care. The table top activity comprised of three rooms running simultaneously, each with its global learning outcomes using a chain of command to communicate. Students completed a post-evaluation survey and staff who participated in facilitation provided feedback on preparedness for facilitating delivery and observations of how they felt the simulation ran. **Results:** 25/97 students and 7 lecturers responded. The results were analysed and are presented in a summary of findings. Findings included that simulation was a great opportunity for students to learn through a different medium, promoting teamwork to solve problems within a safe environment, and encouraging students to reflect on their and others' performance critically [2]. The feedback provided an important critique for developing further opportunities to improve students' and staff experience in getting more out of the day's activities.

**Conclusion:** Major incident simulation is perceived by both nursing students and academics as an opportunity to practise leadership, risk management, and teamwork under pressure but within a safe environment.

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## USING A SIMULATED, SINGLE PATIENT JOURNEY TO ILLUSTRATE THE BENEFITS OF MULTI-PROFESSIONAL LEARNING IN BOTH COMMUNITY AND ACUTE HOSPITAL SETTINGS

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**Background:** The benefits of multidisciplinary teamwork in healthcare are well documented [1] and there is growing support for simulation as a vital teaching approach for healthcare professionals [2]. Our aim was to investigate whether a novel multi-professional simulation improves the understanding of nursing and medical students regarding their respective roles, and the role of others, in a multidisciplinary team in community and acute hospital settings. Key learning objectives included understanding of roles within a healthcare team and communication skills, both with the patient and other healthcare professionals.

**Methods:** We developed a novel, 4-hour simulation session comprised of three distinct scenarios to run in Summer 2022. A single older person's patient journey was followed from being found by district nurses after a fall at home, to an acute deterioration within a hospital setting and then the development of delirium in a community rehabilitation hospital. Whilst developing these scenarios, guidance and input was sought from service user focus groups, hospital medical and nursing staff, and community practitioners. 5th year medical students and 2nd year nursing students participated in mixed groups, with a maximum of 6 students. A trained actor was used as a simulated patient to maximise the fidelity of the scenarios, with computer-controlled monitoring displaying patient observations relevant to the scenario when necessary. Those not participating in the scenario viewed their colleagues in real-time. Multiple camera angles and microphones meant

they could critically appraise and evaluate their colleagues' simulation to maximise their learning. Following each scenario, there was a student-focused debriefing using the diamond [3] tool facilitated by nursing and medical faculty. The simulated patient also gave non-medical feedback from a patients' perspective. Students then completed a questionnaire focusing on areas such as understanding their role within the multidisciplinary team and communication with the patient and other healthcare professionals: this was used to quantify the students' self-reported learning.

**Results:** Data analysis focused on the students' self-reported confidence in understanding the roles of different members of the multidisciplinary team and the effectiveness of their communication in a high-fidelity simulation.

**Conclusion:** Interprofessional learning is a valuable tool for teaching medical and nursing students the roles of professionals within a healthcare team. A simulation comprising of community care, acute hospital medicine, and community rehabilitation allows the students to develop an array of skills, from clinical prioritisation and diagnostic medicine to communication skills in a high-fidelity environment.

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## SYSTEM TESTING USING SIMULATION: THE EARLIER THE BETTER

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**Background:** The Southwest Ambulatory Orthopaedic Centre (SWAOC) is a novel, collaborative, regional provision for elective day-case joint arthroplasty, with facilities for exceptional overnight stay. Reorientation of existing infrastructure, combined with the logistics of resource allocation, forced a small window for process assurance prior to the arrival of the first cohort of surgical patients. System testing is usually performed once equipment is finalised and in place [1], however, an early targeted opportunity to deliver simulation was offered to intelligently support the commissioning process within a dynamic timeframe. We aimed to undertake an early prospective assessment of the working environment at a novel orthopaedic centre using high-fidelity simulation.

**Methods:** Driven by project timeline requirements, early in-situ high-fidelity simulation was delivered concurrent to infrastructure finalisation. Multidisciplinary team simulation was undertaken in multiple locations including theatres, wards, and ancillary areas. Critical incidents and common clinical scenarios were 'drilled' in real time, debriefed, and re-run with real-time evaluation to identify safety concerns and explore quality improvement opportunities. Overseeing the commissioning, SWAOC stakeholders (n=6) consisted of anaesthetic and surgical consultants, clinical theatre managers, and a business manager. Stakeholders were surveyed for feedback throughout this evolution.

**Table 1:** Latent threats found at the Southwest Ambulatory Orthopaedic Centre

| Domain | Latent Threat | Action |
|---|---|---|
| Safety | Major haemorrhage protocol. | Additional equipment needed to manage vascular injury at a remote site was documented and ordered. Protocol from base hospitals amended to reflect remote location. Correspondence telephone numbers updated. |
| | Ward toilet door inadequate to retrieve a patient in the event of collapse. | Ward door rehung and lock modified. |
| | Problems with the emergency bell:<br>• Emergency bell in theatre was obscured by a desktop computer.<br>• Bell unable to silence once activated<br>• Emergency bell was not audible to on call junior doctor at night. | • Desktop computer moved to ensure good visibility of alarms.<br>• Clinical lead liaised with estates to provide instructions which will be readily available in the relevant locations.<br>• Clinical lead to ensure bell operational to alert important team members of an emergency during all hours. |
| Equipment | Front of neck emergency airway access kit: Supporting staff have been trained for this emergency procedure with different equipment, reflecting usual practice at their base Trust. | Highlighted the need for additional equipment at current time, ongoing training to be delivered to ensure emergency protocols are standardised and regular visiting staff are aware of the options available. |
| Drugs | Need for further drugs to support critical incidents. | Generation of additional drugs list for managing team to order with the pharmacist. |
| | Obtaining and citing emergency equipment, e.g. anaphylaxis pack, malignant hyperpyrexia box, local anaesthetic toxicity box. | The team liaised with base trusts to ensure standardised equipment was available for critical incidents and agreed a permanent location for these. |
| General | Double doors into theatre opened fully, automatically, and unpredictably. | Estates team notified to deactivate door. Internal format of anaesthetic room reconfigured to ensure no inappropriate visibility of operating rooms. |
| | Found need for a chair for waiting patient in the anaesthetic room and that it needed to be on left side wall so they could not see into theatre. | Decided how to orientate the anaesthetic machine and trolley because of practising set up and testing different formations. |
| | Time delay in patients arriving to theatre from ward due to mobility issues. | Poorly mobile patient needing wheelchair to get to theatre in a timely way – one provided because of sim. |
| | Lack of music playback facilities in theatre fundamental to successful day case, minimal sedation anaesthetic techniques. | Clinical leads alerted to source additional equipment. |
| | Reduced team communication anticipated due to stringent zoning of clean and less clean areas. | Clinical leaders made aware to explore solutions. |
| Resource planning | Ability to manage patients at remote sites. | Transfer pathway adopted and amended by members of the visiting teams. |

**Results:** Stakeholders reported preliminary and subsequent simulations as beneficial. It was stated that early simulation supports the discovery of 'hidden problems' informing timely modification of pathways and/or site design (Table 1). Identifying problems early during infrastructure delivery allowed for proactive discussion, smoother change management, time for re-simulation, and supported any infrastructure amendments to adhere to target timelines. Successful, rapid ingress through and egress from building entrances, and simulating real-time joint replacement surgery ensured confidence in proposed target timeframes. Directed corporate messaging with invested parties to highlight the success of the system testing reinforced wider assurance in the facility.

**Conclusion:** High-fidelity in-situ simulation is a powerful, flexible and resource-inexpensive tool within clinical capability development. It permits agile but rigorous testing and analysis of systems within novel sites early in the development process, while changes are still possible. This capability can rapidly expose unrecognised or latent threats such as an inefficient clinical configuration, or a compromise in procedural space without posing risks to patients [2]. In performing targeted simulation ahead of when 'traditional' systems testing is usually performed, safety and quality improvements can be understood at more financially viable stages of capability generation and allow operational leaders to achieve timely decision-making.

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**INTRODUCING FOUNDATION ON-CALL UNDERGRADUATE SIMULATION (FOCUS) TO POST-FINAL MEDICAL STUDENTS IN PREPARATION FOR FOUNDATION YEAR 1**

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**Background:** The transition from medical school to foundation practice can be anxiety provoking as the pressure to balance medical and surgical quandaries with the human factors of handovers, task management, and team working can be complex [1]. Often it is the latter human factors that are hard to teach that can make shifts challenging. Students rarely practise skills of prioritisation, handover, and utilisation of team members before starting work. This leads to unsatisfactory practice and increased stress levels among the workforce with a compromise to patient safety [2]. The aims of the Foundation Undergraduate On-Call Simulation (FOCUS) was to increase the students' confidence and understanding of these tasks which form the basis on an On-Call shift for a foundation doctor.

**Methods:** We designed and delivered a one hour simulated on-call shift for 42 medical students during their post-finals assistantship at the Mid Yorkshire NHS Trust. The simulation was modelled on a shift covering medical wards out of hours at Foundation Year 1 level and included the use of a high-fidelity manikin with a review an acutely unwell