personal manually operating the resuscitator. In the first stage, the device underwent functionality and performance testing, using a calibrated lung tester. In the second stage, the usability of the device was assessed, using a clinical simulation environment, an effective method to test usability [2].

Aim: This work describes the use of a simulation environment to test the usability of a novel device to automate self-inflating manual resuscitators.

Method: The usability study was divided into two parts: (1) participants followed a protocol with instructions for assembling and using the system in a non-clinical context (Figure 1, left panel) and (2) participants used the system in an immersive simulation environment with a clinical case scenario (Figure 1, right panel). Participants received information on how to assemble/use the system through a 4-page user manual. To monitor participants' interaction with the system, both parts were video-recorded and questionnaires on key aspects of usability were filled out.

Figure 1: Usability testing. Left panel – assembly of the system (part I); right panel – use of the system in an immersive clinical simulation environment (part II).

Results: A convenience sample (two MDs and six RNs) from an intensive care unit of a tertiary Portuguese hospital participated in the test. Usability testing showed that the system was easy and timely assembled, with low complexity of use (e.g. not requiring external help). The clinical scenario tested the transition between spontaneous and mechanical ventilation, and ventilatory parameters' control, using PNEUMA. All participants reported that the controllable parameters (I:E, RR, Vol, PIP, Plat, and PEEP) were relevant and easy to change. Participants suggested the inclusion of patient parameters such as the tidal volume and lung compliance. Participants also suggested improvements, such as the inclusion of pressure alarms and a more user-friendly interface. All participants reported that they would be willing to use the device for emergency use.

Implications for practice: The reported study resulted in recommendations and ameliorations of the device, before its use in real settings, in the context of the COVID-19 pandemic. The use of simulation environments for device/systems' testing provides a timely and standardized approach, enabling a safer clinical practice.

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51   **PREPARING WARD STAFF FOR COVID-19: CAN REMOTE SIMULATION REPLACE FACE-TO-FACE LEARNING?**

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Background: Human factors are essential to patient and staff safety, particularly during the COVID-19 pandemic with redeployment of staff to different roles in unfamiliar environments [1]. With concerns that the second pandemic wave would engender greater pressures on general medical wards, the simulation team at a London teaching hospital set out to create a multi-disciplinary educational programme for ward staff caring for COVID-19 patients. The course, planned for face-to-face delivery, was rapidly converted to online simulation at the height of the pandemic.

Aim: The aim of the study was to ascertain the efficacy of converting face-to-face simulation and debriefing into online asynchronous video-based scenarios and debriefing, to enhance understanding of human factors skills.

Method: In October 2020, a half-day simulation course commenced. Due to suspension of face-to-face teaching in December 2020 with COVID-19 cases rising, this was converted into a half-day online format through filming faculty participating in the existing scenarios. These films were shown to participants, followed by asynchronous online debriefing via Microsoft Teams. Both formats had e-learning as a pre-requisite. Data were collected using pre- and post-session questionnaires containing the Human Factors Skills for Healthcare Instrument (HuFSHI) [2]. Learners who attended both formats were excluded from quantitative analysis.

Results: Post-training, staff demonstrated improvement in self-efficacy of human factors skills for healthcare. There was no statistical significance between mean improvements for both formats; the greatest improvement was split equally (Table 1). 100% found the face-to-face (N = 24) useful, versus 98% online (N = 54). Communication was the skill most learnt (face-to-face 58%, online 65%), with teamwork (face-to-face 50%, online 48%), escalation (face-to-face 42%, online 57%) and self-care (face-to-face 38%, online 19%) also frequently mentioned. Aspect's learners' thought were good included the discussion-based element (face-to-face 50%, online 37%), interactivity (face-to-face 13%, online 31%), multi-disciplinary team involvement (face-to-face 13%, online 20%) and videos for the online format (19%). 21% wanted the face-to-face longer, 15% wanted the online shorter. 9% would rather the online was face-to-face.

Implications for practice: Online asynchronous debriefing produced similar outcomes to face-to-face for teaching human factors. We posit that this was because the videos were not 'best practice' – thus stimulating learning conversations, which accessed learners' frames and past experiences. Challenges for faculty included: pace and volume of sessions, managing psychological safety, emotive discussions, screen fatigue, and technical aspects. A 6-month follow-up survey is planned and will be included in the presentation. Further work is required to understand why the results were similar.

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194 | IMPLEMENTING A SIMULATION TRAINING PROGRAMME FOR PHYSICIAN ASSOCIATES

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Background: The physician associate (PAs) profession is a relatively new profession to the NHS. As such, there is no official national or regionally agreed further training to support PAs transitioning from PA school into clinical practice once they have graduated. Simulation training has proved to be an effective tool for developing clinical and non-clinical skills in other groups of clinicians [1,2]. We have adapted an already implemented simulation programme for junior doctors to make it suitable for the PA profession with the aim of improving the confidence and skills of PAs working in primary and secondary care. We have evaluated the perceived beneficence of our initial work and have so far observed a perceived positive impact.

Aim: We aimed to describe the development and implementation of a novel PA-specific simulation training programme and present the evaluation of our initial work.

Method: We designed and implemented a bespoke simulation training programme based on existing training for junior doctors. This model has three separate simulation sessions, spaced over 2 years, each session has three different clinical scenarios. Seventeen PAs have undergone the first two sessions. The first session contained three scenarios that highlighted important local protocols such as the major haemorrhage protocol and the sepsis [6]. The second session contained three clinical scenarios which followed the same patient's journey: diagnosis of myocardial infarction, cardiac arrest scenario and breaking bad news. We then collected feedback from candidates' written feedback and Likert-scale questions.

Results: At this point in time, we have feedback from 16 candidates from session 1 and 11 from session 2. The results are overwhelmingly positive showing improved confidence, better team-working skills and a perceived perception of improved patient safety following the simulation training, as shown in graphs 1 and 2. The majority of candidates partaking in the session found the simulation training beneficial to their practise. The main negative feedback given was the lack of 'senior support' (i.e. from a senior doctor) in the scenarios that were unrealistic to actual practice.

Implication for practice: The introduction of a novel PA simulation training programme has demonstrated improvements in clinical and non-clinical skills. This supports our aim of improving post-graduate PA training. Work continues to further develop our PA simulation programme and further evaluate its effectiveness with the aim of making this as a regional simulation programme that PAs can undertake when joining the healthcare workforce.

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79 | IMPORTANCE OF DELIVERING A FACE-TO-FACE COURSE DURING A PANDEMIC

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Background: During the COVID-19 pandemic, most face-to-face courses were cancelled in line with government and trust guidelines reducing the risk of virus transmission and, if possible, delivered virtually. Given that this is not feasible for all courses, cancellation would have resulted in suspension of essential training for healthcare staff subsequently impacting on career progression.

Aim: We aimed to deliver Internal Medical training skills and simulations course, face-to-face with measures taken to minimize virus transmission as well as maintain good-quality teaching.

Method: COVID-19 measures:

- Fewer delegates per course to accommodate social distancing – infection control guided
- Temperature check on registration
- Wearing appropriate Personal Protective Equipment (PPE) whilst inside the teaching centre
- Email instructing to notify if exhibiting symptoms of COVID-19, and advise not to attend
- Maintain social distancing during course
- Increase ventilation of rooms
- Cleaning of equipment after each use and encouraged regular use of hand sanitizer
- Use of register for track and trace purposes

Data collection: Feedback forms of courses that were run pre-pandemic (2019/20) and during pandemic (2020/21) were collated and compared.

Results: Four editions of the course were run over a period of 3 months and a total of 19 participants in 2019/2020. Four editions of the course were run over a period of 7 months with a total of 17 participants in 2020–2021. Feedback response was on a Likert scale ranging from 'strongly agree' to 'strongly disagree'. For ease of comparison, Figure 1 shows 'strongly agree' and 'agree' responses only. The pre- and post-SARS-COVID-19 results from the feedback are similar across the board.

Implications for practice: The results from the feedback forms are very similar for both courses run pre- and post-SARS-COVID-19. Free-text feedback and feedback on the day from the delegates were positive. The results suggest that the changes made to the course during the pandemic to allow for social distancing and to ensure that the courses were run COVID secure have not affected the quality of the teaching and the learning opportunities for delegates. Furthermore, written feedback showed that most candidates appreciated the opportunity to practice new skills and gain confidence and work fatigue did not dampen their motivation to learn. This highlights the importance of continuing to run face-to-face courses during the pandemic.