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FROM AD HOC TEACHING SESSIONS TO FULL-DAY THEMED TEACHING DAYS: AN UNDERGRADUATE EDUCATION TEAM'S RESPONSE TO THE COVID-19 PANDEMIC

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Background: The COVID-19 pandemic has had a significant impact on the education of medical students. Many final-year students felt overwhelmed by the pandemic and less confident in the clinical setting having missed a significant proportion of their fourth-year studies. In addition, with increased numbers of critically unwell patients, restructure of services and redeployment of staff, it was inevitable that teaching on clinical placement would be compromised.

Aim: The aim of the study was to develop an innovative near-peer educational programme with integrated simulation to support the learning needs of students and alleviate pressure from clinical specialities.

Methods: The team developed a programme whereby students attended a full day of protected small-group teaching each week, equating to a total of 72 taught hours per student over an 8-week placement. Each day centred around a common theme, for example, 'the breathless patient', working through patient-centred case discussion, diagnostic workshops and simulation (Figure 1). The sessions integrated knowledge with realistic simulation scenarios, practical skills, communication skills, diagnostic interpretation and human factors in a safe environment. To complement the teaching, the team introduced mentors, allowing us to provide support and individual constructive feedback to aid professional development from student to safe, competent and confident doctor.

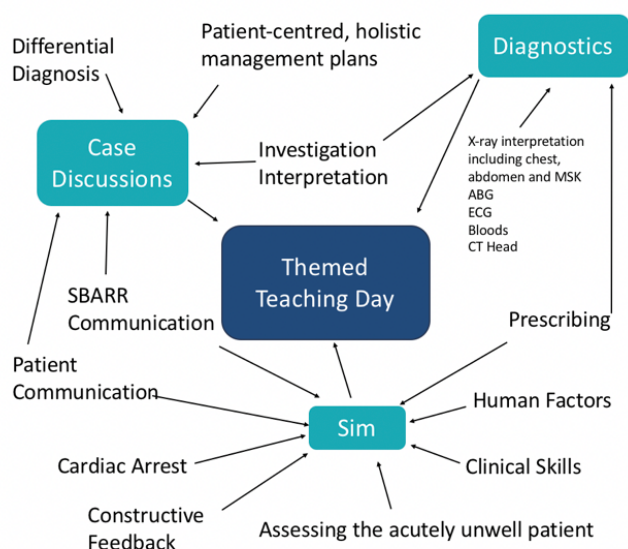


Figure 1: Integrated design of the themed teaching days delivered to final-year students.

Implementation outline: This innovative teaching programme was implemented over the 2020–2021 academic year and was well received by students as evidenced in the following feedback:

- 'It was really helpful and interesting to have each teaching day themed on a presenting complaint'.
- 'Protected time so (we) do not miss out if clinicians are busy'
- 'The best teaching I have had during medical school (...) I loved how interactive, clinically focussed and relevant to F1/F2 each teaching day was'.
- 'Consistently received feedback which I have been able to act upon to improve my clinical practice'
- 'The improvement in my confidence, understanding & knowledge has been unbelievable'.
- 'Simulation session was really useful and enjoyable (...) watching and feeding back is a really helpful way to recognize different clinical presentations and critically analyse ABCDE assessment & communication skills'
- 'These teaching sessions are great and unlike anything normally provided on placement'.

The teaching programme has proved to be of such success that the team continue to develop them to integrate further aspects of clinical practice and inter-professional simulation. Furthermore, the team hope to develop themed teaching days for other student year groups to complement their clinical placements.

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CORE CARE SKILLS SIMULATION TRAINING FOR UNDERGRADUATE MEDICAL STUDENTS

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Background: Throughout the coronavirus pandemic, healthcare professionals have needed to rapidly adapt to changing demands. For some, this has involved adapting a 'task-sharing' approach which means that professionals undertake tasks that are not usually considered part of their job role, for example, Junior doctors giving medications and many were 'redeployed' completely to areas of greater need. In the same vein, the role of the medical student was expanded and explored and some medical students were given the opportunity to undertake paid work as healthcare support workers (HCSWs). It can be argued that the education and training of medical students are heavily focussed on a medical model of healthcare and often lacks depth insight into the caring aspects of patient care.

Aim: The aim of the study was to create an interactive practical care skills simulation training aimed at medical students.

Method/design: We designed a practical simulation training programme based around the 'fundamentals of care' as defined by the nursing and midwifery council [1]. It was delivered over a half day (3 hours) and involved explanation, discussion and practice of basic care skills that would be needed, including clinical observations, nutrition and hydration, bowel and bladder care, personal care (including some basic moving and handling) and last offices. This was based around a patient care scenario, with students required to interact with the manikin and each other as they would in practice, allowing them to practice interpersonal skills as well as the practical aspects of care.

Implementation outline: Early versions of this course were used as part of a comprehensive induction programme that included testimony from HCSWs working within the site

hospital, who were able to share real-life experiences and offer peer support. This helped influence the development of this course to shape it into an innovative multi-disciplinary training. The training course was developed reactively to meet the developing need of students to prepare for redeployment by April of 2020 and since then has grown and developed into the half-day simulation training that is outlined above. It has now been incorporated into the in-hospital clinical skills curriculum for third-year medical students passing through the trust on the understanding that, this course has helped medical students to better understand the role of other professionals and will enable closer multi-disciplinary working in future. Anecdotally, it is obvious from interacting with students that there is a need to incorporate training in basic care into the medical curriculum to prepare students for task-sharing in the future as well as to better understand the caring professions and improve multi-disciplinary working. However, there is not enough post-course data to establish a true effect from this course at present. We continue to run this training course as part of the year 3 undergraduate clinical skills programme and aim to collect more survey data to evaluate and adapt it.

REFERENCE

1. Nursing & Midwifery Council. The Code: Professional Standards of Practice and Behaviour for Nurses, Midwives and Nursing Associates. 2018. London: Nursing & Midwifery Council.

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THE USE OF AN AUDIO-VISUAL STREAMING SOLUTION TO DELIVER PORTABLE COVID COMPLIANT *IN SITU* SIMULATION TRAINING

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Background: Safe training in the current clinical workplace requires careful participant proximity management. Delivering simulation in a confined clinical environment can impact scenario fidelity and affect psychological safety^[1]. A portable audio-visual (AV) streaming system enables audiences to observe and contribute to debriefing without compromising simulation fidelity.

Aim: The aim of the study was to assess the practical efficacy of a portable AV streaming solution to enable real-time *in situ* simulation, including to a dispersed audience.

Methods/design: The Scotia Medical Observation and Training System (smots™) offers a portable AV solution with flexibility, through the addition of cameras and microphones as required, to create bespoke simulation viewing. Smots™ was incorporated into the *in situ* simulation educational programme within an acute trust at least weekly over a 10-month period. It was concurrently deployed at our partner Nightingale facility to run simulation as part of an induction programme for new staff. Feedback from delivery users and scenario participants was collated and analysed.

Implementation outline: Smots™ was an effective platform to meet our aims. Delivery users reported smots™ to be reliable in streaming the AV footage to a target audience in a remote debriefing room. The system was compact, easily transportable and had a low burden of training to achieve user competence. Participant feedback was positive, in that the system provided good AV clarity and narration, thereby enabling a successful training evolution. Smots™ offers a reliable capability to stream simulation scenarios to an

alternative viewing area with the ability to be relocated as needed. Local wireless broadcasting range is finite and may limit users' ability to stream information to discrete departments within a larger trust. Mitigation is possible using a secondary streaming platform or integrating it into a secure internal Wi-Fi or ethernet network. Assistance from trust information technology departments is recommended and this capability is something our team will consider as a future option. Expanding connectivity is an effect multiplier, offering distanced, streamed training across trusts and regions, as well as the inclusion of participants working from home. The portable nature of this smots™ solution offers flexibility for rapid deployment to areas of novel clinical capability and community partnerships. This system has proved exceptionally useful during a prolonged period of social distancing, enabling ongoing high-efficacy *in situ* simulation training to a larger target audience within a robust, safe educational environment.

REFERENCE

1. Rudolph J, Raemer D, Simon R. Establishing a safe container for learning in simulation. *Simul Healthcare* 2014;9(6):339-349. doi: [10.1097/SIH.0000000000000047](https://doi.org/10.1097/SIH.0000000000000047)

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USING SIMULATION TO IMPROVE AND TEST A NOVEL ENHANCED CARE DRUG TROLLEY

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Background: The Royal College of Physicians Acute Medicine Taskforce^[1] recommended the establishment of Enhanced Care areas as distinct from Critical Care. We designed a novel purpose orientated Enhanced Care Drug trolley for our Trust's Acute Medical Unit (AMU), where we have designated Enhanced Care beds. The Enhanced Care Drug trolley was designed to improve the time-critical management of patients experiencing hypoglycaemia, status epilepticus, hyperkalaemia, diabetic ketoacidosis (DKA) and anaphylaxis. Human factors relating to equipment can impact clinical performance in different clinical settings and minimizing this proportionally improves clinical safety.

Aim: The aim of the study was to optimize the management of life-threatening medical conditions, requiring enhanced care, whilst minimizing the time taken for commencement of drug interventions and staff using a novel Enhanced Care drug trolley.

Method/design: A drawer on a sealable procedure trolley was designated for each emergency and the following items were included:

- Treatment algorithm
- Prescription charts
- Monitoring charts (where applicable)
- Medications and their diluents
- Sundries (needles, flushes, sanicloths etc.)
- Blood forms, bottles and blood gas kits (where applicable)
- Cannulation kits
- Airways (where applicable)
- Oxygen mask (where applicable)

A Standard Operating Procedure (SOP) was produced detailing the responsibilities of the ward manager, pharmacy team and nursing staff. Weekly and daily checklists were produced,