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### COMMUNITY SIMULATION PROGRAM DESIGNED TO IMPROVE RECOGNITION OF THE DETERIORATING PATIENT AND ESCALATION OF CARE PATHWAYS

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**Background:** This abstract looks at how we implemented physical health simulations within community hospitals in late 2020 and more recently physical health simulation in mental health units.

**Aim:** The objectives of these simulations were to improve the recognition of deteriorating patients and the appropriate escalation and/or transfer of care as well as 'identifying latent errors through simulation' <sup>[1]</sup>.

**Method:** We have run simulations in the community since October 2020 and in the mental health units in February 2021. These sessions have covered four main themes:

- Sepsis
- Hypoglycaemia
- Anaphylaxis
- Opioid overdose

These sessions were taken from pre-existing incidents such as the hypoglycaemic relative and anaphylaxis. We also added opioid overdose as this topic is relevant to both mental health units and community hospitals. We delivered a package of four simulations across 1 month at each unit. This allowed for a different simulation each week, regular learning outcomes and wider opportunity of contact with the staff working within these areas. These sessions were always well attended with staff even committing to learning on days off. This level of commitment shows a real desire to improve not only their own knowledge but also patient safety. We engaged over 50 staff on 9 separate sites (five community hospitals, four mental health wards). Staff have been very engaging and have really got behind these simulation sessions as well as the ward managers. By engaging both mental and physical health, it has helped to provide a wider audience of staff and helped to gain a parity of esteem across the trust in the provision of safety training and simulation. We have also identified a number of latent errors such as non-standardized provision of anaphylaxis adrenalin across the trust, staff unfamiliar with resuscitation equipment bags and equipment location within and identifying the lack of Glucagon within a Hypo box.

**Results:** The data collected from these sessions have shown a growth in confidence in identifying deteriorating patients and how to correctly implement and use escalation tools such as the sepsis pathway, electronic observations (E-Obs), anaphylaxis algorithms and the SBAR communication tool.

**Implications for practice:** These simulations have really allowed us to bridge the gap between the acute and community site, allowing for a greater parity of esteem for all patients. Further steps in this program will be delivering mental health simulations to all mental health units and community hospitals to further bridge the learning between physical health and mental health.

#### REFERENCE

1. Stevenson A. Using in situ simulation to identify latent errors on the Acute Medical Unit. HEE SW Simulation, Innovation & Patient Safety Conference, 17th October 2019, Exeter.

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### MIXED REALITIES CHEST DRAIN WORKSHOP: INTEGRATING HANDS-ON AND VR LEARNING

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**Background:** During the pandemic, several wards in our surgical wing became re-purposed for COVID patients. This resulted in patients who would usually be nursed in those wards being placed elsewhere. There were also many nurses and medical staff being redeployed to wards in unfamiliar specialities which required caring for patients outside their usual clinical areas. This resulted in some patients with chest drains being nursed outside the usual areas, and incidents being reported regarding their management.

**Aim:** The hour-long workshop was designed to simulate the management and understanding of the terminology around chest drains. The hands-on aspect was achieved by modifying a manikin to be able to demonstrate these actions and troubleshoot when things go wrong.

- What is meant by a swinging chest drain?
- How much bubbling is expected?
- Followed by the procedure of inserting a large-bore chest drain using immersive virtual reality

**Methods:** Ward nursing staff, operating theatre staff and junior doctors were invited to attend the workshop. Six sessions each with five participants ran over the course of a month. The first part of the workshop was a hands-on session with a modified defunct manikin. We had the locally available kit for people to be able to interact with and understand the mechanics of chest drains. Introducing people to the Royal Marsden manual of clinical nursing procedures <sup>[1]</sup> as a reference to be used in parallel with our trust protocols. Hands-on session covered the observations taken for safe management of a chest drain, demonstrating what a swinging and bubbling drain look like. Recognizing when and how to clamp a chest drain was simulated, with a short scenario requiring the attendees to troubleshoot a drain that had stopped swinging and the patient condition deteriorated. How the consumables are changed in the chest drain and its ultimate removal was also covered in the hands-on session as this had been a particular area of concern expressed prior to the workshop. The manikin (Frank) was limited in the ability to insert the chest drain in a realistic manner, so this component of the education was augmented by a virtual reality (VR) option. Pottle <sup>[2]</sup> asserts that VR allows participants to learn from experience as they would do in real life. VR is the use of software to create an immersive simulated environment, to experience VR, participants put on head-mounted display which places them inside an experience, where they can engage with the environment and virtual characters in a way that feels real. VR has a unique power, more than any other simulation technology, to make users believe they are in a different environment. The application used is available on the Oculus go format and is produced by the Royal College of Surgeons in Ireland, it takes the participants through the accident that results in the patient requiring the insertion of a chest drain. They are then faced with decisions regarding his care throughout the experience, following through decisions that may lead to a fatal result for the virtual patient. The VR simulation was in real time, with events unfolding at a realistic pace and included the various airway emergencies unfolding before you after the drain insertion.

**Results:** Questionnaires were completed before and after the workshop for attendees to evaluate their confidence to