

**Correspondence:** [carrie.hamilton@simcommacademy.com](mailto:carrie.hamilton@simcommacademy.com)

10.54531/HHWZ4964

**Background and aim:** Simulated placements for paramedics are increasing, with some organizations approaching these placements innovatively, focussing on combining undergraduate paramedic facilitation skills with peer reviewing skills [1]. Other HEIs focus on clinical skills with manikin scenario-simulations and on virtual reality driven learning. Effective communication skills are crucial for paramedics and simulated placements provide an opportunity to practice these skills. There is a heavy focus on communication skills in the HCPC Standards of Proficiency for Paramedics [2]; this, combined with our responsibilities to patients and their relatives means that rehearsal of these skills, are not overlooked in preference to technical skill acquisition.

**Activity:** A simulation-based education provider and an HEI, co-created a two-day simulated placement for 60 paramedic undergraduates. The scenario content was developed to reflect the broad client base paramedics interact with: patients, relatives, by-standers, other healthcare, and emergency service professionals, all from across the life span and from different cultural and social backgrounds. The scenario focus was: care, kindness and compassion, confidentiality and candour, supporting colleagues, de-escalation, safeguarding, inclusivity, and transgender and gender diversity. Scenario development was undertaken by a range of healthcare professionals, and co-produced with lay developers, people who had experienced paramedic intervention. Actors were coached in role depiction and escalation, briefed regarding the learning outcomes, and had the pre-requisite experience in debriefing and feedback skills.

**Findings:** Each learning outcome was scored by the students, for confidence and ability, in a pre-post evaluation. Overall students evaluated the placement as a meaningful learning opportunity. They felt able to consider their existing knowledge, then practice their skills and reflect on their attitudes. They described feeling better prepared for 'real' situations. Students reported the usefulness of being able to stop, discuss and restart/resume the simulation. Feedback from actors, peers and facilitators was described as an enhancement, and crucially, the co-production of the scenarios with lay developers, translating their 'real' experiences resonated with the students creating genuine, authentic learning opportunities.

**Conclusion:** Communicating is a vital paramedic skill; evidence demonstrates that these vital skills, done well, lead to improved patient outcomes and satisfaction, and a reduction of medical errors [3]. Simulated placements are an essential ingredient in developing these skills and the involvement of actors and experienced facilitators provides a safe environment for students to practice. This initiative provides valuable insights into the co-production of scenarios (with users) and partnerships between HEIs and external simulation-based education providers.

**Ethics statement:** Authors confirm that all relevant ethical standards for research conduct and dissemination have been met. The submitting author confirms that relevant ethical approval was granted, if applicable.

## REFERENCES

1. Wilford A, Wheatley S. HEE placement project –paramedics in the driving seat. *International Journal of Healthcare Simulation*. 2022 Nov 15;
2. HCPC. The Standards of Proficiency for Paramedics [Internet]. HCPC. 2018. Available from: <https://www.hcpc-uk.org/standards/standards-of-proficiency/paramedics/>
3. Mangan J, Rae J, Anderson J, Jones D. Undergraduate paramedic students and interpersonal communication development: a scoping review. *Advances in Health Sciences Education*. 2022 Jul 19;27.

## TECHNOLOGY

A90

### VIRTUAL REALITY SIMULATION FOR THE FOUNDATION PROGRAMME – ANALYSIS OF PHASE TWO

**Hannah Yang**<sup>1,2,3</sup>, Helen Higham<sup>1,2,3</sup>, Jackie Knight<sup>3,4</sup>, Anil Prabhu<sup>1,2</sup>, Kapil Savjani<sup>1,2</sup>, Sally-Anne Shiels<sup>1,2</sup>; <sup>1</sup>*Oxford University Hospital Trust, United Kingdom*, <sup>2</sup>*Oxford Simulation Training and Research Centre, United Kingdom*, <sup>3</sup>*Higher Education England South-East, United Kingdom*, <sup>4</sup>*Brighton and Sussex Medical School, United Kingdom*

**Correspondence:** [hannah.yang@ouh.nhs.uk](mailto:hannah.yang@ouh.nhs.uk)

10.54531/OGUG1238

**Background and aim:** The COVID-19 pandemic has undoubtedly served as a catalyst for adaptation of effective delivery of medical education, paving the way for the adoption of novel teaching methods [1]. Simulation based education (SBE) has been no exception, with increased delivery of SBE through immersive, virtual mediums such as head mounted displays (HMD) to create a three-dimensional (3D) environment.

Simulation is a vital part of the mandatory foundation programme (FP) learning requirement [2]. Our team incorporated synchronous in-person and online virtual reality simulation (VRS) sessions into the foundation doctor (FD) teaching programme at a single trust and supplemented this with additional, facilitated in-person small group 3D VRS sessions.

**Methods:** Mixed quantitative and qualitative feedback was obtained from FD through online surveys, which included aspects of the SET-M tool [3]. Semi-structured interviews were then conducted with a purposeful group of FD attending facilitated small group VRS sessions. Interviews were conducted over a sixteen-week period at eight-weekly intervals, with a baseline interview conducted at week zero. Qualitative data obtained were analysed by thematic analysis.

**Results:** Learners expressed that VRS sessions improved their confidence in clinical assessment, decision-making, and management of similar real-life scenarios as well as in the provision of interventions which foster patient safety. Moreover, feedback highlighted that the VRS modality fits well into their current teaching programme, is a format that they wanted more regularly incorporated into their learning and one which they would prioritize attendance at. Feedback also outlined some challenges with this modality; namely accessibility and technological troubleshooting.

**Conclusion:** Our work highlights the value and associated challenges of using VRS in FP education. There is a strongly positive reception amongst learners in our cohort, a call for more exposure and, vitally, a transferability of learning into real-life practice.

**Ethics statement:** Authors confirm that all relevant ethical standards for research conduct and dissemination have been

met. The submitting author confirms that relevant ethical approval was granted, if applicable.

## REFERENCES

1. Papapanou M, Routsis E, Tsamakis K, Fotis L, Marinou G, Lidoriki I, et al. Medical education challenges and innovations during COVID-19 pandemic. *Postgraduate medical journal*. 2022;98(1159):321-7.
2. United Kingdom Foundation Programme Office (UKFPO). UK Foundation Programme Curriculum 2021. 2021. <https://foundationprogramme.nhs.uk/curriculum/> [Accessed 5/2/23]
3. Leighton, K, Ravert, P., Mudra, V., & Macintosh, C. (2018). Simulation Effectiveness Tool - Modified. Retrieved from <https://sites.google.com/view/evaluatinghealthcaresimulation/set-m>

## EDUCATION

### A91 INTEGRATING SIMULATION BASED EDUCATION TO TRAUMA & ORTHOPAEDIC TRAINING: A REGIONAL EXPERIENCE

**Ryan Moffatt**<sup>1,2</sup>, Richard Napier<sup>1,3</sup>; <sup>1</sup>Trauma & Orthopaedic Research Charity, Belfast, United Kingdom, <sup>2</sup>NIMDTA, Belfast, United Kingdom, <sup>3</sup>Belfast Health & Social Care Trust, Belfast, United Kingdom

**Correspondence:** [moffattr@tcd.ie](mailto:moffattr@tcd.ie)

10.54531/SASQ1430

**Background and aim:** In recent years we have seen an exponential increase in the use of simulation-based education (SBE) within surgical training. Early evidence supported initial integration of simulation to Trauma & Orthopaedic (T&O) training [1] with more contemporary evidence focused on refining training methods and technology usage [2,3]. We aim to assess the integration of established as well as novel SBE components within our T&O training programme in Northern Ireland.

**Activity:** Simulation sessions were introduced to the Northern Ireland (NI) T&O Core Curriculum in academic year 2022/23:

- Trauma Simulation Scenario Training: Pelvic trauma scenarios were delivered to all T&O specialist trainees as part of Core Curriculum teaching in a regional simulation centre. Multi-professional input was sought and delivered by Blood Transfusion Service (Major Haemorrhage Protocol training) and Urological micro-teaching session (traumatic urological injuries in setting of pelvic trauma).
- Arthroscopy Simulation Course: A knee arthroscopy course was developed in conjunction with industry for all T&O trainees in NI utilizing passive haptic feedback arthroscopy simulators. Pre + post simulation surveys were completed assessing educational value, engagement with SBE as method of teaching, desire for further SBE content and suggestions for topics of same. Focus groups of lead educators were set up to plan development of further SBE training within T&O curriculum.

**Findings:** Trainees reported increased confidence in management of pelvic trauma. Overwhelmingly positive response to integration of SBE sessions to core curriculum with 89% in favour of further multi-specialty simulation training sessions. There was a preference seen within feedback for a variety of SBE iterations with in-situ and operative/ procedural simulation being slightly preferred to scenario-based training. With majority of trainees requesting

procedural SBE training as topic for future sessions, Knee Arthroscopy Simulation Course was subsequently developed (to be delivered as part of Core Curriculum in May 2023).

From lead educator focus groups further simulation-based training sessions are planned for development in 2023/24 including shoulder arthroscopy simulation course, rare approaches simulation and advanced supracondylar simulation sessions. Feedback will be sought throughout to ensure training is tailored to needs of trainees as well as curriculum requirements. Recognition of benefits and scope of SBE training within T&O has prompted development of formal simulation trainee role as result of initial regional experience.

**Conclusion:** Our experience of integrating SBE training methods to T&O core curriculum has been hugely positive with demand amongst trainees high for a wide range of further sessions and courses.

**Ethics statement:** Authors confirm that all relevant ethical standards for research conduct and dissemination have been met. The submitting author confirms that relevant ethical approval was granted, if applicable.

## REFERENCES

1. Tay C, Ankur K, Chinmay G, 'Simulation training: a systematic review of simulation in arthroscopy and proposal of a new competency-based training framework', *International Journal of Surgery*, 12(6), (2014), 626-633
2. Kalpesh RV, Amaury T, Marco C, 'Active vs passive haptic feedback technology in virtual reality arthroscopy simulation: Which is most realistic?', *Journal of Clinical Orthopaedics and Trauma*, 16, (2021), 249-256
3. Lebel ME, Haverstock J, Cristancho S, van Eimeren L, Buckingham G, 'Observational Learning During Simulation-Based Training in Arthroscopy: Is It Useful to Novices?', *Journal of Surgical Education*, 75(1), (2018), 222 - 230

## CONTENT, QUALITY

### A92 SUSTAINED QUALITY IN SIMULATION TRAINING - 'STEP-UP' TO IMT3

**Lia Carnall**<sup>1</sup>, Roy Edward<sup>1</sup>, Ben Atkinson<sup>1</sup>; <sup>1</sup>Portsmouth Hospitals University NHS Trust, Portsmouth, United Kingdom

**Correspondence:** [liacarnall.lc@gmail.com](mailto:liacarnall.lc@gmail.com)

10.54531/MTIJ3600

**Background and aim:** Following the introduction of the 'IMT3' year as part of Internal Medicine Training in 2019, a 'Step-Up' simulation day was developed in 2021. Positive feedback from candidates reflected its usefulness in preparing to work as a medical registrar [1]. The scenarios were conducted with the subsequent cohort of IMT3 doctors and feedback assessed for sustained quality of training.

Simulation is recognized as an important tool in medical education [2]. It is now specified by the Royal College of Physicians that trainees participate in simulation inclusive of human factors and scenario training [3].

**Activity:** The 'Step-Up' simulation day continues to consist of four progressive, high-fidelity scenarios that replicate a day in the life of a medical registrar. Each scenario occurs in the simulation lab for individual candidates, with peers observing via video-link in the debrief room.

Each scenario requires the candidate to perform a medical assessment of an acutely unwell patient, facilitated by use of the computerized manikin (SimMan Essential), whilst