nursing students (n = 217), using low-cost virtual reality headsets, demonstrated that learning via immersive approaches aided understanding of the complex concepts, provided immediate feedback about clinical decisions, and could be completed multiple times. It provided additional opportunities for safe practice and complimented their ward and clinical skills experiences. Simulation technicians and lecturing staff recognized these benefits but identified time and cost constraints as challenges. Building on this research, we designed and evaluated a small-scale pilot to improve processes.

Aim: To use 360 videos accessed via low-cost VR headsets to scale the clinical simulation experience for paediatric nursing students.

Method/design: Working with our local hospital and our second-year paediatric nursing students, we used agile design methods and co-creation to develop two ABCDE assessment clinical simulations (sepsis and acute respiratory illness), using a 360 camera. These videos were accessed using low-cost virtual reality headsets, Oculus Quest™, mobile devices and Microsoft HoloLens™. Qualitative evaluation sought views of students, nursing staff/academics and simulation technicians through focus groups (n = 10). Thematic analysis revealed emergent themes of flexibility of access, repetition of learning opportunity and strengthening or the practice-theory link. Challenges included user familiarity with the technology and time investment. The main impact of this project was wider and longer-lasting learning compared with traditional methods.

Implementation outline: Bite size learning chunks embedded strategically into our new nursing curriculum, for 300 student nurses studying at level 5. Harnessing the full potential of the clinical simulated experience permits students and staff to learn at a time and place of their own choosing. The ABCDE assessment will be expertly demonstrated through 360 videos, which will better prepare students for in-person simulations, saving face-to-face time explaining how to carry out the simulation. Learning from this project will feedforward to a faculty-wide multi-disciplinary clinical simulation event, informing guidelines.

REFERENCES

1. Health Education England. Developing people for health and healthcare enhancing education, clinical practice and staff well-being. A national vision for the role of simulation and immersive learning technologies in health and care. London: Health Education England; 2020: 8(1).
2. Singleton H, James J, Penfold S, et al. Deteriorating patient training using non-immersive virtual reality: a descriptive qualitative study. CIN: Computers, Informatics, Nursing. 2021.

90 COVID-19 SIMULATION PROGRAMME: RAPID TESTS OF CHANGE

Angus Cooper[1,2], Jeremy Morse[2], Craig Brown[1,2]; *[1]NHS Grampian, Foresterhill, UK[2]University of Aberdeen, Aberdeen, UK*

10.54531/VZPO5063

Background: The 'first wave' of COVID-19 created many challenges. Our hospital was fortunate to have slightly longer than many others to prepare. One of our Emergency Department (ED) challenges was that, as part of a redesigned process, patients with respiratory failure (presumed COVID-19) were to be assessed in a very different clinical area (single rooms instead of 'open plan' resuscitation room), managed by a much larger team of clinicians, using Level 3 (airborne) PPE and a modified approach to Rapid Sequence Intubation (RSI) induction of anaesthesia. Rapid cycle simulation and debrief has subsequently been described as part of a system-based learning approach during the COVID-19 pandemic [1].

Aim: The aim of this programme was to rapidly familiarize a large team with the new clinical environment and RSI process, using the learning conversation after each simulation to make an immediate change, as required, to the clinical area and/or process.

Method/design: Each simulation was an identical clinical scenario, i.e. a patient with respiratory distress for whom the need for COVID-19 modified RSI had been identified. The simulation was delivered in the rooms that were subsequently to be used for direct clinical care of confirmed or suspected COVID-19 patients.

Implementation: A process testing approach was taken. During the simulation brief, the process was talked through in detail (all expected actions and sequence), the team then performed the simulation, followed by a learning conversation that was very focussed on the challenges in delivering this process. Using mobile cameras and large screen TV, all simulations were live streamed to an immediately adjacent area, such that a large number of other clinicians could observe the brief, the simulated clinical scenario and participate in the learning conversation. Agreed changes in equipment, ergonomics and process were immediately incorporated into the next simulation. Once this area was required for direct patient care, an identical room was set up in an adjacent (non-COVID-19 clinical area) to allow daily simulated training to continue. On one occasion, where there was advance notice of the arrival of a patient requiring RSI, the team who were to be involved in the RSI 'drilled' this scenario ('just in time' simulation) whilst awaiting the arrival of the patient. It was observed that participants who had previously been less comfortable with simulation were happier with this process testing approach (knowing what is expected and with no surprises).

REFERENCE

1. Dubé M. COVID-19 pandemic preparation: using simulation for systems-based learning to prepare the largest healthcare workforce and system in Canada. Adv Simul. 2020;5:22.

105 A SIMULATION-BASED DEPARTMENTAL INDUCTION USING VIRTUAL REALITY 360

Sarah Powell[1], Eirini Kasfiki[1,2], Andrew Blackmore[1,2], David Wright[1,2]; *[1]Hull University Teaching Hospitals NHS Trust, Hull, UK[2]Hull Institute of Learning and Simulation, Hull, UK*

10.54531/EJJW6579

Background: One of the challenges faced during the COVID-19 pandemic was the need for quick departmental inductions to allow rotating and redeployed junior doctors to familiarize themselves with rapidly changing departmental environments. We were unable to continue traditional inductions due to various challenges including lack of senior staff to provide the induction due to increased workload; lack of administrative staff to support inductions due to sickness and self-isolation; and lack of physical space under the constraints of social distancing. Thus, an alternative was needed incorporating all aspects of a traditional induction. Video Reality 360 (VR360) technology and video simulation

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.

REFERENCE

1. Buchman S, Henderson D. Using Virtual Reality 360 video for Inter-professional Simulation Education. In: Nursing Education Research Conference, 2018, Washington DC.

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

Debbie Thackray[1], Frances Monk[1], Carrie Hamilton[1]; [1]*University Southampton, Southampton, UK*

10.54531/LCIB3983

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.

REFERENCES

1. Jeffries PR. A framework for designing, implementing, and evaluating: simulations used as teaching strategies in nursing. Nursing Educ Perspect. 2005;26(2):96–103.
2. Van Someren MW, Barnard YF, Sandberg JAC. The Think Aloud Method: a Practical Approach to Modelling Cognitive Processes. London: Academic Press; 1994. https://hdl.handle.net/11245/1.103289.

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

Katie L Howie[1], Daniel Hufton[1,2], Nathan Oliver[1,2], Omair Malik[1,2], Kathryn Twentyman[1]; [1]*NHS Lothian, UK*[2]*Medical Education Directorate, UK*

10.54531/JBXJ4450

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.