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

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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

half-day format, reducing the number of scenarios from five to three, reducing the number of participants per session, running multiple courses on 1 day and reducing debriefing time. Feedback was gathered pre- and post-course using SurveyMonkey. The questionnaires utilized free-text answers and Likert scales based on the Human Factors Skills for Healthcare Instrument [2]. Two cohorts, before and after the changes were introduced, were analysed. There were 175 participants in cohort 1 (3 October 2019–11 March 2020) and 105 in cohort 2 (1 October 2020–12 April 2021).

Results: Despite changes made, participants reported an improvement in clinical skills (Table 1) and human factors (Table 2). 67.6% of cohort 2 reported that personal protective equipment (PPE) had no impact on simulation; however, 7.6% felt masks hindered communication. Common themes reported in feedback are shown in Table 2. Both cohorts reported the course as useful (38% in cohort 1 and 36% in cohort 2). 7% of cohort 1 felt that the debrief needed shortening, compared with 4% in cohort 2 where shorter debrief models were used, conversely 6% of cohort 1 suggested more scenarios were needed compared with 8% in cohort 2 (Table 3).

Table 1: Percentage of participants who reported feeling confident in clinical skills

	% of participants who felt confident in the following scenarios					
	Pre-course 19–20	Post-course 19–20	Difference	Pre-course 20–21	Post-course 20–21	Difference
Managing acutely deteriorating patients	64.32	94.1	29.78	65.39	92.93	27.54
Assessing patients using ABCDE	93.1	100	6.9	92.32	97.98	5.66
Escalating patient care	93.03	98.84	5.81	92.23	96.96	4.73
Using SBAR to handover information to colleagues	79.89	98.84	18.95	86.54	97.98	11.44
Accessing and using clinical guidance and policies	80.46	90.14	9.68	85.58	96.97	11.39

Table 2: Percentage of participants who reported that they could adequately do the following Human Factors Skills for Healthcare Instrument skills

	% of participants who felt they could do the following					
	Pre-course 19–20	Post-course 19–20	Difference	Pre-course 20–21	Post-course 20–21	Difference
Constructively managing others' negative emotions at work	50.68	79.78	29.1	53.4	83.83	30.43
Requesting help from colleagues in other professions	86.13	97.11	10.98	80.59	96.96	16.37
Communicating effectively with a colleague with whom you disagree	63.01	85.55	22.54	53.39	87.87	34.48
Prioritizing when many things are happening at once	69.37	87.28	17.91	62.14	85.85	23.71
Speaking up as part of a team to convey what you think is going on	69.36	90.17	20.81	67	90.9	23.9
Involving colleagues in your decision-making process	86.13	94.79	8.66	80.58	98.98	18.4
Dealing with uncertainty in your decision-making process	65.31	87.28	21.97	58.25	88.89	30.64
Asking other team members for the information I need during a busy ward environment	80.92	95.95	15.03	77.67	96.96	19.29
Recognizing when you should take on a leadership role	67.05	90.76	23.71	66.98	88.88	21.9
Monitoring the 'big picture' during a complex clinical situation	56.65	89.02	32.37	56.31	85.85	29.54
Anticipating what will happen next in clinical situations	60.11	89.02	28.91	51.46	86.87	35.41
Working effectively with a new team in clinical situations	75.73	92.48	16.75	67.97	89.9	21.93

Table 3: Common themes arising from participants' feedback

	19–20	20–21
	% of participants	% of participants
Good/useful course	38	36
Improved confidence/ knowledge	11	16
Useful inclusion of human factors	5	7
Good range of scenarios	9	12
Useful debrief/ reflection	21	44
Supportive/ non-judgmental environment	9	10.40
Supportive facilitators	18.90	9.50
More focus needed on clinical skills	5	4
Shorter debrief needed	7	4
More scenarios needed	6	8

Implications for practice: This course demonstrates that simulation can be delivered safely throughout a pandemic while maintaining education value. Participants continued to find simulation useful; the use of PPE did not affect debriefing and learning processes. Changes did arise as a result of the changes: increased workload on staff (multiple sessions), timing issues, repetition in scenarios delivered and ward pressures on participants. Moving forwards, some adaptations such as the use of PPE will remain, but the course will return to a full day. To further evaluate the impact of the changes made. We are currently obtaining feedback from faculty.

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39 USING SIMULATION TO IMPROVE SURGICAL DEPARTMENTAL INDUCTION FOR JUNIOR DOCTORS

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Background: Departmental induction is essential for trainee well-being and patient safety, particularly for doctors in the early stages of their careers. Studies have shown that junior doctors often feel underprepared and without sufficient knowledge for safe and efficient practice in surgical rotations [1]. Simulation has been suggested as a tool to improve preparedness. Simulation training in acute surgical presentations, surgical ward rounds, for theatre teams and for practical surgical skills is well established. However, much of junior doctors' work involves assessing patients who have deteriorated following admission [2], including post-operatively. There is little in the literature exploring the use of simulation in preparing junior doctors to manage ward-based surgical emergencies.

Aim: This pilot project aimed to create an immersive simulation-based course for junior doctors, focussing on the technical and non-technical skills required to deal with common post-operative and post-procedural emergencies, to improve the departmental induction process.

Methods: Junior doctors completed a questionnaire to identify their learning needs. On the basis of this, six high-fidelity immersive simulation scenarios were designed: post-operative bleeding, post-ERCP pancreatitis, post-NG tube insertion aspiration pneumonia, anastomotic leak, post-operative wound dehiscence and post-operative cardiac arrest. The scenarios were constructively aligned to both technical and non-technical learning objectives. Scenario participation was followed by a facilitated debrief. Participants completed a pre- and post-course questionnaire exploring their experience on surgical wards, confidence managing surgical ward emergencies and evaluation of the course.

Results: Two pilot sessions have been facilitated, involving seven junior doctors. Highlighted challenges of surgical ward work include the need for independent decision-making, obtaining senior support and ensuring review of post-operative patients. Pre-course, confidence was particularly low in identifying and managing post-operative emergencies, identifying patients who need to return to theatre and making escalation decisions for surgical patients. Confidence was higher in escalating to surgical seniors and recognizing own limitations. Post-course, confidence had improved in all technical and non-technical skill domains. Participants found the scenarios and subsequent debriefs relevant and educationally valuable. The main suggestion for improvement was to include the course earlier in the rotation. Data collection is ongoing.

Implications for practice: Our results show that junior doctors find specific simulation-based training in surgical ward and post-operative emergencies extremely valuable, with improved confidence in technical and non-technical skills. We hope to embed this training as part of the departmental induction within our health board and suggest that simulation training for junior doctors on post-procedural emergencies would be of widespread benefit.

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203 ULTRASOUND IDENTIFICATION OF THE CRICOTHYROID MEMBRANE FOR EMERGENCY FRONT OF NECK ACCESS

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Background: The difficult airway society states that emergency front of neck access skills should be recapped every 6 months amongst those practitioners expected to perform the skill. Furthermore, the national audit states that, of the 25 emergency cricothyroidotomy cases, 9 failed. These were largely due to incorrect identification of the midline and tube misplacement. There is a convincing argument for training practitioners in ultrasound identification of the cricothyroid membrane, mitigating the risks of incorrect midline identification and blood vessel damage [1].

Aim: Our aim was two-fold: introduce and embed the skill of ultrasound identification of the cricothyroid membrane for use in emergency front of neck access and encourage regular recap of these skills through a training package of blended learning, consisting of videos, 'tea trolley' style theatre training and a more formal simulation-based course that focuses on the ultrasound and front of neck access skill and human factors as we know this is a key factor in the success or failure of this scenario.

Methods: A pilot course was rolled out amongst anaesthetic trainees to assess relative comfort with performing emergency front of neck access. The course consisted of a short lecture on the background and anatomy, teaching of the ultrasound skill using live subjects, practising of ultrasound-guided front of neck access on animal necks and finally a simulation with debrief surrounding implementation of the skill itself and human factors. This course is now being rolled out regionally and aims to teach all trainees in the region. We encourage trainees to generate their own informal logbook of ultrasound cases, whereby they consent patients to undergo a short ultrasound scan in the anaesthetic room prior to intubation, have their neck marked and then are rescanned