56 'ABDUCTED BABY' SIMULATION: TESTING THE SYSTEM TO OPTIMIZE PATIENT SAFETY ON A NEONATAL INTENSIVE CARE UNIT

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10.54531/IHQQ5470

Background: Infant abductions are rare distressing events. The Care Quality Commission recently highlighted inadequate protective measures in other trusts as a cause of major concern [1]. In April 2020, the security system in our Neonatal Intensive Care Unit (NICU) was updated, with a new baby tag system. A tag is placed onto each baby in NICU, and if this tag is within close proximity of an exit door, an alarm sounds and the door locks.
Aim: The aim of the study was to test our existing patient safety system in a real-life situation looking at human factors and equipment functionality.
Method: An activated baby tag was placed on a mannequin which was then put into a pram. A member of staff in disguise (the 'abductor') pushed the pram out of the neonatal unit by 'tailgating' another member of staff so that the doors would not automatically lock, replicating a potential real-life scenario that exploited a known risk. The aim was to see whether the mannequin could leave the hospital. The 'abductor' was eventually stopped from leaving. A detailed timeline of events was recorded and analysed. Safety was ensured and participants were individually debriefed as emotions were high.
Results: Our simulation highlighted points of excellence including a quick and calm response, the use of the panic button and appropriate persistent challenge of the 'abductor' without aggression. Important human factors were highlighted. There is no security staff in the hospital. The ward clerks called the porters directly, rather than dialling 2222 and saying 'lockdown', which triggers a lock of all doors out of the hospital. There were several system failures. The baby tag system did not alert the front of house. The panic button was broken, and a set of doors out of the hospital did not lock.
Implications for practice: Simulation is an effective tool to identify system failures and patient safety risks. This scenario highlighted deficiencies in our system and a lack of established procedures and training. A detailed action plan has been put in place. The panic alarm, door locking mechanism and system linking the baby alarm system to the front of house are being addressed. The option of an automatic lockdown on activation of the baby tag alarm system is being explored. Finally, a standard operating procedure is being written and learning disseminated in the department. We are planning to run this simulation in other areas of the hospital to optimize patient safety.

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120 CERVICAL SPINE INJURY IMMOBILIZATION AND MANAGEMENT: ADDRESSING THE GAP IN KNOWLEDGE AND IMPROVING SYSTEMS THROUGH MULTI-DISCIPLINARY *IN SITU* SIMULATION IN A BUSY EMERGENCY DEPARTMENT

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10.54531/TYCP3840

Background: Cervical spine (C-spine) injuries are a significant cause of morbidity and mortality, particularly in the elderly population [1]. The Canadian C-spine Rule is sensitive in determining which patients require immobilization and radiological investigation [2]. Junior clinicians entering Emergency Medicine (EM) may not have had previous career exposure to trauma and may be uncomfortable approaching such injuries or using similar assessment tools. *In situ* simulation offers an opportunity to build confidence and learn from human interactions, typically only encountered during 'real-life' exposure.
Aims: The aims of the study were to identify clinician knowledge gaps when starting EM, create a simulation-based teaching program to address these weaknesses and to improve multi-disciplinary systems relating to C-spine injury immobilization and management.
Methods: A sample of 20 clinicians finishing their EM rotation in April 2021 at Queen Alexandra Hospital, Portsmouth, completed a survey listing conditions/procedures they would have appreciated simulation scenarios on as part of induction. A 30-minute C-spine simulation station was designed focussing on knowledge gaps identified, incorporating Canadian C-spine rules, immobilization, radiological investigation and treatment. Sessions were delivered *in situ* to groups of 5–10, including doctors, trainee acute care practitioners, nurses, healthcare assistants and physician associate students. Feedback was collected gauging enjoyment, confidence levels before and after the session as well as the likelihood of application of the topics covered soon. Data were collected from candidates at the end of their rotation to assess the lessons learnt.
Results: About 70% of surveyed candidates included 'C-spine' within conditions/procedures they desired simulation teaching on. Candidate feedback suggested high levels of enjoyment with 100% of candidates scoring 7 or 8/8. The mean confidence of candidates before and after the session increased by 30.6% (52%–82.6%). 100% of candidates felt that the session was useful in improving day-to-day practice and 67.7% of candidates envisaged implementing teachings within the next week (96.8% within the next 3 months).
Implications for practice: In a busy department, it is important to prioritize education and address workforce knowledge gaps. Trauma and C-spine injury appear to be an area of under-confidence in junior clinicians starting in EM. Short *in situ* simulation sessions were an effective and flexible way of improving confidence and multi-disciplinary systems, avoiding disruption during busy periods. We believe that repeating similar teaching programmes at the start of a new clinician intake can aid in identifying gaps in knowledge and effectively addressing these early and improved systems operation throughout the rotation.

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7 COVID-19 VACCINATION CLINIC EXPERIENCE: USING SIMULATION TO CREATE AND TEST SYSTEMS

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10.54531/YKMW2498

Background: In November 2020, the first COVID-19 vaccine for the UK had been approved. We were subsequently tasked with the rapid development of vaccination clinics. Two COVID-19 vaccination clinics in suitable spaces within the University Hospitals Bristol and Weston NHS Ft were planned, across two different hospital sites (25 miles apart), to be operational within 7 days. Changes to both pharmaceutical and national guidelines were altering by the hour.
Aims: The key driver for this fast-paced change was to ensure vaccines were delivered as soon as available to Bristol-based health and social care staff.
Methods: A process map outlining the vaccination journey established in the local public vaccination site was the starting point to understand how to efficiently, effectively and safely deliver vaccines. Hospital sites for both clinics were identified, and work began immediately to vacate those rooms and establish both the infrastructure and personnel to run the large-scale clinics. Simulation Lead Educator involvement during the first days of planning was essential and at each stage of the process mapping.
Simulation Round 1:

- full-scale simulated vaccine clinic in the newly designed rooms on one site
- standardized patients (actors) briefed as receiving the simulated vaccine
- key staff in roles – administrators, pharmacy, vaccinators
- debrief focussed on latent threats, agreeing immediate changes to be tested in the next round
- patient experience feedback from the standardized patients

Simulation round 2:

- immediate re-run of the simulated clinic
- solutions identified in Round 1 were applied and tested
- rapid improvements to the process mapping, ergonomics, clarity of roles and timings for clinic appointments were able to be made

Simulation round 3:

- Round 3 took place on the second site a few days later
- lessons learnt from the first two stages being shared and translated within the new site
- essential safety and efficiency issues were explored and lessons learnt applied to the clinic

Results: The three rounds of simulation systems testing identified a number of latent threats and process mapping alterations which were implemented immediately, with solutions being tested on the spot. The vaccination clinics opened, administering over 500 vaccines per day across a 4-month period. The team involved continued to adapt processes and environment to suit the constantly changing guidelines and ensure safe practice.
Implications for practice: Simulation is an adaptive and responsive tool in systems testing, process mapping and implementing solutions within a high-pressured and time-restricted environment.

67 EVEN BETTER THAN THE REAL THING? COMPARING IN-PERSON AND ONLINE DELIVERY OF SIMULATION-BASED TRAINING FOR EARLY-STAGE PSYCHIATRIC DOCTORS

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10.54531/TDNO4582

Background: COVID-19 required many simulation faculties to provide online alternatives to in-person training. Over this period, our organization pivoted fully to online delivery of mental health simulation-based education (SBE), defined as delivery entirely via a videoconferencing platform to participants remote from one another and the simulation team. SBE can help early-stage psychiatric doctors to bridge educational and clinical practice by providing exposure to a variety of presentations and a safe space to hone communication and de-escalation techniques while encouraging reflective practice [1,2]. There is, however, limited research comparing the efficacy of in-person and online mental health SBE.
Aim: We assessed for any significant differences across several course evaluation measures in a comparison between groups attending in-person and online versions of a simulation course for early-stage psychiatric doctors.
Method: An existing full-day course was adapted for online delivery over a half-day period. It focuses on developing confidence and skills in psychiatric history-taking, mental state examination, risk assessment and formulation, meeting the relevant learning outcomes set by the Royal College of Psychiatrists. It encourages participants to explore consultation dynamics with a key emphasis on communication and human factors skills. Participants for in-person (n = 228) and online deliveries (n = 90) comprised of early-stage psychiatric doctors (core psychiatric trainee, or GP trainee level) based in mental health trusts in South London. Pre- and post-course quantitative data (assessing learners' confidence, situational awareness, and course satisfaction) using the Human Factors Skills for Healthcare Instrument (HuFSHI) and Course-specific Questions (CSQ) measures were collected and compared across the two delivery formats, that is, in-person and online. Data previously collected from participants attending in-person deliveries were used in the comparison.
Results: Paired-samples t-tests were conducted to determine whether there were any changes in HuFSHI and CSQ scores pre- and post-course. Results indicated that there were significant improvements in HuFSHI scores as well as CSQ scores for both digital delivery and in-person delivery. Large and very large effect sizes were also observed for HuFSHI and CSQ scores, respectively, in both delivery formats. Our data suggest that participants benefited more from in-person delivery across CSQ measures and from digital delivery across HuFSHI measures.
Implications for practice: Our understanding of the educational differences between in-person and online mental health SBE is at an early stage. Our data suggest that online mental health SBE potentially represents an effective alternative to in-person delivery. Further research is required to better understand these differences.

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129 USING SIMULATION TO IDENTIFY SYSTEM ISSUES IN THE EMERGENCY DEPARTMENT

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