Surgical Assessment Unit (SAU) at an acute teaching hospital. Inadequate exposure to acute surgical conditions affected student-reported confidence and preparedness for Objective Structured Clinical Examination (OSCE). We hypothesized that simulation-based teaching during the pandemic could supplement disrupted learning [1] and improve patient safety [2].
Aim: The aim of the study was to address the quality dimension of patient safety. This Quality Improvement Project (QIP) was designed to increase student confidence by 50% in the assessment and management of acute surgical conditions, and preparedness for OSCE.
Method: The educational intervention 'Simulated SAU', consisting of scenarios based on common acute surgical presentations, was co-designed with project champion, placement lead, teaching fellows and medical education department, utilizing transformational leadership. Model for improvement approach was utilized with Plan-Do-Study-Act (PDSA) cycles. During the first PDSA cycle, intervention was delivered over 3-hour sessions in March 2021 to 12 third-year medical students, through the use of simulated patients. The second cycle encompassed integration of learning points including amended scenario and debrief timings, and improved questionnaires, delivered in April 2021 to a further 11 third-year medical students. Students completed paired 14-item pre- and post-intervention paper questionnaires consisting of 5-point Likert scale questions on confidence and preparedness. The Wilcoxon signed-rank test was used for statistical analysis, with a p-value of <0.05 considered statistically significant.
Results: During the first cycle, student-reported median confidence in assessment increased by 50% ($p = 0.01$), and in management by 66.7% ($p = 0.02$). Students felt 50% more prepared for OSCE assessment ($p = 0.02$). During second cycle, median confidence in assessment increased by 100% ($p = 0.003$), in management by 100% ($p = 0.004$), and students felt 50% more prepared for OSCE assessment ($p = 0.015$). 100% of students felt simulated SAU is useful and future sessions would further enhance surgical learning.
Implications for practice: The QIP achieved its aim to increase student confidence with statistically significant differences, through a high-fidelity simulation intervention. Through QI methodology and leadership for improvement, this QIP has successfully bridged the educational gap resulting from the pandemic, with emphasis on delivering safe patient care. Next steps encompass integration of learning points over the following PDSA cycle, engagement of new staff and resource sharing for future implementation and sustainability. Simulated SAU intervention is low-cost, requires minimal staff and is simple to deliver, hence has the potential to become integrated within medical education across numerous educational settings and enhance patient safety.

REFERENCES

1. Dedeilia A, Sotiropoulos MG, Hanrahan JG, Janga D, Dedeilias P, Sideris M. Medical and surgical education challenges and innovations in the COVID-19 era: a systematic review [Internet]. Vol. 34, In Vivo. International Institute of Anticancer Research; 2020 [cited 2021 May 9]. pp. 1603–1611. Available from: https://pubmed.ncbi.nlm.nih.gov/32503818/
2. Aggarwal R, Mytton OT, Derbrew M, et al. Training and simulation for patient safety. Qual Saf Health Care. 2010;19 Suppl 2(Suppl 2):i34–43 Available from: http://qualitysafety.bmj.com/

160 APPLYING HUMAN FACTORS PRACTICES AND SIMULATION TO DEVELOP SYSTEMS AND PROCESSES FOR A PANDEMIC VACCINE SERVICE

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Background: The COVID-19 vaccine hubs required rapid implantation. While organizations had plans as part of the emergency resilience response to the community, there were particular challenges for setting up and running vaccine hubs for COVID-19 that Human Factors and Ergonomic practices could help to identify and address prior to opening as a vaccine hub.
Aims: The aim of the study was to assist with understanding the abilities of vaccinators and design of processes for the vaccine service at Dartford and Gravesham NHS Trust.
Method: Simulation, observation, semi-structured interviews and Hierarchical Task Analysis (HTA) were used to understand the complexity of the vaccinator role and potential challenges for the implementation of the vaccine service. This was then used in identifying an area that could meet the capacity requirements identified and to help design the process and flow through the vaccine hub.
Results: The work undertaken was used to identify and design the processes required to deliver the vaccine service. This in turn helped to identify the space required and, due to changes in practice following potential reactions to the Pfizer BioNTech vaccine [1], develop the process within the identified footprint. The process developed went into operation in late December and ran largely as designed throughout its operating life delivering first and second dose vaccines to trust staff and the wider keyworker community while community sites were identified and developed for mass vaccine hubs.
Implications for practice: Using simulation and HFE processes as part of a collaborative process with staff trained with these skills can help to design safer, more effective processes in healthcare.

REFERENCE

1. Public Health England. COVID-19: The Green Book, chapter 14a (Update 31 December 2020). Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/984310/Greenbook_chapter_14a_7May2021.pdf [Accessed 21 June 2021].

103 UNPICKING THE MECHANISMS USED IN SIMULATION-BASED EDUCATION THAT SUPPORT UNDERGRADUATE STUDENTS' DEVELOPMENT OF THEIR COLLABORATIVE PRACTICE SKILLS

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Background: Annually, approximately 80 undergraduate physiotherapy and occupational therapy students participate in simulation-based learning, as part of a second-year module. The experience provides opportunities for students to achieve core module outcomes, such as developing communication skills, inter-professional practice and clinical reasoning. The simulation is supported by a small team of academic faculty and a professional actor, all trained in simulation and debriefing. The students are required to assess an older person at home as part of an emergency response team. They work in groups of up to eight students, are pre-briefed and given a profession-specific written brief of their role in the scenario. A two-pronged approach to debriefing is used; the origami approach, utilizes pauses to capture teachable moments [1], and the advocacy-inquiry approach, used to reflect on the experience [2]. The simulation itself is not assessed; the students write a reflective assignment through the simulation lens, discussing the concepts of effective collaborative practice.