

to onboarding programmes at healthcare organizations. The nursing education department at our organization went through this same experience, based on what we have learned during the pandemic it is now time to revisit our simulation facilitation training program for new nurse educators.

**Aim:** The aim of the study was to revise our current simulation facilitation curriculum 'Introduction to Simulation' with greater emphasis on delivery of the program through virtual processes.

**Method/design:** Pulling from the educational methodology of the flipped classroom that has many advantages for the practicing professional such as improved learning performance, increased motivation and flexible learning [2] and our experiences with other nursing education programmes that required adaptation to a virtual context at our organization we will revise the current program. The program will change from a 1/3 virtual, 2/3 in-person model to a 2/3 virtual and 1/3 in-person model. We will redesign the current virtual content to be more engaging while shifting the in-class lecture to a webinar format delivered via our online meeting platform while still incorporating active learning strategies to meet the simulation facilitation learning needs of our new nurse educators. Following the 'Introduction to Simulation' webinar, the new nurse educators will attend an in-person session to practice facilitating simulation scenarios and debriefing and will be meta-debriefed by the workshop instructors to provide real-time constructive feedback.

**Implementation outline:** This curriculum has yet to be implemented. We anticipate implementation in September 2021 with a cohort of 5 to 6 new nurse educators. The revised curriculum is anticipated to incorporate 2 hours of independent learning, 4 hours of an interactive webinar and 4 hours of simulation facilitation practice that will allow for the application of knowledge learned and feedback from simulation facilitation experts. After the workshop, we will seek feedback from workshop participants asking if this methodology met their learnings needs. We will use the outcomes of this first cohort to evaluate if this educational strategy is viable for ongoing program delivery.

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## SIMULATION XR: AN EXTENDED REALITY LEARNING EXPERIENCE

Stephen Ojo<sup>1</sup>; <sup>1</sup>DREEM/Nottingham University Hospital, Queens Medical Centre, Nottingham, Nottingham, UK

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**Background:** Simulation has always been employed to cover a wide-ranging aspect of the learning objectives in the Emergency Department (ED) curriculum at post-graduate and undergraduate level [1]. In a busy environment like our Emergency Department where bedside teaching is not always possible, the learning objectives can be met through the Simulation Extended Reality (XR). XR is particularly useful during the COVID-19 pandemic when real patients, standardized patients and relatives could not be reached due

to the risk of contracting a deadly disease. However, Inter-professional education [2] must continue. We can now have our nurses, trainees, health support workers in a large room all connected to one device in a virtual world and be able to deliver teaching to them.

**Aim:** The aim of the study was to introduce new healthcare students to the clinical environment through the use of mixed reality devices to ensure familiarity before contact with the real environment and to provide alternative simulation education and 'bedside' teaching during disruptive periods like the COVID-19 pandemic.

**Method/design:** XR is a term that covers augmented reality (AR)/mixed reality (MR), which refers to a set of mobile digital technologies that allow a three-dimensional computer-generated model in the form of a hologram to be overlaid on a real environment [1]. This technology can be used to 'create' simulated patients for the purpose of learning in an immersive learning environment (ILE). Our learners can have the opportunity to interact with the Holo-patient in proximity thereby bypassing the restrictions of the real clinical environment with all the risk involved, particularly during the COVID-19 outbreak.

**Implementation outline:** With the use of a headset such as Google Glasses or the Microsoft HoloLens that projects a hologram into the users' physical environment, our learners can interact with the mixed reality (XR) world and have clinical encounters with simulated/standard Holo-patients (SHP). With the headset on, the learner can see the patient, hear real sounds from the patient and see objective data/vital signs that can aid clinical reasoning and make the simulated scenario more immersive. A new healthcare worker (student nurse, clinical support worker, doctor on first rotation) will have an immersive experience that bridges virtual and real-world, supplements reality, and has the potential to build confidence and aid learning prior to encountering the real world.

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## A NOVEL APPROACH TO INTERACTIVE, ONLINE HISTORY-TAKING IN MEDICAL EDUCATION DURING THE COVID-19 PANDEMIC

Teniola Adeboye<sup>1</sup>, Innocent Ogunmwonyi<sup>1</sup>, Azeem Alam<sup>1</sup>, Hollie Parker<sup>1</sup>, Catherine Mathews<sup>1</sup>, Thomas Simpson<sup>1</sup>; <sup>1</sup>Lewisham And Greenwich NHS Trust, London, UK

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**Background:** The COVID-19 pandemic resulted in an unprecedented shift from face-to-face to online teaching with a subsequent deleterious impact on the quality of teaching delivery within medical education [1]. Human interactions such as history-taking are challenging to recreate without the nuances of face-to-face teaching. We present the first instance of a gamified online interactive history-taking simulation, in this case specifically designed for secondary school students interested in a career in medicine. Effective history-taking is a fundamental determinant of patient care and by developing this simulation we are focussing on the proximal determinants of patient care. We believe that this unique approach is translatable to undergraduate and post-graduate medical education, resulting in wider and

longer-lasting beneficial impacts on both education and clinical care.

**Aim:** Our aim was to demonstrate the feasibility of utilizing a novel approach to interactive, online simulated history-taking.

**Method/design:** The session was designed for students attending a virtual work-experience programme and is founded upon gamification principles. History-taking is a humanistic social process requiring effective communication skills and recognition of verbal and non-verbal cues. The session enabled students to directly instruct a passive clinician to take a history from a simulated patient actor, incorporating both verbal and non-verbal actions. This novel teaching method is analogous to Freire's work, highlighting the importance of the learner being an active participant, thus enabling experiential learning <sup>[2]</sup>.

**Implementation:** This interactive approach required a simulated patient actor, a passive clinician and a verbal instructor to be present. Students were presented with a case scenario and viewed the interaction between the simulated patient actor and passive clinician online via a video conferencing service (in this case, Zoom). Students provided instructions to the passive clinician using the typed chat function. These typed instructions were relayed by the verbal instructor to the passive clinician via an earpiece and the passive clinician would then embody these instructions. This allowed students to work as a group to directly elicit a history and witness their instructions being actioned. Examples of instructions included questions to verbalize, adjustments to body language and alteration of the tone of voice. Following good student instruction, the passive clinician gradually grew in competence and confidence throughout the scenario, thus allowing real-time, interactive feedback of their history-taking approach. The session concluded with a reflection of the communication traits that helped to gain an effective history from the patient using a debrief model.

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## THE EFFECTIVE MANAGEMENT OF RESOURCES IN A BUSY SIM CENTRE

Tim Lawler<sup>1</sup>, Claire Condrón<sup>1</sup>, Michelle Scott<sup>1</sup>, Galina Meshcherskaya<sup>1</sup>, Adam Roche<sup>1</sup>, Simon Horne<sup>1</sup>, Rebecca Kirrane<sup>1</sup>, Miroslav Voborsky<sup>1</sup>, Clare Sullivan<sup>1</sup>, Caoimhin O'Conghaile<sup>1</sup>; <sup>1</sup>Royal College of Surgeons in Ireland, Dublin 2, Ireland

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**Background:** The efficient working of a busy, multi-faceted Healthcare Simulation Centre that caters to many different stakeholders requires a repertoire of protocols and procedures. Standard Operating Procedures (SOPs) ensure all resources are managed as effectively as they can be so that teaching can be continuously delivered at the optimum level.

**Aim:** The aim of this wide-ranging project was to devise a collection of SOPs and accompanying files that regulate the efficient management of resources in a Sim Centre.

**Method/design:** A template for SOPs was created, with entries for background, purpose, scope, procedures etc. ensuring each SOP would meet a universal standard for the department. They also must be approved by the Simulation Manager and reviewed annually. Accompanying documents, spreadsheets and online forms to facilitate that the processes outlined in the SOPs would also have to be created.

**Implementation outline:** The SOPs include maintenance and servicing of equipment, loaning of equipment, booking of equipment for teaching and self-directed practise, inventory, management of Simulation spaces and storage areas, stock-taking and ordering of consumables. A suite of instructional documents, data management spreadsheets and online forms have been prepared and are updated regularly in accordance with the procedures outlined in the SOPs. Much of what simulation staff do is learned on the job and losing that institutional knowledge can be devastating for a program. To combat this the SOPs capture the essential steps to efficiently run our centre. The SOPs are useful tools to communicate the correct way of carrying out an activity and are used to orientate and train new technical staff in our centre. Importantly, the SOPs are an integral part of our quality enhancement process, updated regularly, and used to communicate innovations and improvements amongst the wider centre user community. These SOPs and associated resources will be made available to the simulation community upon request.

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## A VIRTUALLY PERFECT DEBRIEF? THE UNDERGRADUATE COVID-19 SIMULATION CHALLENGE

Lyndon Wells<sup>1</sup>, Emily Frost<sup>1</sup>, Annabelle Waller<sup>1</sup>, David Newbold<sup>1</sup>, Victoria Gray<sup>1</sup>; <sup>1</sup>East Kent Hospital University NHS Foundation Trust, Ashford, UK<sup>2</sup>King's College London School of Medicine, London, UK

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**Background:** Feedback from undergraduate medical students recognizes high-fidelity immersive simulation-based education (SBE) as an opportunity to put clinical reasoning and behavioural skills into practice whilst guaranteeing patient safety. The tool used in SBE to bridge event experiences with meaningful reflection is the debrief. Debriefing is a facilitated reflection to guide learners through a process of detecting performance issues and exploring rationales for behaviours <sup>[1]</sup>. A systematic review of high-fidelity simulation literature identified feedback, including debriefing, as the most important feature of SBE <sup>[2]</sup>. During the COVID-19 pandemic, all simulation training was temporarily halted for undergraduate students. Some students collaborated with the simulation team to create an alternative delivery method, maintaining social distancing and minimizing mixing of different student cohorts, whilst preserving the educational yield created through debriefs.

**Aim:** The aim of the study was to create pre-recorded high-fidelity simulation scenarios with the involvement of course participants, final-year medical students. Use the recorded scenarios to observe simulation, create meaningful discussion and explore both clinical and human factors.