

- Use simulation to facilitate and enable staff to solve complex problems using standardized assessment and management while ensuring transparency and equitable treatment in situations of rapid clinical deterioration.

Method/design: The LVAD Simulation and Algorithm project commenced through the trial of an out-of-hospital algorithm developed by Bowles that was adapted for in-hospital use. Direct feedback from staff attending low-fidelity ward-based simulations was used to consistently develop and adjust the algorithm from a three-page flowchart to a single page (Figure 1). The invaluable feedback and constant observation of the algorithm through simulation has allowed for the evolution of a clear, concise tool that provides staff of all skill sets with a defined course of action during an LVAD emergency.

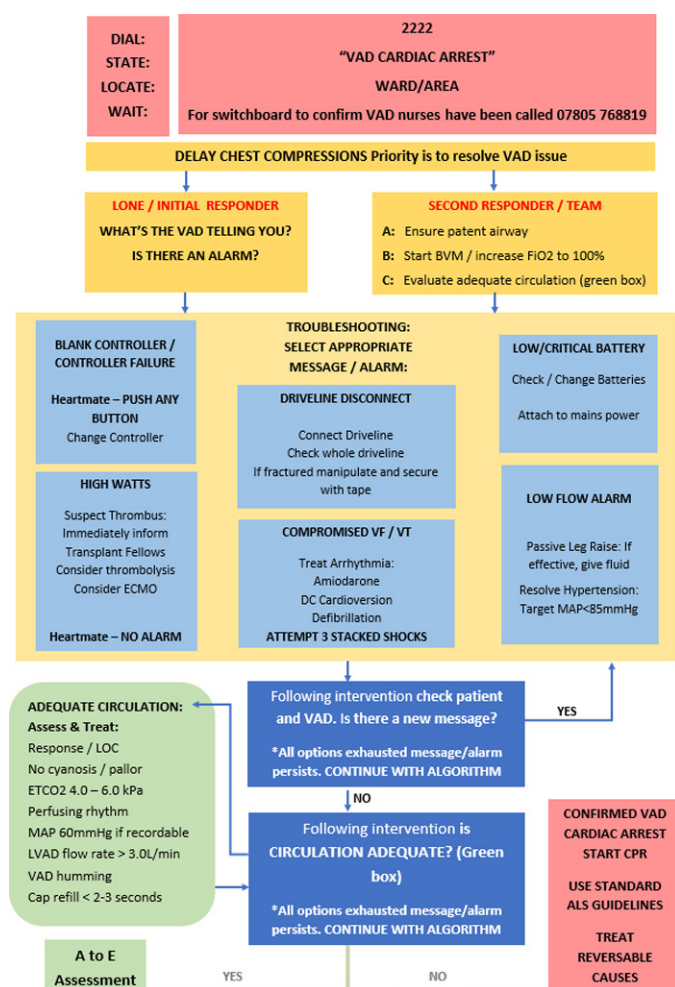


Figure 1: Practice made perfect

Implementation outline: Simulation has proved to be essential in developing this innovative, unique, patient safety tool that has increased staff confidence and competence throughout the organization while providing a safe place for clarifying questions. The single-page algorithm continues to be practised via simulation weekly with an ever-increasing multi-disciplinary presence. Staff report increased confidence not only in dealing with LVAD emergencies but also in their ILS and ALS skills, all of which increase safety, quality care for patients. This one of a kind algorithm is now finalized and awaiting organizational review, following which a complete evaluation of its effectiveness will be conducted.

REFERENCES

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STRIVING TO THRIVE: DEVELOPING AN INNOVATIVE REGION-WIDE MEDICAL REGISTRAR PREPARATION SIMULATION-BASED COURSE

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Background: The COVID-19 pandemic has led to disruption and missed educational opportunities for Internal Medicine (IM) Year 2 trainees who shall progress to the second stage of their training in August 2021, stepping up to the medical registrar role. It had become apparent that some of these trainees may not be currently performing at the level expected for this stage of their training and may encounter some difficulties during this transition period.

Aim: We were tasked by Health Education England (West Midlands) to design and implement an innovative region-wide medical registrar preparation course, utilizing simulation-based education. The courses required standardized content that could be delivered by either face-to-face or virtual modalities across multiple centres in the region.

Method/design: Two separate high-fidelity simulation courses were designed to deliver key aspects of the IM training curriculum with a clear focus on the behaviours, attitudes and skills required to perform as a junior medical registrar: 'Thrive'. A 1-day course designed for trainees who are expected to be able to progress to IM year 3 without any concern. These courses were planned to be run by other regional centres to their local trainees using either a face-to-face or virtual format. 'Strive'. A 2-day course designed for those trainees who have been identified as needing extra support to be able to progress to IM year 3. These courses were planned to be run via a face-to-face format at our SimWard to trainees from across the region. Course content included a mix of high-fidelity simulation scenarios as well as workshops focussing on key areas for medical registrar preparation as identified by IM trainees:

- Leading cardiac arrests
- Debriefing
- Breaking bad news
- Prioritization and delegation
- Giving advice
- Escalating care

Implementation outline: All content was designed and produced in house to then be provided electronically to region-wide centres facilitating standardized delivery, including pre-recorded simulation scenarios to allow virtual delivery. A webinar was held to aid roll out and provide training on course delivery and content to participating centres. Courses were delivered during the spring and summer of 2021. Initial feedback has shown an increase in perceived trainee

confidence in dealing with all topic areas at the registrar level and has illustrated that learning has already been utilized in clinical practice. Courses are ongoing until the end of July 2021, after which a full analysis of region-wide impact can be made.

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PILOTING A TABLETOP SIMULATION TO PREPARE NURSES FOR WARD COORDINATION

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Background: We know staff attrition is a core challenge for the NHS with many nurses leaving the profession in the first 2 years post-qualification ^[1]. Health Education England has recently published themes from a national student survey showing that feeling overwhelmed, concerns about mental health and doubting clinical ability are key reasons for students to consider leaving. This echoes findings from local conversations with newly qualified staff, which highlight workload management skills, particularly leading teams in clinical areas ('coordinating'), as a key source of anxiety. Simulation is used in emergency planning and military settings to prepare staff for managing teams but has rarely been used in healthcare. Yet the national framework for simulation-based education ^[2] supports simulation for workforce design and processes. Working from this insight we piloted a tabletop exercise to introduce and build coordination skills for nursing staff.

Aim: The aim of the study was to improve retention and resilience of the nursing workforce by increasing confidence in their ability at clinical coordination.

Method/design: This table-top simulation pilot used a convenience sample of six staff nurses new to the role of clinical coordinator. We drew on clinical governance findings and input from experienced nurse-coordinators to simulate coordinating a shift on a surgical emergency unit. The shift was run in compressed time over 32 minutes followed by a 1.5 hour debrief. During the shift we used 'injects' intentionally designed to stimulate learning in:

- Problem solving
- Decision-making
- Clinical processes
- Supporting colleagues/workforce resilience
- Situational awareness

The pilot was evaluated through peer observation and focus group. Peer observation provided an objective analysis of session content. A neutral party facilitated the focus group, which gathered data on how the training session had been received by participants and evaluated whether learning outcomes were met by content.

Implementation outline: Participants were assigned to work in pairs. Briefing was provided for session content and timeline. We used a simulated handover of patients for verisimilitude. The 12-hour shift was compressed into 4-minute segments with a 'countdown' timer ticking off each segment as the simulated shift progressed. This added time pressure and demonstrated how decision-making skills can be influenced by external forces. The participants had access to the hospital intranet and documented their actions/decisions on a template. Facilitated discussion took place

after the tabletop simulation followed by a lunch break and then the focus group.

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DEMONSTRATING INNOVATION THROUGH THE SKILLS HUB INITIATIVE

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Background: In April 2020, Birmingham City University played a key role in the local response to the coronavirus pandemic by providing essential skills training to student nurses, existing National Health Service (NHS) staff who were returning to practice and staff being redeployed to critical care areas. The University's action saw the rapid development, and delivery of a logistical plan involving staff mobilization, collaboration, skills mapping and prioritization of clinical service needs. Over 2,000 clinicians, including our own students, received a far-reaching training programme covering eight key skills needed to take on frontline NHS roles in the fight against COVID-19. The programme was innovative, sustainable and all risks to patients were eliminated, as the learning took place within the University's state-of-the-art simulation facilities.

Aim: Our aim was to design and deliver a rapid skills development centre that could train a core mass of staff facing redeployment to the standard required to work, competently and confidently, within the teams on the frontline NHS.

Method: The rapid development was a huge challenge, involving identifying an essential cohort of staff from the Faculty of Health who were willing and able to deliver such a wide range of clinical skills. Each skill was risk assessed and a COVID-19 lead was identified within the team. We ensured all essential personal protective equipment (PPE) was available and that social distancing could be assured, including reducing the number of students in a room at any one time. This was particularly challenging as it increased the teaching time required exponentially.

Implementation outline: This was a difficult time globally, and the University's action led to the demonstration of outstanding courage and commitment to care towards the community we serve. While the public was being urged to stay at home, our staff were constructing a Skills Hub to deliver in-person with personal risk. The Estates and Facilities team worked to create a one-way system throughout the complex building. The University worked closely with the skills teams in local NHS Trusts, especially University Hospitals Birmingham, to ensure the skills taught were in line with Trust requirements, and that the training would have the biggest impact in supporting patient care. The Skills Hub team worked tirelessly and in collaboration to ensure the efficacy of development and the safe delivery of the programme. The Skills Hub continues to operate as a huge success, proving sustainability, whilst continuing to provide an integral part of curriculum achievement for all healthcare students.