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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.

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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