

standards of proficiency acknowledge that paramedics of the future are likely to consult patients in the virtual world [1].

As universities strive to meet this demand, they are often faced with placement capacity issues. Rising student numbers, staff retention issues and competition for placements from other healthcare students can make it extremely challenging to secure placements, especially in desirable areas such as primary care.

Activity: The author, with the support from colleagues, was successful in obtaining funding from Health Education England to pilot a series of live virtual placement experiences, the first of which was successfully delivered on 20th April. On this date, 30 learners from our paramedic degree apprenticeship programme, in a classroom on our Lancaster campus, virtually attended a live clinic in a primary care setting in the south of England. The clinic was rigged with various cameras and microphones, with real patients consenting to being filmed.

The experience comprised of 5 patients, with the lead clinician providing a brief to the learners before each patient arrived for their consultation. Afterwards, the clinician would complete their clinical documentation before engaging in a two-way conversation with our learners and academic staff via Microsoft teams. Following the clinic, our apprentices had the opportunity to consolidate their learning via case study driven seminars which linked to the mornings experience.

Findings: Overall, student feedback was supportive, with the majority stating they found the experience enjoyable and engaging. The video stream of the placement was recorded for reuse in the programme's curriculum, and we hope that future live virtual placements will see other professions, such as physiotherapy and nursing, take part. Eventually, we want to develop the model for other disciplines and placement settings

Conclusion: The academic team are looking forward to the second of three experiences, in May, with the view to contributing to the growing evidence base in this area, to reflect the value that we believe 'Live Virtual Placement' experiences have in the development of our future workforce.

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.

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DESIGN

A88

DESIGNING A MULTIDISCIPLINARY CHEST DRAIN COURSE

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Background and aim: In 2008 the National Patient Safety Agency reported 12 patient deaths directly related to chest drain insertion over a 3-year period. Since then there have been calls from publications highlighting the need for better education for clinicians [1]. Simulation has been

shown to improve chest drain insertion technique [2], and multi-disciplinary simulation can encourage teamwork and communication skills [3]. Given that this procedure is an essential requirement for anaesthetic, intensive care, emergency medicine and internal medicine trainees, we decided to introduce a multi-disciplinary simulation course for the insertion of chest drains.

Activity: A basic needs analysis was carried out with stakeholders. Initially the course was designed to run for half a day, with a maximum of 12 candidates and a minimum of 3 faculty. A course timetable, course manual, equipment list and pre- and post-course feedback questionnaires were created. The course begins with a lecture, followed by three simulation-based workshops, which the candidates rotate between. These cover seldinger and surgical chest drain insertion, and the basics of chest ultrasound, using ultrasoundable chest drain manikins.

Findings: Feedback from the first course in July 2022 suggested that there should be a designated faculty team leader and healthy volunteers for the ultrasound workshop. We implemented this feedback and ran the course again in December 2022. Candidates were asked to rate their post course confidence at performing the procedure, with a score ranging between 1 and 7 (each number was assigned a qualitative value with 1 being unable to perform the procedure and 7 being extremely confident in performing the procedure). After the first course, the average score was 5 points. After the second, the average increased to 5.5. The course ran for a third time in April 2023, during which the duration of the workshops was increased and a lecture on aftercare was added. The average post course confidence score was 5.7. All candidates felt that the session fully met the learning objectives and would recommend the course to others.

Conclusion: After implementing changes to our course including assigning a faculty team leader, recruiting healthy volunteers, increasing the time spent in workshops and adding a session on aftercare, there has been an improvement in the candidates' average post course confidence at performing chest drains and qualitative candidate feedback was positive. We would recommend our course structure to others designing a chest drain course.

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DESIGN

A89

PARAMEDIC PLACEMENTS: LET'S NOT FORGET THE NON-TECHNICAL SKILLS

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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.

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TECHNOLOGY

A90

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

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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.

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