138 STUDENT PERSPECTIVES OF A NOVEL REMOTE SIMULATION COURSE

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Background: This study was designed in response to the pandemic. This was to increase the accessibility of Simulation Training whilst under lockdown restrictions and limited departmental capacity due to social distancing.
Aim: The aim of the study was to assess final-year medical students' perspectives on a new method of delivering a simulation course remotely.
Method/design: The technique utilized in the intervention group was a guided experience via 'Avatars' – Faculty members who were physically present in the simulation room. Course participants joined via a live video stream and directed the 'Avatar' in real time. The scenarios were driven by a script that directed focus to the learning objectives. The debrief followed a 'pause and perfect' approach to enhance participation. During these pauses, the students, with guidance from a facilitator, reflected on developments so far and then gave their 'Avatar' instructions for the next stage of the scenario. The study took the form of a pragmatic cross-over trial, splitting the cohort into two groups. Group 1 received a face-to-face medicine simulation course and a remote surgery simulation course. Of this group, approximately half had the remote course first and the face-to-face second, the other half in the reverse order. Group 2 had a similar format, however with a face-to-face surgery simulation course and a remote medicine simulation course. The intention was to minimize the influence of pre-course perceptions based on what has already been experienced (i.e. a group might have a different perspective on a face-to-face course if they have had a remote course first and vice versa). Feedback was collected and compared for each.
Implementation outline: A total of 44 final-year medical students took part in the trial. 40 feedback responses were collected for the face-to-face sessions and 37 for the remote. Overall, the face-to-face simulation sessions were received more positively with 100% of participants scoring face-to-face sessions overall as 'Excellent' or 'Very Good' compared with 70.2% for the remote simulation. Participants were asked to score out of 10 how much these sessions would change their future practice; the mean score for the face-to-face was 9.29 compared with 8.5 for the remote. Remote simulation produced lower student satisfaction scores compared with face-to-face teaching. Further research is needed to determine the differential impact on knowledge and skills transfer. If there is limited impact, remote simulation could be a viable and valuable alternative to face-to-face simulation, not only during a pandemic but also in diverse environments.

22 GAME ON! MEETING THE MISSION OF GAMIFICATION TO TEACH HUMAN FACTOR SKILLS

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Background: Failings in human factors are a significant contributory factor in accidents/incidents in aviation, energy and healthcare. There is no 'one thing' that will address human factor failings- it requires multiple interventions; including developing human factor awareness and skills to influence behavioural change. Local research in the Northern Health & Social Care Trust [1] substantiates this. Six months after accessing face-to-face human factor training 70% of attendees confirmed they had made changes to their practice. Through the acquisition of human factor skills staff can 'get up stream' of adverse incidents and poorly designed systems, which can reduce patient harm and increase the quality of care.
Aim: This project deployed the application of Gamification to human factor learning in healthcare. Feedback from face-to-face Human Factor training is positive, but it is challenging in an organization of 13,500 staff to meet the capacity for this training. More recently, response to COVID-19 has challenged us all to think about how we make training more accessible outside of traditional methods.
Method/design: The Gaming Strategy is centred around Dupont's Dirty Dozen (Figure 1) – the 12 most common human factor elements which degrade a person's ability for them to perform effectively and safely, which can lead to errors.

Figure 1: Dupont's dirty dozen

Through a series of missions 'gamers' follow a patient (Joe) as he journeys through the healthcare system, and experiences a series of human factor errors. The five missions below, each incorporate Dupont's Dirty Dozen:

- communication and team working
- lack of knowledge and assertiveness
- situational awareness
- complacency and norms
- pressure and lack of resources

Each mission introduces characters and is scenario-driven, depending upon gamers' responses they will either be successful in their mission (in which case they can proceed to the next step), or unsuccessful and have to restart the mission. At the end of each mission 'gamers' must complete a quiz, after which they are rewarded with access to the next mission. The gaming App includes additional learning resources, opportunity for reflection and generation of a completion certificate to support professional development. Psychological and behavioural experiences of gamers' is captured by the App via quizzes at the start and completion of the Game. The project deployed Quality Improvement and Agile development methodologies. All scenarios and characters were developed by the NHSCT project team, with software development commissioned externally.
Implementation outline: The Game is accessible via mobile phone from the App Store. Project testing completed in June

2021, with the launch of the Game in NHSCT thereafter. The App has potential for scale-up across NI and the UK.

REFERENCE

1. Northern Health and Social Care Trust. Evaluation of Impact of Human Factor Training. 2020. Northern Ireland.

100 ACUTE MEDICINE MEETS 'KNIGHTMARE': 'CHOOSE YOUR OWN ADVENTURE' FORMAT FOR REGISTRAR COURSE DELIVERY

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Background: Ongoing social distancing restrictions have greatly limited opportunities for registrars to attend regional acute medicine teaching. Basing the project on previous work within the trust running simulation via Microsoft Teams (using a one-to-one method of delivery) this project set about opening this up to a much larger group using a 'choose your own adventure' ('CYOA') format depicted in the children's television show 'Knightmare'.
Aim: The aim of the study was to deliver a simulation-based training course for a large number of participants simultaneously using an online platform.
Method/design: Scenarios were as follows:

- Patient with an exacerbation of COPD
- Patient with a life-threatening overdose
- Patient presenting with undifferentiated unconsciousness

The clinical room featured an audio-visual set-up for debrief with three cameras and patient observations from Laerdal Learning Application (LLEAP) combined with an audio mix shared via video-stream to VLC media player; then from the host laptop via Teams. Teams used audio mixer input from room via USB. This included phone audio allowing calls to relatives, other specialists, etc. to be heard. Teams accessed from the following locations:

- Host (control room)
- Faculty (control room)
- Faculty (clinical room)
- Faculty (debrief room)
- Participants (remote) × 14

Teams host laptop was pre-loaded with all scenario information which allowed ECGs, CTs, Toxicology reports to be shared as requested throughout the scenarios. The multi-screen set-up allowed for monitoring of chat from a control room and clinical space meaning all users could access key information shared on screen. Faculty had radio communication to control room for prompts and questions. Scenarios would be led by a member of faculty playing the role of a clinician in the scenario. The scenario would progress with input from the participants via that Teams chat. At key points, the scenario would pause and a question would be put to the group and an option would be voted on to continue. After each scenario, using Teams break-out rooms for debrief allowed the large group of participants to have a more focussed debrief session led by one of the medical faculty.
Implementation outline: Using the structure of 'CYOA' encouraged users to take part in key interventions, whilst chat function within teams allowed for continuous dialogue. Participant feedback stated that the discussion format and expertise within the group was very useful in their training and would have a positive impact on working practice. Faculty found virtual simulation more demanding to facilitate than face-to-face simulation, but feasible to run the session annually.

125 INTRODUCING AN *IN SITU* SIMULATION PROGRAMME IN AN INTENSIVE CARE UNIT

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Background: This North London hospital has a 14-bed Intensive Care Unit (ICU). As a small District General ICU, staff exposure to emergency scenarios can be infrequent. Lack of practice can lead to a reduction in staff confidence and knowledge when these scenarios are encountered, especially during the COVID pandemic. The ICU had not previously undertaken *in situ* multi-disciplinary team (MDT) simulation sessions on the unit.
Aim: The aim of the study was to introduce a novel programme of MDT simulation sessions in the ICU and provide feedback with the aim of increasing both staff confidence in managing emergency scenarios and staff understanding of the impact of human factors.
Method/design: A team of ICU Simulation Champions created emergency scenarios that could occur in the ICU. Pre-simulation and post-simulation questionnaires were produced to capture staff opinion on topics including benefits and barriers to simulation training and confidence in managing ICU emergencies. Members of the ICU MDT would be selected to participate in simulation scenarios. Afterwards, debrief sessions would be facilitated by Simulation Champions and Airline Pilots with a particular focus on competence in managing the emergency and human factors elements, such as communication and leadership. Participants would then be surveyed with the post-simulation questionnaire.
Implementation outline: Nine simulation sessions were conducted between October 2020 and June 2021. The sessions occurred within the ICU during the working day in a designated bay with the availability of all standard ICU resources and involved multiple MDT members to aid fidelity. Feedback by Simulation Champions mainly focussed on knowledge related to the ICU emergency, whilst the Airline Pilots provided expert feedback on human factors training. Fifty-five staff members completed the pre-simulation questionnaire and 37 simulation participants completed the post-simulation questionnaire. Prior to simulation participation, 28.3% of respondents agreed they felt confident managing emergency scenarios on ICU – this figure increased to 54.1% following simulation participation. 94.4% of simulation participants agreed that their knowledge of human factors had improved following the simulation and 100% of participants wanted further simulation teaching. Figure 1 shows a thematic analysis of the responses from 31 participants who were questioned about perceived benefits from simulation teaching. Following the success of the programme, the Hospital Trust will continue to support and develop inter-speciality