scores pre- versus post-course improved by approximately 20% (74.3% to 94.4%) (Figure 2).

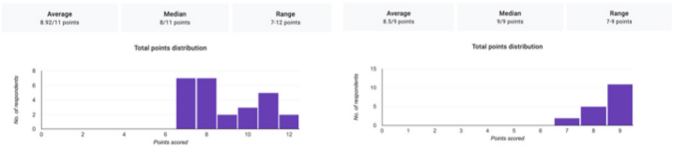

Figure 2: Results of pre- and post-course knowledge assessments

Implications for practice: We developed an effective and well-received remote simulation transfer course to deliver training to a wide-reaching audience. Participants were enthusiastic about the innovative and interactive approach, finding the online course enjoyable and relevant to their clinical practice. Results suggest the course effectively increased learning. The flexible nature of online remote provision allows for delivery at scale, to meet a rising demand. Further evaluation will establish the extent at which this training translates to performance, such as a reduction in adverse events in transfer practice.

REFERENCE

1. Cooper JB, Barron D, Blum R, et al. Video teleconferencing with realistic simulation for medical education. J Clin Anaesth. 2000;12(3):256–261.

92 IMPROVING KNOWLEDGE AND HUMAN FACTORS SKILLS DURING A PANDEMIC: A MULTIMODAL COVID-19 EDUCATIONAL PROJECT

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Background: Following a rise in COVID-19 cases and hospitalizations in autumn 2020, the resultant pressures on general medical wards galvanized the simulation education team at a London teaching hospital to create a multi-disciplinary educational programme aimed at ward staff caring for the surge in COVID-19 patients. This was especially important in the context of rapidly evolving clinical guidance and recognition of the importance of human factors in re-deployment of staff, thus a multimodal educational project was initiated to develop ward staff knowledge and human factors skills.
Aim: The aim of the study was to ascertain the effectiveness of the multimodal COVID-19 educational project in improving ward staff knowledge and human factors skills.
Method: In October 2020, the team began creating the project – comprising e-learning to improve staff knowledge, *in situ* simulation training and an in-centre human factor course, all based around the care of patients with COVID-19. With rising COVID-19 cases and subsequent suspension of face-to-face teaching, an online format for the human factors training was created incorporating scenarios from the *in situ* simulation. Data were collected via SurveyMonkey with pre- and post-surveys for each facet – six key learning outcomes for e-learning and the Human Factors Skills for Healthcare Instrument (HuFSHI) for the other elements – with free-text boxes for qualitative feedback.
Results: e-Learning surveys were completed by 108 learners with a significant difference ($p < 0.01$) in self-reported pre- and post-survey scores across the six domains. Learners demonstrated mean improvements across all areas of the HuFSHI for the *in situ* (N = 9), human factors course (N = 15) and online format (N=46). Results were comparable between face-to-face and online formats. Learners found all formats useful (e-learning 99%, *in situ* 100%, human factors 100%, online 98%).
Implications for practice: In a limited time frame, the simulation education team implemented a multimodal educational project that improved both ward staff knowledge and human factors skills amidst the second wave of the COVID-19 pandemic. Moreover, following restriction of face-to-face delivery, the project was successfully converted into a purely online format. This ability to be flexible and adapt accordingly is one that needs to be widely adopted going forwards, especially during these unpredictable times. Further challenges included staff release for training, time pressures, managing emotive discussions using the online modality and COVID-19 safety measures. A 6-month follow-up survey is planned to evaluate the benefit to staff's clinical work and will be included at the presentation.

149 UPDATES TO THE HEALTHCARE SIMULATION DESIGN STANDARD OF BEST PRACTICE

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Background: Offering high-quality and purposeful simulation-based educational (SBE) activities to learners requires careful planning [1]. To improve SBE practice across all healthcare professions and for learners at all levels of experience, the International Nursing Association for Clinical Simulation and Learning (INACSL) has outlined a set of standards recently rebranded as the Healthcare Simulation Standard of Best Practice Practice™ (HSSOBPTM) that were initially published in 2013 and recently revised in 2021. Involving individuals with a range of relevant expertise, revisions to these standards have occurred every few years, including expanding the topics covered as developments in this domain have occurred and the use of simulation has expanded.
Aim: The aim of this abstract was to present the changes made to the Simulation Design Standard in comparison to its previously published version [2].
Method: From 2019 to 2021, a group of simulation educators and researchers representing multiple specialities, simulation societies and geographic areas (the authors of this abstract) met regularly via a videoconferencing platform to review and revise the Simulation Design Standard based on their review of the latest literature and their individual experiences. The team identified several aspects that would benefit from being updated to make this key standard more explicit and applicable to all types of simulation modalities. Drafts of the standard were reviewed on multiple occasions by peer reviewers and the society's leadership until the latest version was approved for publication.
Results: An updated version of the Simulation Design HSSOBPTM will soon be published by INACSL in the

journal *Clinical Simulation in Nursing*. It includes the same number of criteria, 11, most of which have retained the same title whereas a few others have been slightly redefined (Table 1). The new Simulation Design Standard provides clear information and guidance to the simulationists. The updated criteria can still be matched to those from the previous edition (see colour coding in Table 1) but are now more detailed and inclusive to be applicable to various simulation modalities and healthcare professions. Advances in virtual simulation experiences, new research and knowledge regarding pre-briefing, greater integration of simulation experiences throughout the curriculum both as a clinical replacement and in the classroom, as well as integration of multipatient and inter-professional teamwork experiences create excellent opportunities for learning if designed well using the HSSOBPTM.

Implications for practice: It is expected that the revised Simulation Design Standard of Best Practice will be welcomed by healthcare educators and simulation technology developers. It has been designed as a guide to help educators in all the key aspects of designing SBE activities, irrespective of the modality employed. It should ultimately benefit all learners but also promote the continuing professional development of the healthcare educator with an interest in SBE. It includes an updated list of useful references readers can consult to find additional information.

Table 1: Criteria of the 2016 and 2021 HSSOBPTM for simulation design

INACLS simulation design standard	2016	2021
Criterion 1	Perform a need assessment to provide the foundational evidence of the need for a well-designed simulation-based experience	Simulation experiences should be designed in consultation with content experts as well as simulationists who are knowledgeable and competent in best practices in simulation education, pedagogy and practice
Criterion 2	Construct measurable objectives	Perform a need assessment to provide the foundational evidence of the need for a well-designed simulation-based experience
Criterion 3	Structure the format of a simulation based on the purpose, theory and modality for the simulation-based experience	Construct measurable objectives that build upon the learner's foundational knowledge
Criterion 4	Design a scenario or case to provide the context for the simulation-based experience	Build the simulation-based experience to align the modality with the objectives
Criterion 5	Use various types of fidelity to create the required perception of realism	Design a scenario, case or activity to provide the context for the simulation-based experience
Criterion 6	Maintain a facilitative approach that is participant-centred and driven by the objectives, participant's knowledge or level of experience, and the expected outcomes	Use various types of fidelity to create the required perception of realism
Criterion 7	Begin simulation-based experiences with a pre-briefing	Plan a learner-centred facilitative approach driven by the objectives, learners' knowledge and level of experience, and the expected outcomes
Criterion 8	Follow simulation-based experiences with a debriefing and/or feedback session	Create a pre-briefing plan that includes preparation materials and briefing to guide participant success in the simulation-based experience
Criterion 9	Include an evaluation of the participant(s), facilitator(s), the simulation-based experience, the facility and the support team	Create a debriefing or feedback session and/or a guided reflection exercise to follow the simulation-based experience
Criterion 10	Provide preparation materials and resources to promote participants' ability to meet identified objectives and achieve expected outcomes of the simulation-based experience	Develop a plan for evaluation of the learner and of the simulation-based experience
Criterion 11	Pilot test simulation-based experiences before full implementation	Pilot test simulation-based experiences before full implementation

REFERENCES

1. INACSL Standards Committee. INACSL standards of best practice: simulation design. Clin Simul Nursing. 2016;12:S5–S12.
2. Jeffries PR, Rodgers B, Adamson K. NLN Jeffries simulation theory: brief narrative description. Nursing Educ Perspect. 2015;36:292–293.

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ADAPTING FOUNDATION PROGRAMME SIMULATION IN RESPONSE TO A PANDEMIC: HAS IT DIMINISHED LEARNING?

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Background: A human factor-based simulation course is run for foundation doctors and nurses annually at a London teaching hospital. Simulation helps to improve technical and non-technical skills in a supportive environment [1]. The course was adapted in response to the COVID-19 pandemic. We analysed feedback from participants to understand whether the educational value of the course was maintained and to identify potential areas of improvement.

Aim: The aim of the study was to evaluate the impact of the course adaptations on the participants' learning experience, delivery of learning objectives and quality of teaching.

Method: The course comprises simulated scenarios with facilitated debrief sessions. Post-COVID-19 changes comprised: moving to a