the TEL Lead was required to create the learning package. On completion of the package, it was shared with experienced members of PACU staff to test the quality and validity of the learning experience. At this point, a quality improvement approach was adopted with the use of PDCA (Plan-Do-Study-Act) cycles. Adopting this approach allowed adjustments to be made to the package before it was utilized on a larger scale.

Implementation outline: The learning package was implemented rapidly after completion. It was immediately included in the Theatre Induction Programme for every PACU member of staff and was also then available to be utilized on audit training sessions for existing PACU staff. This learning package was a creative approach, exploiting technology not yet harnessed within our speciality. Patient post-Anterior Repair brought into PACU with an LMA (Laryngeal Mask Airway) *in situ*, spontaneous respirations are present.

Patient regains consciousness: LMA expelled:

1. Laryngospasm – recognize – O₂, Waters Circuit/PEEP
2. Vomit – positioning – suction – anti-emetics
3. PV PAIN – check wound – analgesia (ineffective)

Get help

1. Laryngospasm has broken with PEEP
2. Auscultation and order chest x-ray
3. Multimodal analgesia – add patient PV pack band

156 PRACTICE MADE PERFECT: THE EVOLUTION OF AN LVAD ALGORITHM THROUGH CLINICAL SIMULATION

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Background: In total, 70% of patients implanted with a left ventricular assist device (LVAD) will experience a life-threatening emergency within the first year of implantation^[1,2]. Complexities surrounding deterioration and resuscitation in these patients are clinically vast and intimidating to the staff who encounter them. This may present significant challenges for staff caring for this complex patient group and often leaves them feeling anxious and insufficiently prepared when presented with LVAD deterioration. A literature review revealed a lack of clear guidance for the management of in-hospital LVAD emergencies. As a result, an organization-wide project was launched to design the first ever, non-brand-specific, LVAD emergency algorithm. A multi-disciplinary clinical simulation programme was fundamental to the evolution of the tool and the clinical decision-making, competence and confidence of the staff group.

Aim:

- Develop and introduce an emergency algorithm that provides a standardized approach to LVAD patient emergencies.
- Increase staff confidence, competence and clinical decision-making.