mass index (BMI). We included this in our debriefings. Our role-play videos are used in training to give examples of obesity discussions with CYP. These were semi-scripted to allow the CYP to incorporate their own voice and provide their insight into how they or their peers might react. In the patient experience survey, all parents were positive about the approach, rating the conversation on average 7.6/10 for being helpful (10 most helpful). Notable comments from parents included 'the approach was sensitive, they spoke about positive change, not negative'.

Conclusion: Parents talked positively about conversations that they had about obesity with staff trained using our simulation programme designed following CYP collaboration. It is encouraging that these conversations have been useful for CYP and families. Based on this feedback, we will continue to engage CYP and parents. Feedback from CYP is planned. The Obesity Toolkit is made free and Open Access for any interested departments.

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CREATING AN EASY TO CONSTRUCT, LOW-COST ASPIRATION SIMULATOR FOR AIRWAY TRAINING

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Background: Aspiration of gastric contents remains the commonest cause of death during anaesthesia, accounting for 50% of deaths and occurring more frequently than cannot intubate, cannot oxygenate (CICO) events [1]. Despite this, training for CICO is ubiquitous while rehearsal of aspiration management is rare. Soiled airway simulation has been shown to reduce the time to intubation with less volume entering the lungs, a factor known to correlate with the severity of aspiration [2]. Initially developed by Dr DuCanto, high-fidelity vomit simulators have existed since 2014 however cost (£1,595) precludes their widespread use. Low-cost models have since been described, however, the materials are sourced from hardware stores, relatively expensive, require skills to construct, utilise noisy pumps, and some even require electrical safety considerations [3]. We aimed to improve access to aspiration training by designing an aspiration simulator that is easy to construct and low-cost.

Methods: Employing an iterative design process we created an aspiration simulator using materials readily available in the operating theatre. The final model requires an intubatable manikin with an oesophagus, such as the Laerdal Airway Management Trainer™. The oesophagus is intubated distally with a shortened size 9.0 cuffed endotracheal tube (acting as both a conduit and seal), which is then connected to a shortened bladder irrigation set and two 3-litre bags containing simulated regurgitation (made from propofol, water, and green food colouring), elevated and manually pressurised to 300 mmHg (Figure 1, upper left).

Results: The setup silently produces a titratable flow of up to 250 ml per minute, sufficient to flood the oropharynx within 30 seconds. The simulation itself can be set up in under 10 minutes, used several times before requiring refilling, and is easily transported between theatres as a part-task trainer or concealed for a multi-disciplinary simulation (Figure 1, bottom left). All parts are reusable and the total cost equals £9.90 (excluding the manikin, which is undamaged). Our simulator was tested on a cohort of 16 middle-grade anaesthetic trainees and its performance was evaluated using pre and post-course questionnaires (scale 0–10). All successfully intubated the simulator. Average user-rating scores for realism were 8.4/10 while confidence in managing soiled airways improved from 6.2/10 to 8.9/10 after exposure to the simulation.

Conclusion: Soiled airway simulation can be simple and affordable, creating a realistic environment to practise the unique skills necessary to manage this important yet under-rehearsed cause of death during anaesthesia.

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DESIGN OF A FUNCTIONALLY EQUIVALENT MENTAL SIMULATION PROTOCOL FOR LEARNING CARDIAC ARREST SKILLS

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Background: Mental simulation assists learners in repetitive, solitary, deliberate practice. Mental simulation can complement laboratory simulation-based learning and clinical practice in learning skills and increasing self-efficacy [1]. Mental simulation is a quasi-sensory or quasi-perceptual experience without stimuli and overt physical movement. Mental simulation occurs when one imitates actions in an imaged state but does not trigger the action itself [2]. Mental simulation is based on the 'simulation theory of action'. This theory suggests that observing an action, imaging an action, or understanding an action will activate the neural networks involved in the actual execution of that action. While these states differ, there is a partial overlap between covert and overt action [2]. The images produced during mental simulation must be vivid or high-fidelity to activate the said neural networks. Higher fidelity images create greater 'functional equivalence', increasing the likelihood that the imager will learn from their experience [3]. The aim was to create a mental simulation protocol rich in motor and sensory cues that would assist pre-registration nurses

[students] in imagining performing cardiac arrest skills. The protocol had to be designed to increase the mental simulation exercise's functional equivalence and increase the possibility that learning would take place.

Methods: The protocol had several elements to improve functional equivalence, and these were: i) a narrated audio script with embedded sound effects that described the scenario. The script was based on PETTLEP mental simulation framework (physical, environment, task, timing, learning, emotion and perspective) [3]. The author used a tripartite script design. The scripts were designed between 1) the [first] author, 2) the [2015] BLS and ALS guidelines, and 3) students with real-world cardiac arrest experience; ii) a first-person [1-P] film of a cardiac arrest to assist in evoking high-fidelity images from a 1-P perspective; iii) a patient back story; iv) resuscitation algorithms, and v) a glossary of terms to help inexperienced students to understand cardiac arrest terminology. The glossary would assist students in turning language into images.

Findings: This novel approach to creating a mental simulation protocol created a scenario rich in detail and rich in stimulus, response and meaning cues that could help students learn cardiac arrest skills outside the simulation laboratory.

Conclusion: This is a new and novel way to design mental simulation protocols for learning cardiac arrest skills outside the simulation laboratory.

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A BESPOKE TRAIN THE TRAINERS COURSE TO MAKE HEALTHCARE MORE INCLUSIVE FOR PEOPLE WITH LEARNING DISABILITY

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Background: People with Learning Disability (LD) often receive inequitable care within the NHS, something Mencap has described as 'institutional discrimination' [1]. The NHS Long Term Plan states the need to improve the care of patients with LD [2]. Simulation with debriefing is a useful approach for improving patient care with Human Factors teaching. To improve education around LD, we created a de novo course with concurrent LD theme for nursing educators to become trained in debriefing and simulation, to allow them to become champions in facilitating learning, especially in relation to LD.

Methods: To establish the current educational needs of our organisation around LD, we conducted a staff survey to further understand the educational needs of our colleagues. 108 professionals from a variety of disciplinary backgrounds (including nurses, dietitians, and doctors) across 4 sites within our Trust responded. Thematic analysis highlighted the need for further education, with anxiety about inequitable treatment of LD patients, and staff and patient physical safety when looking after a patient with LD. We subsequently ran a 2-day 'Train the Trainers' course for nursing educators, which used communication scenarios (online videos and actors) and games to develop generic debriefing skills. Day 2 focused on simulation design and incorporating LD into simulation design, and at the end of the course participants facilitated a high-fidelity simulation to the rest of the group. Throughout the course, patient feedback, serious incidents, staff survey, and our Trust LD specialist nurse's expertise were incorporated.

Results: 8 nurses attended our course, taught by a diverse multidisciplinary faculty. Before the course, confidence in debriefing was on average 2.8/5 (5 being most confident). Afterwards they rated their confidence 3.8/5. Learners were asked about their confidence raising awareness of LD within their department. The rating was improved from the initial 2.6/5 to 3.6/5 after the course. To date, 1 participant has delivered LD-related teaching to their department using debriefing skills following an online LD video used on the course.

Conclusion: Our staff survey highlighted the need for further education within our organisation. The course was successful in increasing nursing educators' confidence in debriefing and their confidence in raising awareness of LD during teaching sessions. We are currently creating further resources to aid teaching, including videos with service users. We will further signpost to existing resources and request delayed feedback to assess if our nursing educators have become LD Champions.

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HOW TO INTRODUCE INTERPROFESSIONAL EDUCATION (IPE) TO CARDIAC ARREST SIMULATIONS FOR FINAL YEAR UNDERGRADUATE MEDICAL AND NURSING STUDENTS

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Background: Healthcare professionals work in a diverse community of different specialities and skills. However, most healthcare professional courses are insular and isolating in their training methods. This results in highly trained individuals, who are unfamiliar with the true multidisciplinary team (MDT) approach in health services [1], leaving them unprepared for working in the NHS. One specific area where teamwork, good communication and appreciation of others' skills sets are crucial is during medical emergencies and cardiac arrests, where multiple professions (including: Doctors, Nurses, Resuscitation officers, Operating Department Practitioners) work together to achieve the best outcome patients. We aimed to introduce Interprofessional Education (IPE) to cardiac arrest simulations for final year undergraduate medical and nursing students to improve their understanding of working as part of a MDT, to enhance their confidence in dealing with cardiac arrests and prepare them for work in the NHS.

Methods: Reviewing the literature, there are several key components required to successfully instil IPE including: