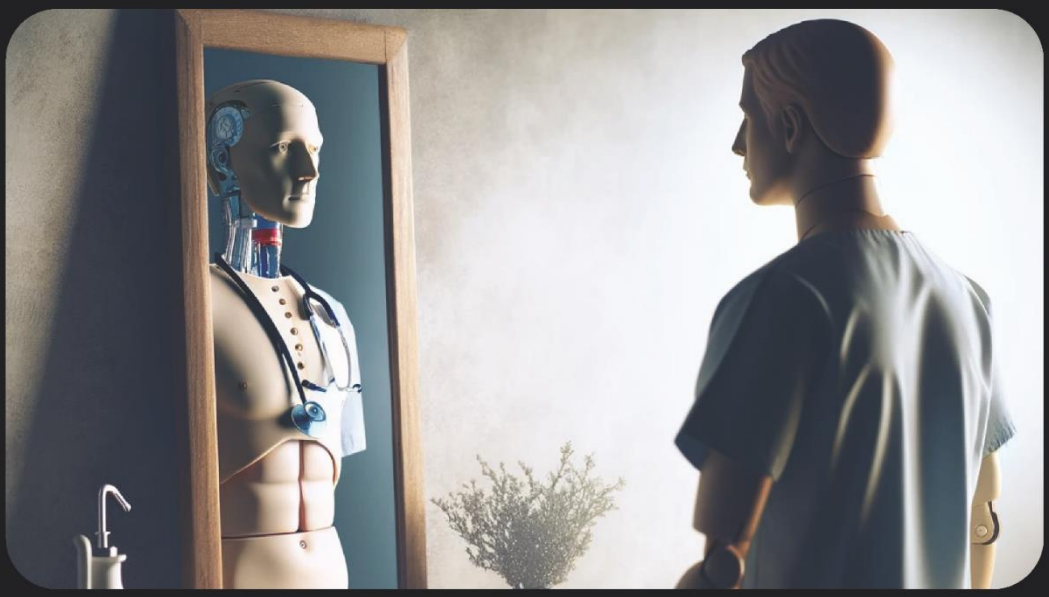
QUEEN'S UNIVERSITY BELFAST

KN CHEUNG SK CHIN INTERSIM CENTRE

Interprofessional Simulation

Transformation through Interprofessional Simulation



Simulation Conference

KN Cheung, SK Chin InterSim Centre,
Medical Biology Centre,
Queen's University Belfast

https://go.qub.ac.uk/InterSimConference24

Content

Welcome

Dear Delegate,

A warm welcome to the KN Cheung and SK Chin InterSim Conference 2024. We are thrilled that you've taken time out of your busy schedule to join us. As educators, our mission is to cultivate competent and compassionate health and social care professionals who can deliver the highest standards of care. Simulation plays a crucial role in equipping learners with the skills needed to excel in 21st-century healthcare and social care. Through the immersive experiences provided by simulation-based education, we create invaluable learning opportunities that prepare our learners to thrive in real-world practice.

Today, we have the chance to explore a rich and diverse array of simulation practices, both locally and globally. In light of the complexities of modern health and social care, fostering and supporting collaborative practice is more important than ever. That's why this year's conference theme is "Transformation through Interprofessional Simulation."

My personal rule of thumb for conferences is threefold: "meet at least one new person," "develop at least one new skill," and "generate at least one new project idea." We hope you accomplish these goals and, most importantly, enjoy the day. If you have any issues or questions, please don't hesitate to reach out to one of our team members. Additionally, if you have any accessibility needs, please do let us know.

We hope you enjoy the conference!

Gerry Gormley, on behalf of the conference organisation team

Meet our keynote presenters.

Eve Purdy (online)

Eve Purdy is an emergency medicine physician and applied anthropologist. Eve has completed fellowships in research and Translational Simulation and Team Performance at Gold Coast University Hospital. She is a teamwork consultant for a wide variety of healthcare teams. Eve has experience with qualitative methods and action research and has a passion for understanding how we might collectively shape culture to improve education, team performance, and patient care.

Dr Sinead Campbell-Gray and Mike Patton

Dr Campbell-Gray works as a Consultant in Emergency Medicine based in the Royal Victoria Major Trauma Centre, Belfast, and as a HEMS Consultant as part of the NI HEMS (Helicopter Emergency Medical Service) within the Northern Ireland Ambulance Service. Her subspecialist interests are Pre-Hospital Emergency Medicine, Major Trauma, Major Incident & Disaster Management, Simulation/Education/Human Factors in High Performing Multidisciplinary Teams, Sports Medicine & Mass Gathering Event Medicine. She spends her downtime immersed in water, music, green spaces, family & big skies.

Mike is a Northern Ireland Ambulance Service Advanced Paramedic in Critical Care working with the Helicopter Emergency Medical Service since its inception in 2017. His interests include education, service outreach and surf therapy sessions for NIAS staff health and well-being. Mike has worked full time in the Ambulance service for 24 years, in either a training or patient facing role. He is currently in his final year of an MSc in Advanced Paramedic Practice with Glasgow Caledonia University.

Sara McCracken

Sara McCracken is the founder and CEO of Angel Eyes NI, a charity that supports and advocates for children who are blind and partially sighted. She set up the charity after the birth of her twins who are visually impaired, as she struggled to get support that they desperately needed.

To provide the right support for children, Sara identified the importance of understanding visual impairment. A natural innovator and problem solver, she harnessed Virtual Reality technology to create a Visual Impairment Simulator that demonstrates the complexities of different eye conditions. This unique software builds empathy and understanding of visual impairments with professionals and families, ensuring the implementation of effective and targeted support. Sara has set up the Social Enterprise Empatheyes to commercialise the VR Visual Impairment Simulator. With a distributor partner in GB, the company is selling the hardware/software products and CPD Visual Awareness training packages, which generates income for the charity while making a positive impact in our community. Tech for good on both fronts! Under her leadership, Empatheyes won the Digital Tech for Good Award 2023 and the CO3 2023 Social Impact award.

Sara was also delighted to speak at the Women in Tech Event in Stockholm in 2022. In 2023, Empatheyes was launched in the US and Europe having secured support through Invest NI. The big picture for Sara is increasing independence, employability and raising awareness of vision impairment to make an accessible world for everyone.

Conference Committee

The conference was only possible with the collective efforts of our conference committee, to whom we extend a heartful thanks for all of their support and efforts.

- Gerry Gormley (Centre for Medical Education, QUB)
- Gillian Luke (KN Cheung and SK Chin InterSim, QUB)
- Sarah Andrews (KN Cheung and SK Chin InterSim, QUB)
- David Hardy (KN Cheung and SK Chin InterSim, QUB)
- Harry Watson (KN Cheung and SK Chin InterSim, QUB)
- Anthony Anderson (School of Nursing and Midwifery, QUB)
- Briegeen Girvin (School of Pharmacy, QUB)
- Paul Hamilton (Centre for Medical Education, QUB)
- Sharon Haughey (School of Pharmacy, QUB)
- Colin Hughes (School of Nursing and Midwifery, QUB)
- Lorna Lawther (School of Nursing and Midwifery, QUB)
- Paul Murphy (Drama Department, QUB)
- Sarah O'Hare (Centre for Medical Education, QUB)
- Billiejoan Rice (School of Nursing and Midwifery, QUB)
- Alison Smart (School of Nursing and Midwifery, QUB)
- Andy Spence (Centre for Medical Education, QUB)
- Mike Williams (Centre for Medical Education, QUB)
- Janine Stockdale (School of Nursing and Midwifery, QUB)

Oral Presentation Abstracts

SESSION 1
Simulation in Practice (I)

Title: Pass the bleep: Using simulation-based training in preparation for healthcare industrial action.

Author(s): Dr Kate Mullan (1), Ms Carol McCarthy (1), Dr Andrew Thompson (1), Dr Peter Mallett (2), Dr Thomas Bourke (2)

Institution: (1) Royal Belfast Hospital for Sick Children, (2) Centre for Medical Education, Queen's University Belfast

Introduction: This year, junior doctors in Northern Ireland seek to secure pay restoration in what has been described as the most disruptive industrial action in NHS history [1]. In response, consultant teams across the province have stepped up to cover on-call rotas, ensuring the safety of patients and delivery of essential services during this period. To strengthen these efforts, junior doctors and advanced nurse practitioners ran simulation-based training for consultant teams. Sessions aimed to revisit local protocols, practical skills and emergency training in preparation for on-call duties.

Objectives: To assess if simulation-based interprofessional education is an effective training tool for systems learning to improve consultant team readiness for industrial action.

Methods: 18 consultants participated in 80-minute simulation training sessions. Sessions used locally developed scenarios to apply regional practices and APLS principles. Equipment included high-fidelity mannequins, airway devices, IV access and a defibrillator in the setting of a highly-immersive simulation suite. Mixed-methods questionnaires were distributed before and after the intervention, assessing confidence levels, knowledge, and attitudes towards the impending junior doctor strikes.

Outcomes: Three main themes were identified from free-text responses, highlighting the perceived benefits of simulation in preparation for industrial action. These included improved recognition of local referral pathways and guidelines, re-familiarisation with practical skills and improvement in human factor skills among newly-formed consultant teams (leadership, communication, workload distribution, situational awareness, management of disruptions). Staff found interprofessional simulation training instrumental in improving their sense of readiness for industrial action by addressing logistical challenges of managing paediatric care in the absence of junior staff.

Conclusion: Simulation-based training allowed consultant teams to prepare for the challenges of service delivery during industrial action by revising practical skills and protocols commonly used by junior staff. With further industrial action on the horizon, we aim to roll out our simulation-based training on a larger scale.

Title: Development of Child and Adolescent Mental Health Simulation: Opportunities and Challenges

Author(s): Dr Bilal Korimbocus (1), Dr Parvathy Mohandas (1), Dr Elizabeth Donaghy (1)

Institution: (1) Northern Ireland Medical and Dental Training Agency

Introduction: Simulation is an ever-evolving field. Previously well known for its use in developing procedural skills, there is growing evidence that shows simulation is beneficial in developing non-procedural skills. These skills include social skills, cognitive skills and personal resource skills (1). These non-procedural skills form a core part of a psychiatrist's skill set. An area of healthcare that provokes anxiety in professionals is eating disorders. One reason cited for this is the lack of training in this area (2). Given the anxiety around this topic, we felt it necessary to develop a simulation scenario aimed at helping professionals develop their skills and confidence in assessing a patient presenting with an eating disorder.

Method: Doctors working in psychiatry within the Belfast Trust work with patients with eating disorders. A doctor may be asked to admit a patient to the regional Child and Adolescent Mental Health Service (CAMHS) inpatient unit who is presenting with a severe eating disorder. As such, we developed a scenario for first-on-call doctors to simulate admitting a patient to the regional unit. This scenario was developed within the last year and was delivered as part of the Trust induction in April 2024.

Conclusions: As this type of simulation is novel, we would like the opportunity to share our work to date and discuss the development process. We would like to share the positive opportunities this kind of simulation brings as well as discuss some of the challenges we encountered. Patients with eating disorders interact with the health services from primary care to tertiary centres therefore we feel it is important to discuss this at an interdisciplinary conference. Ultimately, this type of simulation could be beneficial for various disciplines including professionals within primary care, accident and emergency, medical wards and those working in psychiatry.

Title: Simlab: Transforming interprofessional learning and practice through theory guided in-situ simulation.

Author(s): Dr Sarah O'Hare (1), Professor Gerard Gormley (1), Professor Anu Kajaama (2), Dr Richard Conn (3)

Institution: (1) Queens University Belfast, (2) Oulu University, Finland, (3) Ulster University

Introduction: Medical emergencies, especially in children are complex and general practitioners report feeling unprepared when such scenarios present (1). Simulation is useful to train for high acuity, low opportunity (HALO) events, however existing emergency care simulation research in general practice has limited outcome measures such as individual improved confidence (2).

Objectives: The research team planned to design, deliver and analyse a programme of in-situ simulation (ISS) for primary care emergencies. The aim was to improve understanding of the emergence of transformative agency (TA) to help practitioners best deliver interprofessional ISS training and further the impact of simulation as a pedagogy.

Methods: The design of the ISS programme was inspired by Cultural Historical Activity Theory (CHAT), operationalised through a modified Change Laboratory SimLab for the busy setting of general practice. This intervention aimed at enabling the emergence of TA, the ability for participants to collaboratively enable change in their organisation.

SimLab consisted of four workshops, workshops one and three had different ISS scenarios, all workshops had CHAT guided group discussions where participants collaboratively reflected on their activity. Group discussions were audio-recorded, transcribed and analysed in-depth using the expressions of TA(3) which manifest in speaking turns as resisting, criticising, explicating, envisioning, committing to actions and taking actions.

Outcomes: The transcribed data contained 343 speaking turns, with 66 agentive turns containing expressions of TA evolving across the SimLab demonstrating longitudinal development of agency. Analysis identified four main aspects contributing to the evolution of TA: recognising challenges using an individualised response, recognising challenges facing non-clinical staff, negotiating a plan to formalise their emergency response, and recognising a need to deliver interprofessional CPR and ISS emergency care training.

Conclusion: This research demonstrates development of a bespoke pedagogical approach to ISS that incorporates theory to shape collaborative learning and enabling TA in the complex setting of general practice.

Title: Evaluating The Efficacy Of Short, Opportunistic Simulation Based Education In Improving Knowledge In Emergency Medicine Staff.

Author(s): Dr Emma-May Curran (1), Prof Robert Eager (1)

Institution: (1) Midlands Regional, Hospital Tullamore

Introduction: Simulation is an effective way to teach technical and non-technical skills. Often large scale multidisciplinary team simulations are time and resource consuming. Coordinating these sims is becoming increasingly difficulty due to pressures on emergency departments (ED) and often, due to overcrowding and staff deficits, simulation based education (SBE) sessions are cancelled. Our aim was to see if short, opportunist SBE training could be as effective in developing clinical and non-clinical skills.

Methods Several five minute SBE sessions were developed covering a range of skills and topics. SBE sessions were conducted opportunistically at times when activity in the ED would allow. Participants included non-consultant hospital doctors and nurses. Anonymised questionnaires, using a Likert scale, were completed post simulation by all participants. The primary outcome of the study was to assess if the staff found the short simulations as beneficial to improving their knowledge, skills and teamwork as the traditional longer SBE sessions.

Outcomes: The primary outcome of the study assessed if the staff found the short SBE beneficial to improving their knowledge, skills and teamwork. All participants strongly agreed (90.5%) or agreed (9.5%) with this statement. In addition, all participants agreed or strongly agreed that SBE helped improve their communication skills. When analysing the secondary outcomes of the study 81% of staff disagreed that they felt pressure to return to clinical duties during the SBE scenarios. 95% of staff agreed or strongly agreed that they preferred the shorter simulation scenarios to longer ones.

Conclusion: Short SBEs are an effective way to deliver education to staff in an ED. Short SBE improves staffs knowledge, communication and teamwork. By using shorter SBEs staff feel less pressure to return to their clinical duties while still experiencing the benefits of working in a multidisciplinary team to increase their skills and ultimately improve patient outcomes.

Title: Pilot evaluation of in-situ versus suite-based simulation for medical undergraduates

Author(s): Dr Kate Mullan (1), Dr Kathryn Ferris (2), Ben McNaughten, Dr Andrew Thompson (1), Dr Thomas Bourke (3), Dr Peter Mallett (3)

Institution: (1) Royal Belfast Hospital for Sick Children, (2) Queen's University Belfast, (3) Centre for Medical Education, Queen's University Belfast

Abstract: : Introduction: QUB was among the first medical schools to embrace and evaluate interprofessional high-fidelity simulation in undergraduate medical education [1]. In-situ simulation (ISS) has proven useful for skill improvement, team development and organisational learning in the postgraduate arena [2-3]. To date, we found no published evaluation of ISS as a tool in undergraduate medical education.

Objectives: To compare ISS to suite-based simulation as a tool in undergraduate medical education.

Methods: Twenty four undergraduate medical students were invited to participate in ISS consisting of two acute scenarios within an inpatient paediatric ward. These students had previously participated in simulation training within a university-based simulation suite. Two focus groups were carried out immediately after their participation in ISS and an inductive thematic analysis carried out on transcripts.

Outcomes: The analysis identified features of psychological fidelity that were influenced by the students' interactions with the "true" clinical environment and the interprofessionals involved.The intentional blend of simulation with the real clinical environment impacted on overall impressions of realism, and the perceived roles and expectations of undergraduate students. Embedding the presence of senior colleagues and other professional groups afforded a more authentic response which many students likened to readiness for clinical practice. Students perceived ISS as beneficial in improving their sense of involvement and belonging in clinical attachments. Some remarked that learning is better consolidated when contextualised in a real environment. Some features varied among student groups, including fears and challenges of ISS for students in their preclinical years, as well as realism with lower fidelity manikins typically used in ISS.

Conclusion: ISS increased the physical and psychological fidelity of the educational experience with perceived benefits relating to learning in context.This pilot study highlights the potential value of ISS as a tool in undergraduate medical education to enhance learning and better prepare students for clinical practice

Title: Development of Virtual Reality Simulation (VRS) Scenarios for Undergraduate Nursing Education Programmes.

Author(s): Dr Siobhan Smyth (1), Dr Fionnuala Jordan, Dr Yvonne Finn (1)

Institution: (1) University of Galway

Introduction: Virtual Reality Simulation (VRS) is an emerging methodology for delivering simulation-based education (SBE). VR scenarios provide experiential learning opportunities to nursing students which support the development of practice competencies. In most health professional undergraduate courses now make use of SBE as an evidence-based educational method to teach clinical skills [1]. Nurse educators can be influential in bringing VRS into their curricula. Once VR scenarios have been created, they can be re-used multiple times for a variety of students [2] and require less resources that physical simulation. VR scenarios can be expensive to develop and time-intensive [2,3]. As part of an ERASMUS+ funded trans-European project ViReTrain, Virtual Reality Training for Health Professionals, we developed VR scenarios that are authentic and complex, and present individual patient cases in the context of nursing practice that newly qualified nurses encounter daily.We aim to present scenario development based on authentic cases from real-world clinical practice.

Objectives

- Present the development of a theoretical framework to guide VR scenario development.
- Process in the creation of VR scenarios for VRS in nursing education.

Methods This VRS teaching activity speaks to the complexity of care that mimics the real world of clinical practice. Each of the VR scenarios has been developed using a template that we developed based on our educational heuristic.

Outcomes: This ViReTrain project outlines the development of the educational framework and VR scenarios for simulation-based nursing education.

Conclusions: This project describes an innovative educational concept and VR scenarios which can provide immersive learning opportunities for senior nursing students. The VR scenarios can be integrated into a nursing curriculum, to support student nurses in acquiring key competencies needed for the complex demands of nursing practice.

Title: A pilot simulation study: fostering learning in a unique cohort of medical students.

Author(s): Dr Carol Wilson (1), Dr Poh Chen Tan (1), Ms Ayu Perry (1), Ms Stephanie Leckey (1), Dr Neil Kinnear (1)

Institution: (1) NHSCT

Introduction: Medical students often report anxiety and under preparedness for clinical practice, struggling to integrate taught clinical skills (1). Simulation provides a unique educational opportunity superior to traditional didactic methods(2).

Objectives: This pilot study aims to evaluate the educational impact of a new simulation program in a group of students from different year groups and different universities, all working together for the first time.

Methods: Simulated sessions on acute medical emergencies were offered weekly for one academic year. Sessions involved a pre-teaching simulation, followed by a teaching session, with a final post-teaching simulation. Specific skills training was embedded throughout. Students on placement at Causeway Hospital were invited which included students from Queens University Belfast and Ulster University. Sessions were evaluated in an anonymised, online questionnaire.

Outcomes: An average of sixteen students attended each week for one academic year. After the simulated sessions, students reported increased confidence and competence in the assessment, recognition and management of an unwell patient. Embedded clinical skills groupwork was highly praised with a particular benefit gained from real-time tutor feedback. Students identified this as a potential gap in their clinical skills addressed by these sessions. Participants had positive opinions of the sandwiched teaching to consolidate knowledge and clinical skills. They enjoyed the “real life” scenarios indicating that they would be helpful in progression to their role as junior doctors and professional identity formation. The opportunity to work with students from a different university was greatly valued. Students noted that it was a safe environment to learn together for the first time. Junior year groups, in particular, reported benefiting from watching more experienced students.

Conclusion: This pilot intervarsity simulated teaching program provided a safe, highly valued educational experience for students from two universities to work together for the first time in the management of common medical emergencies.

SESSION 2
Interprofessional Simulation (I)

Title: First Steps towards Interprofessional Simulation in Clinical Practice- A Report on the Pilot Study in the Southern HSC Trust

Author(s): Mrs Katrina McCullough (1), Mrs Donna King (1), Dr Jennifer McKenna (1)

Institution: Southern Health and Social Care Trust

Introduction: The need to enhance shared learning and training within teams and build interprofessional working relationships to optimise safe, high quality maternity care for women and families is well documented (Ockenden, 2022). Interprofessional Simulation Based Education (ISBE) is an effective means of implementing keylearning and improving team working within maternity care (Kost et al., 2019). The Maternity Simulation Education Team in the Southern HSC Trust undertook a pilot study to integrate ISBE within theri maternity teams through low fidelity interprofessional simulations focusing on emergency obstetric scenarios.

Objective: To present the outcomes of a pilot study of ISBE within the clinical setting, assessing the impact of ISBE in improving shared learning between the multidisciplinary maternity care team.

Methods: The pilot study incolved sixty-two staff member from midwifery, obstetric, anaesthetic and paediatric teams, from June 2023 to April 2024. Four diffeerent simulation scenarion were created and facilitated, using the PEARLS debrief model (Bajaj et al., 2018). Participant feedback was collated via an anonymous qualitative questionnaire following their experience.

Outcomes: Participants responded positively to this innovative form of shared interprofessional learning, reporting less anxiety than in traditional methods of clinical learning, such as emergency drills. They highlighted significant learning areas of team working and communication and valued the immersive nature of the scenario. Clinicians acted in their usual professional role, which fostered a realistic and productive learning environment. Challenges identified in this pilot study included limitations in participant numbers due to staffing and workplace pressures, as well as the number of skilled ISBE facilitators. Learning would be further enhanced by moving to high fidelity simulation.

Conclusions: Innovation in shared interprofessional learning and training through ISBE has taken its first steps in the clinical setting. ISBE provides a supportive learning environment for clinicians from multiple disciplines to learn together in responding to obstetric emergencies.

Title: How can we make it better? - Exploring medication safety through an interprofessional immersive experience.

Author(s): Professor Sharon Haughey (1), Mr Matthew Wilson (2), Dr Dan Corbett (1), Dr Billiejoan Rice (1), Dr Rick Plumb (1), Mrs Angela Carrington (3)

Institution: (1) Queen's University, Belfast, (2) South Eastern Trust, (3) Health and Social Care

Introduction: The Department of Health's Transforming Medication Safety in Northern Ireland"1); Northern Ireland's response to the WHO 3rd Global Patient Safety Challenge "Medication Without Harm" (2) acknowledges the need for Human Factors training within interprofessional (IP) training programmes. As an IP team we harnessed the opportunity to use the immersive technology within the KN Cheung SK Chin InterSim and the SEIPS (3) (Safety Engineering Initiative for Patient Safety) approach to medicines safety to facilitate learning.

Objectives: Co-design a sepsis scenario with a patient representative, educators, practitioners and NI Medicines Safety Team Record the scenario using 360 degree cameras in the InterSim.

Use the immersive recordings and scenario props in student IP workshops to analyse events using SEIPS. Gain student feedback using a post-workshop questionnaire.

Methods: The workshop was delivered for the first time in 2023, meeting the objectives described. The recorded scenario follows patient care planning through the complexities of clinical practice and involves a medication safety incident. A formal teaching questionnaire gained information on the student experience post-workshop. The Microsoft form questionnaire was sent to the first cohort of pharmacy and nursing students who had participated in the workshop.

Outcomes: Feedback was obtained from 26 students in total, 8 nursing and 18 pharmacy students. All students agreed (n=26) that the immersive videos and props were helpful and that the workshop was well organised and easy to follow. Over 95% (n=25) indicated that the learning outcomes had been met. In the free response comments, students recognised the importance of team communication and a systems based approach to medicines safety, such as SEIPS.

Conclusion: This innovative approach to interprofessional medicines safety has received a positive response from students. It allowed us to introduce full cohorts of students to key concepts in medicines safety and has been embedded in the degree programmes.

Title: Mental health crisis intervention in person's own home: a pilot study with undergraduate social work and mental health nursing students

Author(s): Dr Billiejoan Rice (1), Dr Patricia Carlisle (1), Mrs Pauline McCarthy (1), Dr Derek McLaughlin (1)

Institution: (1) Queen's University Belfast

Abstract: Traditionally social work (SW) and mental health (MH) nursing students have not collaborated or worked together in their respective undergraduate (UG) programmes, leading to a lack of awareness of each other's professional roles and responsibilities in practice (Homeyer et al, 2018). They also lack confidence when working with professionals from different disciplines (MacLeod et al, 2022). Upon qualification, SW and MH professionals will closely collaborate in practice settings. This pilot study aims to enhance students' preparedness for interprofessional practice by simulating a MH crisis scenario, where SW and MH nursing students refine their interprofessional skills while gaining a deeper understanding of each other's role. This is essential for collaborative working and the delivery of safe and effective care. Apply the established IPE scenario template (used within QUB) to co-design and implement a simulated MH crisis intervention scenario with SW and MH nursing students. Enhance students' awareness of roles and professional identity when collaborating interprofessionally and within crisis-based scenarios. Increase confidence and skills of interprofessional assessment, communication, decision making and collaboration. Evaluate students' experience of this interprofessional activity. Year two MH nursing students and SW students participated in a simulated scenario involving a patient requiring crisis intervention in their own home. The stages of the simulation cycle were applied. The scenario was co-designed by registered social work and MH nursing educators reflecting contemporary practice. Following the simulation cycle, students actively engaged in the debrief sharing thoughts, learning, challenges and elements of good practice. Students evaluated their experience and responses were collated to inform future IPE activities with nursing and social work students. Evaluations showed that students perceived the Interprofessional Education (IPE) activity as a positive and thought-provoking learning experience. They developed an enhanced understanding of each other's roles and responsibilities, fostering collaboration and mutual learning. These outcomes positively impacted patient care.team to increase their skills and ultimately improve patient outcomes.

Title: Design and delivery of novel regional interprofessional simulation training for Emergency Medicine (EM) Higher Specialty Trainees taking on the role of Trauma Team Leader (TTL) within District General Hospitals (DGH) in Northern Ireland.

Author(s): Dr Christina Mulholland (1)

Institution: Belfast Health and Social Care Trust

Introduction: Effective trauma teams have been shown to improve care for trauma patients. Effective team leadership is critical to providing high quality patient care. Managing major trauma in DGHs in Northern Ireland is uniquely challenging. EM higher specialty trainees are expected to take on the role of TTL and manage trauma teams within this setting. A regional training need was identified. Simulation provided a psychologically safe and effective method to address this.

Methods: We surveyed EM Higher Specialty Trainees prior to development of the training to ascertain confidence levels and specific training needs. These surveys used mainly rating scale and limited questions with free text boxes. A focus group of EM Consultants was used to identify training needs through incident reports and their experience. Based on the survey results and focus group findings learning objectives were created and a full day of trauma simulation training was designed around these. The faculty included EM consultants, senior nurses from six emergency departments and specialty trainees from orthopaedics and anaesthetics. This interprofessional faculty increased the range of experience and perspectives and also provided an opportunity to enhance interprofessional relations. The simulation training was delivered with two simulation and debrief rooms running simultaneously covering a range of technical and non-technical topics identified in the pre-course surveys. There were six immersive simulation scenarios with each trainee getting at least one opportunity to act as TTL. The formal debriefs were facilitated by EM consultants and included relevant micro-teaching based on the Royal College of Emergency Medicine curriculum and signposts to regional and national resources and guidelines. Trainees completed post-course questionnaires using mainly rating scale and likert scale questions with free text boxes.

Results: The analysis of pre- and post-course surveys showed that trainee confidence in leading major trauma in a DGH setting increased from a mean score of 7/10 to 9/10. Their confidence level in leading paediatric major trauma in a DGH setting increased from a mean score of 5/10 to 8/10. The mean confidence score for leading traumatic cardiac arrest increased from 5/10 to 7/10. 100% of trainees “strongly agreed” or “agreed” that the day was relevant to their training needs and that they would recommend this training day to their colleagues.

Discussion: This simulation training day addressed regional training needs and significantly increased trainee confidence when leading trauma teams in DGHs in Northern Ireland.

Title: Introduction of an Inter-Professional blended learning training programme on minor injury assessment and management in an Adult Emergency Department (ED).

Author(s): Miss Sara O'Dwyer (1), Cian O'Bradaigh, Sandra Hartigan, Dr Victoria Meighan (1)

Institution: (1) Tallaght University Hospital

Introduction: In 2023, 15,467 patients presented to our ED with minor injuries. Interdisciplinary staff rotate through our minor injuries unit weekly and feedback from staff has highlighted a lack of confidence in managing this cohort of patients. Managing these patients requires both technical and non-technical (cognitive) skills.
We sought to analyse the impact of introduction of an interdisciplinary blended learning programme to improve staff confidence in managing patients presenting with minor injuries.

Objectives: Our aim was to utilise a blended learning training session including lecture content and skills stations to improve staff confidence in dealing with patients with minor injuries.

Methods A minor injuries skills training programme, mapped to the Emergency Medicine curriculum was designed, developed and delivered followed by an anonymous electronic survey of participants.

Didactic lectures were delivered by Advanced Nurse practitioners on topics including limb assessment, burns classification & management, wound classification, blood bourne virus exposure and management and eye injury assessment and management.

Simulation based learning skills stations and scenarios included;

- Don Joy application
- Splint, sling & shoulder immobiliser application
- Steri-strip application, clip removal
- Airboot application, Crutch assessment
- Cast removal
- Eye irrigation

Outcomes: All participants completed the survey (N= 18, 100% response rate). 100% - strongly agreed the programme was relevant to their practice and that they learnt new core knowledge and skills. 100% strongly agreed the content was presented at a level they understood. 100% strongly agreed the paedagogy supported the learning outcomes. Qualitative feedback included €œvery informative and relevant to my practice. Loved to be able to do the practical component learnt a lot and feel more confident would highly recommend this programme.

Conclusion: Introduction of a blended learning approach to minor injury skills training including simulation based medical education improved knowledge, skills and confidence of our staff in managing minor injuries (Kirkpatrick level 1).

Title: Artificial Intelligence: a basic primer

Author(s): Dr Michael Williams (1)

Institution: (1) Queen's University, Belfast

Introduction: Artificial intelligence is not new. Siri, Alexa, Apple music - these all use AI, but AI has risen to the top of our consciousness recently with the release of ChatGPT.

Objectives: To review the basics: a) some biases in AI, b) introduce how neural networks and large language models work, and c) what AI might - or might not - add to the classroom.

Methods: A descriptive talk on some aspects of AI

Outcomes: As a clinician or academic with no technical knowledge, this will serve as a basic primer on AI

Conclusions: AI is here, and as educators, we need to have a basic understanding of what it is.

SESSION 3
Simulation in Practice (II)

Title: Evaluating Simulation Based Medical Education for High Acuity Low Occurrence Paediatric Cardiac Arrest Cases in an Adult Emergency Department

Author(s): Dr Shona Keogh, Dr Emma-May Curran (2), Dr Victoria Meighan (1)

Institution: Tallaght University Hospital, (2) Midlands Regional Hospital Tullamore

Introduction: & Objectives: Simulation based medical education (SBME) is a widely used, effective teaching tool that allows training of skills for high-acuity low-occurrence (HALO) presentations. In our Department, an adult only Trauma Unit, team debriefing elicited that our multidisciplinary team do not feel confident to manage paediatric emergencies. We sought to assess the effects of introduction of an in situ SBME training programme on preparing staff for paediatric emergencies.

Methods: An anonymised pre-post study was conducted with all participants. A standardised in situ SBME training programme intervention was designed, developed and implemented. Participants included; 25 doctors, 14 nurses and 1 allied healthcare professional. The primary outcome was to assess awareness/knowledge of the paediatric cardiac arrest number.

Outcomes: 40 participants from multiple specialities participated. We found that 50% of participants did not know the number to call in the event of a paediatric cardiac arrest. This improved to 90% (36) post SBME.When analysing secondary outcomes, participant's familiarity with the contents of the paediatric cardiac arrest trolley was assessed. Pre-simulation 30% of participants responded positively that they were familiar with using the paediatric cardiac arrest trolley. This increased to 72.5% post SBME. Participants were also asked to rate how confident they were participating in a paediatric cardiac arrest and their confidence providing paediatric BLS using a 1-10 Likert scale. The pre-simulation score was 5.6 and this increased to 8.05 post simulation and 7.2 to 8.8 respectively.

Conclusion: In our department we elicited a lack of confidence pertaining to paediatric cardiac arrest care, lack of familiarity with the paediatric emergencies trolley and a knowledge deficit on the correct numbers to call. This intervention demonstrates that SBME has a positive impact on healthcare professionals' knowledge and confidence in managing a paediatric cardiac arrest in an adult only department (Kirkpatrick level 2).

Title: Collaborative learning for collaborative working: exploring the enablers and barriers to delivering undergraduate simulation-based interprofessional education.

Author(s): Dr Davog McCaffrey (1), Dr Davina Carr (1), Miss Alison Smart (2), Prof. Sharon Haughey (3), Dr Lorna Lawther (2), Dr Vicky Adams (4), Prof. Gerry Gormley (1)

Institution: (1) Centre for Medical Education, SMDBS, QUB., (2) School of Nursing and Midwifery, QUB., (3) School of Pharmacy, QUB., (4) Centre for Dentistry, SMDBS, QUB.

Introduction: During their training, healthcare professionals are often trained uniprofessionally, in isolation from their future colleagues. The idea of learning together to work together in an interprofessional context has been a long-established concept for building healthcare workforces (1). Simulation-based interprofessional education (SB IPE) offers the opportunity for learners from different disciplines to work collaboratively in environments that reflect their future clinical practice (2).

Objectives: The benefits of SB IPE are well recognised. However, less is understood about how to establish and implement a culture of interprofessional education, particularly at undergraduate level. Our project aims to explore the enablers and barriers to delivering SB IPE at undergraduate level. These factors go beyond timetables and logistics and may include values/ethics, roles/responsibilities, communication and teams/teamwork (3). With knowledge of the enablers and barriers, we can design a framework to help future development of SB IPE activities.

Methods: Aligned with our research aim, we have commenced a qualitative study that is informed by Interpretive Descriptive (ID) methodology. This study will involve participants from Dentistry, Medicine, Midwifery, Nursing and Pharmacy backgrounds. Using a purposeful sampling technique, we aim to recruit academics and professional support staff (administrators and simulation technicians) involved or keen to become involved in SB IPE. Participants will be invited to attend semi-structured interviews to explore their experiences, views and opinions. Interviews will be recorded and analysed to consider key themes regarding the enablers and barriers to delivering undergraduate SB IPE.

Outcomes: This project commenced in May 2024. Preliminary results will be offered at the Conference.

Conclusions: We propose that knowledge of the enablers and barriers and design of an SB IPE framework will enable the production of more SB IPE activities which will help to further develop collaborative educational practice for health profession students in their training and preparation for future clinical practice.

Title: Can we train medical students in the role as peer simulation educators?

Author(s): Can we train medical students in the role as peer simulation educators?
Adam F. Roche (1), Ms. Olivia Jagiella-Lodise1 (1), Ms. Rebecca Kirrane (1), Prof. Claire M. Condron` (1)

Institution: (1) RCSI University of Medicine and Health Sciences

Introduction: Peer-assisted learning is defined as people from similar social groupings who are not professional teachers helping each other to learn and learning themselves by teaching. Peer-assisted learning in simulation (PALS) is a feasible solution to resourcing repeated practice opportunities for large cohorts of students.

Objectives: As a pilot, we aimed to design a stepwise approach to recruit student educators and equip them with the knowledge, skills and abilities to act ethically and effectively as peer educators in simulation (SIM) based education at RCSI.

Methods: The AMEE guide no. 30's peer supported learning planning and implementation structure served as our tool for identifying and implementing the project's main ideas.

Outcomes: We piloted this project with four penultimate and final year medical year students. The training programme incurred five separate phases, totaling 63 hours of training over the course of a six month period. In addition to their normal medical coursework, these students oversaw simulation-based activities that involved the creation of scenarios. prebriefs and the debriefs that follow.

Conclusion: Post programme evaluation outcomes were that the programme was effective in giving students the knowledge, skills and abilities to become peer educators in simulation-based learning. Some areas for improvement were to reduce the number of training hours for future cohorts.

Title: A comprehensive literature review on the use of simulation-based training to improve the preparedness of first-year doctors and final-year medical students on the management of acutely deteriorating adult general medical patients.

Author(s): Jolomi Alele, Mr Oloighome Idiakhoa (2)

Institution: (1) Sheffield Teaching Hospitals, (2) Lincoln County Hospital/University of South Wales

Introduction: This paper discusses challenges faced by junior doctors transitioning from students to practitioners, highlighting their unpreparedness in handling acutely unwell patients. Ethical constraints limiting exposure to urgent medical scenarios for teaching exacerbate this inadequacy. The study stresses the need to address these challenges due to junior doctors' immediate patient management responsibilities

Objectives: To examine the effectiveness and impact of SBT on the preparedness, confidence levels of first-year doctors and final-year medical students in managing acutely deteriorating adult general medical patients.

Methods: The study conducted a comprehensive literature search using terms related to simulation, acutely deteriorating patients, and learner levels on PubMed, EMBASE, Google Scholar, and Scopus. Inclusion criteria covered studies conducted from 2013 to 2023, focusing on Simulation-Based Training for first-year doctors and/or final-year medical students, 12 studies meeting all inclusion criteria for this research.

Outcomes: The review incorporates twelve studies that employed various simulators and assessment tools, collectively demonstrating the effectiveness of simulation in enhancing the preparedness of final-year medical students in managing acutely deteriorating patients. The results according to Kirkpatrick framework showed most studies showed evidence at level two outcomes with participants showing measurable improvement in post SBT tests compares to pretest with no studies reporting evidence at level four.

Conclusion: Simulation training, while unable to replace hands-on experience, is a valuable complement to facilitate the preparedness of final-year medical students and foundation doctors for practice. The study advocates for further research on objectively measuring the impact of simulation-based training in the workplace and its influence on patient outcomes, aligning with Kirkpatrick levels three and Four. Recognizing the imperative to equip the next generation of doctors for modern practice, the integration of SBT into medical and postgraduate training curricula is underscored as crucial for fostering confidence and ensuring safety.

Title: Using simulated scenarios to connect core modules and consolidate learning in year two adult undergraduate nursing programme.

Author(s): Mrs Oonagh McCloy (1), Mrs Heather Guttridge (1), Ms Alison Smart (1)

Institution: (1) Queen's University Belfast

Introduction: Undergraduate nursing students learning in year two is challenging and multifaceted. Student module evaluations suggested there was an overwhelming amount of information causing anxiety, stress and fear going into final year. Simulation is a widely recognised pedagogy used to relate theory to practice (Kutzin et al. 2023) and could facilitate connecting core modules in year two to consolidate learning in a safe environment.

Objectives: Connecting core modules, Consolidate learning with use of simulation, Alleviate anxiety and stress when moving to year 3

Methods Scenarios were developed using INACSL standards for low and high-fidelity simulation whereby a simulated patient presented with an acute exacerbation of a chronic condition (International Nursing Association Clinical Simulation and Learning (INACSL), 2021). Students were required to assess/plan/implement/evaluate nursing care for the patient for the immediate concern and then for the self-management of the long-term condition (Nursing and Midwifery Council, 2023). These scenarios encompassed the acute care, chronic care and pharmacology modules within the year 2 adult nursing undergraduate programme. Students were invited to complete pre and post simulation questionnaires. Both questionnaires consisted of 6 questions, three ˜Yes", "No" choice questions, three open questions and an "any other comments" section.

Outcomes: 60 students completed the pre questionnaire, 45% felt unprepared for final year and 88% felt that simulated scenarios would be beneficial to connect learning. 53 students completed the post questionnaire, 98% felt the simulation helped consolidate learning from year two and was reflective of practice and 96% felt this simulation helped to prepare them for final year.

Conclusion: Students felt the simulation helped consolidate learning, build confidence, reduced anxiety and prepare them for their final year. The students would like more simulation within the curriculum, they enjoyed learning from each other and found the collaboration enhancing and improved the overall understanding of year 2 knowledge.

Title: The Kinesthetic Connection: A Longitudinal Study on the Role of Kinaesthetic Intelligence in Medical Students Surgical Performance in Laparoscopic and Microsurgical Simulations

Author(s): Dr Jamal Ross (1), Dr Gertrude Nyame (2), Miss Annie Suen (3), Miss Aishah Sadiq (3), Miss Iliana Bera (3), Miss Katie Anderson (3), Miss Joana Kirilova (3), Miss Sara Letham (3), Miss Monika Dzalto (3), Mr Morgen Steward (3)

Institution: (1) Royal Sussex County Hospital , (2) Queen Victoria Hospital , Portsmouth , (3) Brighton Medical School

AimsThis study embarked on a longitudinal research project to objectively assess the kinaesthetic abilities of a cohort of 40 surgically inexperienced medical students with a view to assess its relationship to surgical skill acquisition.

Method: We employed machine-learning tools for motion track analysis of the participants surgical performance across a range of surgical simulation assessments and non-surgical kinaesthetic tasks. We used a range of advanced psychomotor and spatial reasoning assessments with virtual reality and 3-axis input devices. We also recruited 5 experienced neurosurgical and vascular trainees for comparative analysis. 50% of the medical student cohort were selected for their extracurricular activities and were broadly classified as either gamers (professional competitive gamers or gaming > 5/week), musicians (grade 5 or above) and left-handed participants. The remaining 50% did not engage in any regular extracurricular activities.

Results: Our findings revealed that generally, the gamers within the medical student cohort exhibited superior spatial perception and depth perception when deprived of binocular disparity. This advanced visuospatial perception was not appreciated when binocular disparity was introduced with virtual reality assessments. Experienced surgeons performed higher quality microvascular anastomoses in less time, however, the individual performance of the non-dominant hand was consistent amongst novices and experts, except amongst the musicians who displayed smoother non-dominant hand movement. Most errors and non-target tissue contacts were attributed to an idle non-dominant hand. Musicians in the study displayed less hand dominance and were less likely to make non-target tissue contacts. Left-handed participants demonstrated more ambidexterity than their right-handed counterparts, thus reducing the likelihood of non-target tissue contacts.

Conclusion: We found that non-operative kinaesthetic training could accelerate skill acquisition of participants, reducing non-target tissue contact and erratic movements. This study provides valuable insights into the role of kinaesthetic intelligence in surgical performance and the potential of targeted simulation training to enhance surgical skills. It also suggests that continued operative experience does not enhance non-dominant hand control and reveals a potentially unique role for targeted simulation within the context of surgical training.

SESSION 4
Science of Simulation

Title: Longitudinal blending of simulation and work-based learning: an Interpretative Descriptive study of medical students experiences and opportunities.

Author(s): Dr Carol Wilson (1), Ms Ayu Perry (1), Dr Poh Chen Tan (1), Ms Stephanie Leckey (1), Dr Emma Stewart (1), Dr Neil Kinnear (1), Professor Gerry Gormley (2)

Institution: (1) NHSCT, (2) Queen's University Belfast

Introduction: Junior doctors regularly report being underprepared for clinical practice \[1\]. Educating medical students to become competent doctors assumes the achievement of key skills \[2\]. Although isolated simulation encounters can improve competence, the effect of a longitudinal simulation program on preparedness for practice remains unknown.

ObjectivesThe objective of this study is to explore the impact of a longitudinal simulation program on medical students preparedness for practice.

Methods Simulated sessions were conducted weekly for 5 weeks and focused on curriculum-based emergencies with increasing complexity and realism. Final year students undertaking their assistantship at Causeway Hospital were invited and all 19 students completed the study. Data was collected using focus groups at the start and end, with over 55 self-recorded audio diaries submitted. Interpretive description (ID) methodology explored the impact of longitudinal simulation on preparedness for practice, in an iterative and reflexive manner.

Outcomes: Preliminary data suggest that students valued regular simulation encounters and noted an improvement in confidence and preparedness for practice, much more than doing one-off simulations. The opportunity to work regularly with the same peers and educators fostered a safe space to learn. For the first time, students reported fully integrating simulated learning experiences with ward time encounters. The quick-fire nature of repeated simulations improved hand-overs, team-working skills and task prioritisation.

Conclusion: Initial findings indicate that a longitudinal simulation program has the potential to increase preparedness for practice. This longitudinal approach supported the navigation of real-life challenges in a protected environment. This enhanced individual learning and enabled the acquisition of profession-specific skills (clinical and non-technical). Students reported the incorporation of simulated learning with on-the-ward experiences, which in turn impacted upon future simulation encounters and facilitated deep reflection. A longitudinal approach to simulation offers an innovative way to improve preparedness for clinical practice in soon-to-be junior doctors.

Title: Body Matters and Bodies Matter in Simulation Based Education - The Experience of Embodied Learning for 2nd Year Medical Students

Author(s): Dr Davina Carr (1), Professor Martina Kelly (2), Dr Andrew Spence (1), Professory Gerard J Gormley (1)

Institution (1) Queen's University Belfast, (2) University of Calgary

Aim of the study Simulation Based Education (SBE) is a form of experiential learning in Health Profession Education (HPE) where educators intentionally construct a learning reality that evokes a sense of the real world for learners [1]. Learners who are immersed in a multi-sensory environment cannot but use their bodies in the experience of learning not only to think but also to feel and act like a HP. However, evidence for learning in SBE focuses heavily on the cognitive processes of learning and can bypass the central role of the body in this learning process [2]. Embodied learning refers to the physical, gestural and artifact-mediated dimensions of human learning, as well as the kinds of ethical and pedagogical values expressed through such interactions [3]. In this study, we sought to understand how, if at all, medical students experienced embodied learning in SBE.

Method: Medical students were recruited using convenience sampling. Audio recordings of the SBE and semi-structured interviews were conducted and transcribed. A hermeneutical phenomenological approach was used to guide our analysis, specifically Van Manen s lifeworld existentials [4].

Results: We conducted 4 simulations with 12 participants. Analysis yielded eight THEMES
Learners experienced overload and found it difficult to explicitly articulate the BLUR of the experience. They conveyed important information to each other simply by glancing at each other - GAZE AND GESTURES . Microgestures could change the trajectory entirely. Learners experienced SHRINKING SPACE AND SURROUNDINGS "a narrowing of gaze to the exclusion of place and person beyond this focus. TIME WARPING occurred with learners not always explicitly aware of their own innate perceptions until debriefing conversations permitted them to reflect on events i.e., MIRRORING . It was important for learners to have the opportunity of ENACTING CHANGE and THE EXPERIENCE OF BECOMING. SBE created a high-stakes and emotive learning environment for learners who, when supported, had BONDING AND BINDING experience

Conclusion: In our study, we have begun to shed light on the central role of bodies and embodied learning within SBE which we hope will guide future healthcare educators to intentionally craft multisensory learning experiences that support learners to think, act and feel like their future clinical selves.

Title: Dancing with emotions? An Interpretive Descriptive (ID) study of facilitators reactions to learner s emotional states during simulation

Author(s): Prof Gerard Gormley (1) Behrens, C.C., Driessen, E.W., Dolmans

Institution: (1) Queen's University Belfast

Introduction: Simulation can evoke intense emotions. At best, they can enhance learning; at worst, inhibit learning and cause distress. Therefore, striking a balance between learners emotional responses and the challenges faced in a simulation has the potential to optimize learning. Given that simulation represents an engineered learning reality, educators have the potential to exercise agency in order to modify the simulation's complexity. However, evidence on facilitators' ability to gauge and react to learners emotional states is scant (1). In this study, we aimed to gain nuanced insights into how facilitators perceive and react to learners emotional states during simulations.

Methods: Given our research question we adopted a socio-constructive orientation - using an Interpretive Descriptive (ID) methodology(2). Purposeful sampling was used to recruit 12 simulation facilitators. In-depth semi-structured interviews were conducted using a question guide. Recordings were transcribed and thematically analysed, drawing upon ID principles. The research team were collectively reflexive during this process.

Results and Discussion: Recognizing learners emotions within simulations is often overshadowed by the many other demands placed on facilitators. When educators do attune to learners emotions, cues of positive emotions are perceived as indicative of a conducive learning experience, even when these may not reflect the true emotions of the learner. When negative learner emotions are perceived, educators are presented with a complex decision-making process. Tacitly, facilitators navigate thresholds of intervening or not in the evolving simulation. More often, facilitators are less inclined to intervene, reflecting what would happen in 'real-world' practice. Accumulated experience in simulation appears to be a mediator for facilitators in volitionally modifying the challenge within a simulation. Our findings provide valuable insights into the emotional landscapes and dynamics in simulation. There is a clear need to enhance the emotional dialogue between facilitators and learners, especially intra-simulation.

Title: Becoming agents of change: The challenge of agential learning in simulation-based education

Author(s): Andrew Spence (1), Dr Davina Carr (1), Professor Anu Kajamaa (2), Professor Gerry Gormley (3)

Institution: (1) Centre for Medical Education, Queen's University Belfast, (2) Faculty of Education and Psychology, Learning and Learning processes unit, University of Oulu, and University of Helsinki, Finland, (3) Clinical Skills Education Centre

Introduction: For Simulation Based Education (SBE) to be effective, participants should engage with the experience to enhance learning and bring forward positive change. Central to this process is agential learning (AL) - an individual s capacity to participate in learning, intentionally think for themselves and affect change in their professional activities.

Objective: We investigated how AL manifests within SBE.

Methods Medical students were recruited to engage in a SBE activity (managing a cardiac arrest) using a convenience sampling method. Audio transcripts of the pre-briefs, debriefs and post-simulation semi-structured interviews were recorded. From a constructivist orientation, an iterative analytical approach was used to interpret data, create codes and construct themes, with NVivo ® analysis software used in analysis. Throughout this process, we used transformative agency through double stimulation, in a reflexive approach, to guide analysis [1].

Outcomes: We conducted 4 simulations with 12 participants (3 students per simulation). Analysis derived six themes: **Willingness to suspend disbelief** enhanced engagement in the experience and Being and not just pretending. Learners gained a sense of **Professional skin in the game** , which mediated their desire to engage to preserve professional identity. **Encountering Conflicts and challenges** within reach of their capability promoted learners ability to intentionally affect change. **Debriefing provided a Mirroring opportunity** to enhance self-awareness and reflection to induce change. Importantly, agency not only impacted each individual s potential, but also influenced social relationships with other participants - **One for all and all for one** . Finally, allowing learners to **Embody change** within a simulation enhanced their desire to draw upon this experience to implement change.

Conclusions In our study, we investigated the important challenge of addressing AL within SBE. Our results provide a framework which could influence SBE design and delivery to promote AL within SBE and develop agents of change for future clinical practice.

Title: The feasibility of collecting multimodal stress metrics during a medical simulation exercise

Author(s): Dr Aaron Vage (1), Prof Gerard Gormley (1), Dr Karen Dickinson (2), Dr Paul Hamilton (1)

Institution: (1) Queen's University Belfast, (2) University of Arkansas for Medical Sciences

Introduction: Researchers have been studying the link between psychological stress and human behaviour for decades. Recently, the impact of stress on learning has received much attention. Studies in this field have employed various methods in an attempt to quantify stress. Teams often chose one measure (e.g. physiological, psychological or biological), but capturing single types of data in this manner is likely to be overly simplistic.

Objectives: We sought to investigate the feasibility of capturing multiple postulated metrics of stress simultaneously during a medical simulation exercise.

Methods We aimed to recruit 20 final year medical students. Students were randomised to the order in which they completed two medical simulation exercises (one low-complexity; one high-complexity). Blood samples were collected at four timepoints and analysed for metanephrines and cortisol. Blood pressure was measured at four timepoints. Heart rate and galvanic skin response were recorded continuously throughout the study by a chest-worn device (Equivital EQ02+ LifeMonitor, UK). The Big Five Inventory-2 (BFI-2) and the State-Trait Anxiety Inventory (STAI) were administered to gather self-reported data on personality and anxiety. Audiovisual footage was captured throughout the study using video glasses (Oho, China).

Outcomes: The study was terminated after 10 subjects were recruited as 20% had metanephrine results above the reference range (follow-up testing was normal). All required data were collected successfully, but there were several lessons learned that would be valuable to other researchers interested in carrying out similar research in the future.

Conclusions With adequate planning, it is feasible to collect multimodal stress metrics during a medical simulation exercise. The measurement of plasma metanephrines is problematic as participants are likely to be in an anxious state prior to the exercise.

Title: New and Old: Incorporating Clinical Airway Devices in a Cadaver Lab

Author(s): Dr Eva Sweeney, Mr James Cartiledge, Mr Christopher Archer, Ms Sarah Quigley (1)

Institution: (1) Queen's University Belfast

Abstract: The gross anatomy lab presents a unique opportunity to manipulate medical devices and perform simulated surgeries in real human specimens. Through the course of dissection, it is common for students to encounter devices such as central lines, pacemakers, artificial valves, and stents, more rarely, they may see spinal cord stimulators, brachytherapy seeds, and ventriculoperitoneal shunts. These are a great source of interest for students and help to underline the clinical relevance of the anatomy they learn, but these experiences are not predictable and depend on the cadavers available.

In this study, we aimed to introduce medical devices in a more standardised way into a second-year medicine anatomy practical at Queen's University Belfast.

A selection of airway devices (£55, Medisave) was coupled with hemisected cadaveric specimens showing their positioning in situ. These included nasopharyngeal, oropharyngeal (Guedel), and iGel supraglottic airways and endotracheal tubes. These were accompanied by information sheets, looping animations/videos, 3-4 demonstrators, and a CPR Doll. The students (n = 262) could manipulate the devices to gain contextual and clinical information relating to airway anatomy.

All students participated in the intervention, surveys were distributed on their online learning platform following the lab and 38 students responded. Institutional ethical approval was granted for this survey (MHLS 24_53). Respondents agreed the intervention aided understanding (94%) and was enjoyable (100%). Most (97%) agreed it helped them to appreciate the clinical context of the anatomy in their practical. In free-text comments, 7 students indicated they would like exposure to similar activities in the lab as "*seeing the clinical relevance alongside learning the theory is helpful and memorable*".

This novel, cost-effective teaching intervention was easily implemented and positively received by students, opening up the opportunity to incorporate more devices (e.g. nasogastric or gastrostomy tubes) in future lab

SESSION 5
Simulation in Practice (III)

Title: Evaluation of a simulated undergraduate pharmacy practice event for 1st year MPharm students

Author(s): Mr Niall O'Boyle (1), Ms Melissa Smyth (2), Mrs Una Larkin (3), Ms Lisa Lennon (1), Dr Charles Benneh (4), Professor Roisin O'Hare (5)

Institution: (1) South Eastern Health & Social Care Trust, University of Ulster, Queen's University Belfast, (2) Northern Health & Social Care Trust, University of Ulster, Queen's University Belfast, (3) Western Health & Social Care Trust, University of Ulster, Queen's University Belfast, (4) University of Ulster, (5) Southern Health & Social Care Trust, University of Ulster, Queen's University Belfast

Introduction: Simulation has been demonstrated as being an effective teaching method when used in combination with traditional teaching in order to improve pharmacy student clinical abilities, confidence in their skills and the development of critical thinking (Fidler 2020) (Al-Worafi 2023).The formation of professional identity of pharmacy graduates has also been shown to be directly related to understanding the role of a pharmacist (Noble 2019). First Year MPharm students within the University of Ulster (UU) participated in a simulated pharmacy practice event designed to develop consultation, prescribing and physical examination skills.

Objectives: Explore 1st year UU MPharm students and participating volunteers experiences of a simulated undergraduate pharmacy practice event.

Methods: The simulated pharmacy practice event was delivered in UU on the 21st and 22nd March 2024. Students and facilitator volunteers completed a post-event evaluation using Microsoft Forms.

Outcomes: Sixty-five percent of students responded (80/123) with 83% (n=66) of students reporting confidence in prescribing medication and 61% (n=49) reporting confidence in conducting blood pressure and peak flow examinations. Ninety percent (n=72) of students confirmed that completion of the simulated scenarios within the pharmacy practice event made them feel like a pharmacist. Sixty-four percent of facilitator volunteers responded (16/25) with 94% (n=15) of respondents confirming that the students were adequately prepared for the event and of those volunteers facilitating physical examination stations, 56% (5/9) felt that students could accurately carry out physical examinations.

Conclusions: Students embraced the opportunity to develop their clinical and consultation skills, with the majority of participants reporting confidence in physical examination and prescribing skills as well as self-reported professional identity as a pharmacist. Whilst the majority of facilitator volunteers confirmed that students were adequately prepared for the simulation event, further focus on physical examinations may be required within the early undergraduate pharmacy curriculum to further develop skills.

Title: "Foundations in Simulation" Introduction of a foundation year 1 doctor simulation training program in the Southern Health and Social Care Trust.

Author(s): Dr Ryan Brolly (1), Dr Julie Anna Rankin (2), Dr Aleena Joy (1), Dr Paul Diamond (2)

Institution: (1) NIMTDA, (2) Southern Health and Social Care Trust

IntroductionWe identified that there was no dedicated simulation training program for the foundation year 1 (FY1) doctors within the Southern Health and Social Care Trust (SHSCT).

Objectives: To put all of the FY1 doctors in the SHSCT through a dedicated simulation training program to help them achieve their core competencies. Overall, improving clinical care and patient safety.

Methods The program took place across two dates between February and March 2024 in the trusts simulation suite. Our program focused on one individual patients journey, with three separate stations with pre-defined learning objectives. Each station was followed by a focused debrief under the guidance of senior colleagues. The hypothetical patient was based on previously documented serious adverse incidents and therefore embedded empowered learning and reflection. Pre- and post-intervention data was collected via the use of qualitative surveys.

Outcomes: 88% of our cohort felt that there was a role for simulation during foundation training. One of the key things participants hoped to gain was experience managing the acutely unwell patient in a safe, less pressurised environment. Several FY1s highlighted their desire to gain further experience via simulation specifically, as they found this to be more beneficial when compared with more traditional methods. Post-intervention, 100% of participants felt confident in their ability to manage the cases presented to them during the course. 100% said that they would recommend the course to their fellow FY1s and 100% felt confident that they had achieved their core competencies in Foundation simulation. When asked about what they enjoyed most, a common theme was receiving constructive feedback from senior colleagues in a safe, judgement free atmosphere where the emphasis was strongly placed on group learning.

Conclusions: Based on our results, we recommend that dedicated simulation training should be incorporated into foundation training regionally.

Title: Creating a culture of learning and support for midwifery simulation via Schwartz Rounds

Author(s): Dr Lorna Lawther (1), Ms Rebecca Murray (1), Mrs Ellen McElhone (1)

Institution: (1) Queen's University Belfast

Introduction: In QUB midwifery undergraduate education Simulation-Based Learning (SBL) is established in the BSc and MSc curricula. Psychological safety needs to be embedded in Simulation Based Education to enable students to learn (Daniels et al, 2021). Schwartz Rounds (SR) are becoming established in HEIs (Gishenet al, 2016). When members of the midwifery team were introduced to SRs, it was recognised that supporting students to speak out about their experiences of caring could have positive implications for students preparing for SBL. Therefore, in the current academic year uni-professional and inter-professional SR are being introduced into the QUB midwifery curricula and are being evaluated to explore their impact on students.

Objectives: To present 1st year midwifery students experiences of participating in Schwartz Rounds and explore the extent to which this may impact on psychological safety for SBL

Methods First year midwifery students evaluations of their SR experience and facilitator reflections on the perceived impact of SR.

Outcomes: Initial findings suggest that SRs are beneficial for enabling students to share their experiences of caring for women during clinical placements, and how the healthcare culture may influence their emotional response.

Conclusion: In SRs, students are facilitated to consider their emotional response to caring situations. In doing so, students self-reflect on events in practice that may contribute to a negative emotional response. In processing this before re-exposure to a similar situation students can self-attune. This is especially important in preparation for SBL when the student may be participating in a simulated scenario - such as an obstetric emergency - that may have been the catalyst for the negative emotional response in practice. Continuing the psychological safety of the SR into SBL will enable the student to experience a positive learning culture which will enable engagement in simulation and achievement of learning goals.

Title: Out of Hours Simulation Teaching for Theatre Staff at Belfast City Hospital

Author(s): Dr Emma Convery (1), Dr Sara Henry (1), Dr James Reid (1), Dr Martin Duffy (1)

Institution: Belfast City Hospital

Introduction: Healthcare is a team sport with a focus on patient safety (1). To maintain optimum safe patient care, teams should feel comfortable in the clinical environment with opportunities for continuous learning and development. A large cohort of staff in theatre presents an opportunity for interdisciplinary simulation based education. Our objective was to run interprofessional simulated education in the theatre complex. Aiming to boost morale, teamwork, and communication, intending to improve confidence and knowledge in dealing with emergencies.

Methods: We use low fidelity equipment to simulate common emergency scenarios. These were _in situ_ sessions at a time of decreased theatre activity. Pre and post-scenario questionnaires were used to capture feedback. For reproducibility and sustainability a teaching folder for use by all staff was co-designed and maintained in the theatre suite.

Results: Simulation based education has been ongoing for 8 months, we managed at least 2 sessions per month, capturing 84 members of staff. Self-reported confidence has improved from 52% to 84% . Team members reported improved confidence in activating protocols and setting up emergency equipment. Staff found it useful to get hands on experience in simulation, familiarising themselves with emergency procedures and protocols and all staff are keen for this to continue. The feedback was reassuring from a group of staff without prior in situ simulation exposure.

Discussion: These in situ simulation sessions have improved interprofessional teamwork and ability to cope in an emergency as previously found (2). Confidence was improved and future work will aim to use these sessions for regular updates and as part of induction for new staff. It will contribute to a positive work place culture and help in retention of valued colleagues. As a low cost high impact intervention the ongoing use of this training modality is attractive as a sustainable, inclusive and equitable provision for the interdisciplinary healthcare team.

Title: Simulation-based teaching strategies for pharmacology curricula in pre-registration nursing: A systematic review of the literature

Author(s): Maria Massoud, Clare McKeaveney, Karen McCutcheon, Katherine MA Rogers and Samirh Alqhtani. Maria Massoud

Institution: (1) Queens University Belfast

Background: Simulation is increasingly being used to train health care professionals; however, there is limited knowledge on how nursing simulation is being used to train undergraduate nurses in pharmacology components of the curriculum. A systematic review of the literature was conducted to appraise the types of simulations utilized to enhance pharmacology education, their effectiveness on the student s competence, knowledge and clinical reasoning skills in medication, and the quality of research methods used.

Methods: A systematic literature search was conducted across seven relevant databases. A total of 2968 articles were found in the initial comprehensive search with 23 articles included in the final analysis.

Results: Analysis of the literature revealed that high fidelity simulation is the most utilized type of simulation to deliver pharmacology education, with simulated patient format being the least frequently used type of simulation. Competence and knowledge in pharmacology is the most investigated outcome through different types of simulation. Analysis of the literature identified students perceived self-efficacy in pharmacology was not previously investigated or reported. It was also found that outcomes such as competence, knowledge and clinical reasoning skills in the included studies improved with simulation use.

Conclusions: This project aims to address this gap by developing and piloting a simulated patient experience that delivers a practice-based learning intervention within a mental health module, that investigates students perception of their self-efficacy in pharmacology components of the curriculum. An appropriate scenario was selected from the literature review and revised to ensure it aligned with the learning outcomes, particularly to ensure it was adequately challenging given the students stage in pre-registration training. Pre- and post-test evaluation shall be used to measure student perception of self-efficacy in pharmacology.

Title: Exploring psychotherapy core training cases and concepts through the use of Simulation Based Education

Author(s): ST6 Child and Adolescent Psychiatry / Intellectual Disability Psychiatry Lizzy Donaghy (1), Dr Sarah Davidson (1)

Institution: Belfast HSC Trust

Introduction: and Aim: We have developed simulation sessions for core trainee year one (CT1) psychiatry trainees to gain exposure to psychotherapy approaches. This is a new initiative which will be integrated into a long-standing introductory course in psychotherapy which is provided for CT1s in Northern Ireland. Our aim was to develop CT1 confidence and skills as they approach their psychotherapy cases, which is an important aspect of their training and forms part of the curriculum. This was previously identified as a learning need from a RCPsych Psychiatry Trainees Committee Report, 2021 (1). Simulation based education is an emerging tool in psychiatry education (2) and has been used in postgraduate psychology training (3), but is not current practice in psychotherapy training for core psychiatry trainees.

Method: The training was delivered across two sessions. The first session included micro-teaching presentations on psychotherapeutic unconscious processes, a role play demonstrating how to set up for the first session of a psychotherapy short case, and a reflective discussion forum with the CT1s gauging the most challenging aspects that they are expecting to encounter during their psychotherapy cases. The second session explored one of the concepts highlighted by the trainees in the discussion forum, by carrying out a simulation based education exercise. We intended that the session would demonstrate a heightened emotional interaction that can be part of undertaking a psychotherapy case, with the aim of preparing trainees for this.We gathered feedback before and after each session.

Results: Feedback scores indicated that following the training sessions, trainees felt more prepared in starting a psychotherapy case, and more confident in managing a difficult situation that may arise while undertaking a psychotherapy case.

Conclusion: Novel simulation based education approaches were found to be useful in preparing trainees for gaining new skills and experiences in a new setting for core psychiatry trainees.

SESSION 6
Simulation in Practice (IV)

Title: Do you think they are dying doctor? - The role of palliative medicine based simulation sessions in preparing newly qualified doctors for foundation training.

Author(s): Dr Catherine Whiteside (1), Dr Daniel Soutar (2)

Institution: (1) Northern Health and Social care trust, (2) Northern Health & Social Care trust

Abstract: Undergraduate education in palliative medicine is essential in preparing medical students for foundation training (1). Questionnaires completed by FY0 students in the Northern Trust, due to commence foundation year1 (FY1) in August, highlighted a number of gaps in confidence and knowledge in their role in caring for the dying patient . Only 35.5% of students felt they understood their role in the care of the dying patient and only 16.1% felt they were confident in speaking to family members. Simulation teaching is known to offer students the opportunity to practice challenging skills in real life clinical environments (2).

Learning objectives included improving confidence and knowledge in prescribing, holistic assessment of a dying patient, judging appropriateness of interventions, communication with families and colleagues, and an awareness into personal limitations.

This project was piloted in the Northern Trust over 6 weeks, beginning with a lecture delivered to the 31 FY0s during their induction. Following this, each student attended 1 simulation session in groups of 4-7, in which we ran scenarios including opiate toxicity, agitation at end of life, handover to colleagues, and updating family. Each session finished with a prescribing workshop.

Qualitative data highlighted the comfortable and supportive learning environment . Post teaching questionnaires highlighted that 93.3% felt they understood their role in the care of these patients and 80% felt confident in speaking to family members.

Results: from this teaching workshop are promising, and emphasise the role for palliative medicine simulation in the preparation for FY1. Future focus for this project will involve a repeat questionnaire 3-4months into the beginning of FY1, to ascertain if learning has had a lasting impact on clinical practice, in line with Kirkpatrick model of training level-3 (2), and to identify potential areas of challenge not anticipated by the researchers that could be included in future simulation sessions.

Title: Development of an Interprofessional Ageing Simulation Experience in Acute Care at Home

Author(s): Dr Elaine Nelson (1)

Institution: Southern Health and Social Care Trust

Aim of the study I have completed a scoping review on Ageing Simulation in healthcare professional students (1). The majority of studies were uniprofessional, highlighting the importance in researching Interprofessional Education. I provide an Ageing Simulation experience to undergraduate medical students. I wanted to extend this to my Interprofessional colleagues in Acute Care at Home (ACAH). It is workshop-based where the participant dons an ageing simulation suit or equipment (2) then completes Activities of Daily Living (ADLs) giving the opportunity to experience what it might feel like to be an older person with mobility restriction and sensory impairment.

Method: Eleven staff participated: one doctor; Advanced Nurse Practitioner; Occupational Therapist; and two each of Pharmacists, Physiotherapists, Speech and Language Therapists and Dieticians. After a pre-brief, the ageing suit and equipment was donned. There were fifteen stations covering: basic ADLs of food and drink preparation and functional mobility; and instrumental ADLs covering: management of household tasks; communication; finances; and medications. The equipment was doffed with quiet reflection before debrief discussions. Mixed-method evaluation was used with pre and post-simulation questionnaires.

Results: Visual impairment was felt to severely affect ability followed by hearing impairment and mobility. Participants strongly agreed they had a sense of what an older person might experience. Feelings documented were: frustration; vulnerability; guilt; fear; and isolation. There was a greater appreciation of challenges faced and awareness of the older person's perspective. Future changes in practice include more patience and time for demonstration and practice of tasks. The experience was deemed excellent by all for usefulness, relevance and content. All would recommend it to a colleague.

Conclusion: Looking forward my focus is on faculty development, to recruit and train facilitators. We can then offer this to all ACAH staff and expand to management, social workers and carers.

Title: Exploring Simulated Participants' Experiences Through Visual Narratives

Author(s): Dr Linda Ní Chianáin (1), Prof Gerry Gormley (1), Prof Jenny Johnston (1)

Institution: (1) Queen's University Belfast

Introduction: Simulated participants provide valuable learning opportunities in Health Profession Education. Often, they portray some of the most challenging situations that can arise in healthcare. There is increasing attention to explore SPs experiences as they portray such challenging roles. While traditional textual data analysis has long been the cornerstone of understanding participants' experiences, the challenge remains in articulating the intricate nuances of individual experiences. In contemporary research, visual methodologies have emerged as valuable tools, acknowledging the limitations inherent in verbal expression when attempting to capture the holistic experience of individuals (Sliver, 2013). This raises the question: can creative methods, such as drawing, effectively convey these experiences?

Objectives: To delve into the realm of visual narratives by presenting drawings that encapsulate the experiences of simulated participants.

Methods Drawings served as a pivotal elicitation tool during the interview process with simulated participants (SPs). Participants were tasked with visually representing their roles as SPs, followed by in-depth reflective discussions centred around their drawings. By integrating visual and verbal elements, the risk of misinterpretation during data analysis was mitigated, thus enhancing the validity (Glegg, 2019). A pilot study involving personal and public involvement (PPI) was conducted to address methodological limitations.

Outcomes: The drawings yielded profound insights into the multifaceted nature of SP roles within simulated-based education settings. They artfully captured a myriad of emotions, complexities, and interpersonal dynamics inherent in the simulated environment, providing a rich tapestry of the roles SPs are tasked with portraying.

Conclusion: In conclusion, creative methodologies, such as drawing, emerge as powerful tools in elucidating participants' experiences. Not only do they offer visual insights that complement traditional verbal data elicitation methods, but they also facilitate the communication of research findings to diverse audiences, thereby enriching scholarly discourse and practice within the field.

Title: A Novel Immersive Learning Event for Managing Sudden Unexpected Death in Infancy

Author(s): Dr Sarah Rafferty (1)

Institution: NIMDTA, SHSCT

Introduction: Sudden Unexpected Death in Infancy (SUDI) is a traumatic scenario for the professionals involved. A unique set of skills are required to manage this effectively and professionals may be dealing with this for the first time. Despite this, comprehensive training does not currently exist in Northern Ireland. The first NI Multi-Agency SUDI Protocol outlining expectations of staff is being developed on following recommendations in the Kennedy Report(1).

Objectives: An innovative simulation-based course with multi-agency and parental involvement was created and designed to address this gap in training with specific focus on delivering family-centered care and conducive multi-professional working, aligning with the goals of the Multi-Agency Protocol.

Methods: The course was piloted in Craigavon Area Hospital in April 2024 and was delivered to 8 doctors within Paediatrics and Emergency Medicine. High-fidelity simulations focused on futile resuscitation and delivering compassionate care. A robust faculty made up of consultants and nurses with SUDI expertise, paramedics, senior police, a Coroner, clinical psychologist, actors and a surrogate voice of a parents lived experience allowed for invaluable insight during both debriefs and interactive sessions. Directors of the PHA Child Death Programme observed with interest for Protocol influence.

Outcomes: Of the 8 participants, 62% had never dealt with a SUDI scenario, 78% lacked confidence in management and 100% lacked a good understanding of the role of the medical team and other agencies in the investigation of these deaths. 100% of participants reported improved confidence and understanding across all domains. Awareness of where to seek personal mental health support also improved from 0% to 100%. Faculty feedback was overwhelmingly positive.

Conclusions: The benefits of this simulation-based SUDI training were enormous. There is significant interest from PHA and educational leads to make this course a regional initiative and expand scope of simulation training to police learners also.

Title: Is virtual reality (VR) the future of ophthalmic medical education?

Author(s): Ms Tanya Moutray (1), Dr Mark James (2), Miss Rubeena Nazil Shaffi (2), Mr Saabiq Neal Hussain (2), Miss Saarah Sofia Hussain (2), Mr Kevin McGuire (2), Dr Michael Williams (1), Dr David Power (2)

Institution: (1) Queen's University, Belfast, (2) University College Cork

Introduction: VR simulation tools augment traditional methods of teaching medical students. During Ophthalmology rotations students are required to be proficient in pupil examination for detecting ophthalmological and neurological diseases. However there is often limited time allocation, and providing realistic training of clinical skills using traditional teaching method can be a challenge as there is no way to clinically replicate pathology in a dynamic realistic way.

Objectives:
1.Assess students prior experience using virtual reality (VR) software and attitudes to TEL (technology enhanced learning). 2.Assess the students: experience of using the VR module with regards usability and usefulness. 3.Assess the impact of using virtual reality software with regards clinical accuracy in diagnosing pupil pathology.

Methods: Prospective randomised controlled trial of the use of immersive VR technology in the learning experience of UCC medical students during an Ophthalmology rotation, assessed both qualitatively and quantitatively.

Outcome: The initial pilot included 13 medical students,age range 21-29 (mean 23.8) years old. All students owned a smartphone, and 46% used phones to play games. Average time spent on a smartphone was 5hours/day, and on a computer 6 hours/day. 46% of students had previous experience of VR, and 15% had prior experience of VR in education. Following the simulation the students somewhat or strongly agreed: the experience was realistic in 70%; 38% felt this would reduce clinical errors; 76% enjoyed the experience; 69% increased their confidence in the detecting the skill; 84% improved their knowledge; 67% would recommend using this VR software with regards TEL.

Conclusion: VR simulation offers students a risk-free way to learn Ophthalmology diagnostic skills in a realistic, immersive, and enjoyable manner. VR s potential in Ophthalmology is expected to extend beyond university for who want to refine their skills or learn new procedures.

Title: Therapeutic Interaction Project: Identifying behavioural markers of therapeutic effectiveness

Author(s): Dr Mary Lavelle (1), Dr Magdalena Rychlowska (1), Miss Katie McDade (1), Miss Glenda Preston (1), Dr David Curran (1), Dr Matthew Rodger (1), Dr Paul Murphy (1), Dr Gary McKeown (1)

Institution: (1) Queen's University Belfast

Aim of the study: Psychotherapeutic interventions rely on effective communication between the clinician and patient. Meta-analyses comparing the outcomes of different psychotherapeutic modalities have found that most evidence-based treatments are equivalent in their treatment efficacy (Cuijpers et al., 2020). It is the factors that are shared across treatment modalities, known as common factors that contribute to outcome (Wampold, 2015). Common factors include the therapeutic alliance, empathy and congruence (Wampold, 2015). Although common factors are critical to the therapeutic success, how they are conveyed in interaction is poorly understood. The overarching aim of the study is to identify the behavioural markers that are associated with more effective therapeutic interactions.

Method: Clinical Doctoral trainees (n=40) will participate in dyadic role play scenarios of psychotherapy sessions. Each role play will last approximately 20 minutes and will be audio-visually recorded. Verbal and gestural behaviour will be analysed in the footage using a combination of automatic analysis and hand annotation. We are specifically interested in the behaviours of active listening and interpersonal coordination and how these relate to proxy measures of therapeutic relationship (i.e. interpersonal rapport & empathy) and the subjective impact of a therapy session on the client.

Results: Data collection is currently underway.

Conclusion: There is a paucity of research examining behavioural markers of therapeutic effectiveness. The recorded scenarios will act as a window into practice which will develop our understanding of the behaviours of interest and their measurement in the safety of a non-clinical setting.

SESSION 7
Interprofessional Simulation (II)

Title: A pilot study evaluating the feasibility of assessing undergraduate healthcare students during an online interprofessional education intervention about hospital discharge

Author(s): Dr Hailah Almoghirah (1), Prof Hamde Nazar (2), Prof Jan Illing (3)

Institution: (1) King Saud University, (2) Newcastle University, (3) Royal College of Surgeons Ireland

Introduction: Interprofessional education (IPE) has been identified as a strategy towards improving competence at interprofessional working and collaboration within teams. Entrustable professional activities (EPAs) provide a framework for translating competencies into elements of clinical practice, some of which in healthcare are inherently interprofessional. However, it is challenging to reconcile that entrustment decisions about student competence in an interprofessional activity are made about an individual without considering the dynamics and tensions between interprofessional team members and the task itself. This can influence students development and demonstration of competence at interprofessional collaboration.

Objectives: To undertake an online interprofessional intervention (Zoom) for undergraduate medical and pharmacy students. To feasibility test a strategy of assessing student interprofessional collaboration

Methods Undergraduate students worked in pairs online to undertake the hospital discharge process for a simulated patient, producing a hospital discharge letter and completing a consultation with the simulated patient. The online sessions were recorded and interprofessional behaviours were assessed using a validated scale completed by an interprofessional assessment team. Students undertook this IPE intervention three times after receiving feedback and a period of reflection each time.

Outcomes: Eighteen students participated across the intervention and 27 one-hour online sessions were completed and recorded. Students demonstrated statistically significant improvements in interprofessional behaviours across the three iterations (p < 0.05 for all the sessions). The discharge letter students produced also improved over the three sessions (p = 0.01). Students found the educational sessions useful and relevant.

Conclusion: This online IPE intervention provided the students with an authentic opportunity to work collaboratively. At the end of each iteration, students received feedback about their work as a team and about the discharge letter, helping students to reflect and develop their performance. The IPE intervention and assessment strategy is feasible and allows student development to be captured but is time and resource intensive.

Title: Consultant led sepsis sim wars competition

Author(s): Dr Victoria Meighan (1), Ms Cathy Mullen (1)

Institution: (1) Tallaght University Hospital

Introduction: Sepsis education and training is a strategic priority in the heath service executive (HSE) for improving patient safety and managing risk. There is an annual sepsis awareness week worldwide. Traditionally sepsis education has been online, didactic and lecture/video based. Interdisciplinary team training improves patient outcomes. Consultant participation in sbme is not common.

Methods: We designed, developed and delivered a whole hospital sepsis sim wars competition.

6 teams from across specialties (Emergency Medicine, Intensive care Medicine, Medicine, acute Medicine, Surgery and a rotating specialty team were invited to participate. Teams were consultant led and included (medics) a registrar, senior house officer, (nursing) staff nurse and student nurse. The sepsis simulation scenarios were standardised and had associated standardised mark sheets. Four independent judges score the technical and non-technical skills. Winners
were announced at grand rounds.

Outcomes: The annual competition was introduced in September 2020. We analysed 4 years of anonymous electronic feedback from participants. 90% (n=90) completed the survey 100% of respondents enjoyed the experience and found it to be educational 75% of respondents had never participated in high fidelity simulation training 50% of consultant respondents had never participated in high fidelity simulation training 80% had never trained in a multi-disciplinary team

100% of respondents enjoyed the competition aspect/gamification 100% of respondents felt more confident and familiar with sepsis management and the form 65% of non consultant participants enjoyed and benefited from training with their consultant colleaguebroke down barriers more likely to speak up. Grand rounds attendance consistently rose 3 fold for the announcement of the winners

Conclusion: A whole hospital sepsis sim wars competition is a positive way to engage and encourage consultant participation in simulation based medical education. Participants felt their knowledge and confidence improved (Kirkpatrick level 2) and teamtraining broke down hierarchical boundaries to speaking up.

Title: A Decision Aid to Support the Selection of Assessment Tools for Interprofessional Simulation

Author(s): Prof. Jan ILLING (1), Prof Hamde Nazar (2), Dr Hailah Aomghirah (3)

Institution: (1) RCSI University of Medicine and Health Sciences, (2) Newcastle University, (3) King Saud University

Introduction: Assessment of Interprofessional Education (IPE) has been problematic. Criticisms include the misalignment of aims and outcomes, one off interventions and students assessment of their own performance. Self-assessment has been identified as a major weakness in IPE, as has lack of evidence to illustrate behaviour change. There are numerous tools to assess IPE, but knowing which ones are validated, measure the domains if interest, and are suited to individual or team assessment is challenging.

Objectives:

1. To facilitate faculty to identify the IPE assessment tool that is best suited to their intervention from the pool of validated assessments measurements available.
2. To conduct a systemic review of IPE assessments tools.
3. To identify and critically appraise the assessment tools used after a IPE intervention.

Methods: The electronic databases: MEDLINE, ERIC, CINHAL, EMBASE and NEXUS were searched. From this 9,502 studies were identified and 39 met the inclusion criteria and were analysed. All 39 tools were appraised, and 11 were found to be valid and reliable. These 11 tools provide objective measures of behaviour change, but range in IPE domain of interest i.e. collaborative practice, communication skills, leadership etc. and range in focus: individual, team or both.

Outcomes: A _decision aid_ was developed containing all 11 validated tools. The _decision aid_ can be used by faculty to guide them to the right tool to measure domain of interest, measure individual or team behaviour change and consider textual feedback.

Conclusion: The _decision aid_ enables faculty to consider which validated IPE tool best supports their study, and its intended outcomes.

Title: Mapping a interdisciplinary simulation based medical education training programme to the risk register

Author(s): Dr Victoria Meighan (1)

Institution: (1) Tallaght University Hospital, Trinity College Dublin

Introduction: Simulation based medical education can be used to improve healthcare professional individual and team knowledge, skills and performance, improve patient safety and reduce risk. We sought to determine if an in situ, interdisciplinary sbme learning programme mapped to the risk register can reduce risks and improve patient safety in our department.

Methods The top 6 ranked risks on our ED risk register were included in the study. They were 1.communication errors 2. recognition and management of sepsis 3. Advanced airway management including end tidal CO2 monitoring 4. Recognition of oesophageal intubation 5. Recognition and management of ST elevation Myocardial Infarction 6. medication safety issues.

We designed developed and delivered an inter professional sbme learning programme mapped to the curriculum for Emergency Medicine training and our departmental risk register with technical and non technical skill learning outcomes. Following implantation we analysed the risk register to determine risk ratings, impact, likelihood and residual risk.

Outcomes: Data was analysed from interrogation of the departmental risk register 2 years before and 2 years after implementation of the training programme. Our in situ inter professional sbme programme independently reduced risk rating, likelihood and residual across all domains following implementation. The Executive Management Team and department of quality safety and risk have since invested and championed in situ sbme.

Conclusion: Interprofressional sbme improves patient safety and reduces risks. Developing an in situ simulation training programme mapped to a an individual departmental risk register can focus training to improve patient safety. Similarly, the risk register can be used to identify key strategic priorities for reducing risk. Developing in situ simulation training focusing on the risk register is powerful for institutional and organisational buy in for investment in sbme. Further work is in progress mapping a whole hospital sbme training programme to the hospital risk register.

Title: Better learning together? A scoping literature review of in-person undergraduate interprofessional simulation-based education in healthcare

Author(s): Brona Joyce (1), Professor Gerry Gormley (1), Dr Davina Carr (1), Alison Smart (1), Dr Dakota Armour (1)

Institution: (1) Queen's University Belfast

Background: Interprofessional simulation-based education (IP-SBE) is gaining traction as a crucial component of undergraduate healthcare professional training. This educational approach immerses students in realistic interprofessional scenarios, equipping them with essential skills for their future roles in healthcare delivery.

Aim of the study: Our aim was to conduct a comprehensive review of existing literature on IP-SBE at undergraduate level, providing insights into the current landscape of this field.

Methods: We conducted a scoping review following Arksey and O'Malley's methodology. With guidance from a subject librarian, we systematically searched four online databases (MEDLINE, Embase, and Web of Science) resulting in 434 citations. After rigorous screening and application of exclusion criteria, we removed 292 duplicate papers. Subsequently, 434 papers were reviewed based on title and abstract, leading to the exclusion of 264. We further examined the full text of 170 papers, excluding 73, ultimately identifying 97 articles suitable for inclusion in our analysis.

Results: The majority of publications originated from leading healthcare education hubs, such as the United States (39.2%), the United Kingdom (16.5%), and Australia (10.3%). Methodologically, mixed methodologies (27.8%) and qualitative studies (17.5%) were prevalent, with a significant proportion of studies (71.1%) published since 2018.

Discussion: Our review unveiled a diverse array of undergraduate IP-SBE activities, offering unique insights into the integration of interprofessional learning into healthcare education. Detailed examinations covered various facets, including activity characteristics, simulation features, debriefing sessions, and impacts on learners and teams. Significantly, logistical barriers emerged as notable challenges in IP-SBE implementation.

Conclusion: In conclusion, our review highlights the multifaceted nature of IP-SBE at the undergraduate level, emphasizing the necessity for standardized policies and practices in its implementation and documentation. Identified gaps in the literature present opportunities for future research to enhance the effectiveness and accessibility of IP-SBE. Ultimately, our findings contribute to the ongoing discourse on interprofessional education, shaping the future of healthcare training for the next generation of professionals.

Title: Learning together is better: students' perceptions of a novel interprofessional simulation activity

Author(s): Ms Molly-Anne McCormick (1), Professor Carmel Hughes (1), Mrs Clare Murray (1), Dr Greg Quee (2), Dr Billiejoan Rice (3), Dr Paul Best (2), Dr Briegeen Girvin (1)

Institution: (1) School of Pharmacy, Queen's University Belfast (2) School of Social Sciences, Education and Social Work, Queen's University Belfast (3) School of Nursing and Midwifery, Queen's University Belfast

Introduction: Interprofessional education (IPE) is necessary in order to integrate care and improve patient safety (WHO, 2010).However, there are barriers to its widespread implementation, including organisational barriers, such as difficulties aligning timetables across degree programmes (Patel, 2016).A novel IPE simulation activity was therefore piloted as an optional extracurricular activity, forming part of the Future Ready award at Queen's University Belfast (QUB, 2023).

Objectives: To evaluate the views/opinions of students from a range of backgrounds who undertook the activity.

Methods: Seven students from Pharmacy, Social Work, Nursing & Midwifery and Medicine undertook the simulated IPE activity. It involved caring for an older person with dementia, admitted to hospital with delirium, following a fall. The simulation covered care within the emergency department, ward and discharge planning and was held on two occasions. Following ethical approval, students were invited to attend a focus group which was audio/video recorded on Microsoft® Stream, transcribed verbatim and analysed thematically.

Outcomes:Six students participated in the focus group. Themes and supporting quotations include: Professional Identity, "excellent opportunity to see what the other professions did" (SW1)

Augmentation of Clinical Knowledge "…sometimes you can underestimate people with dementia, or what people's capabilities are" (P2). Teamwork and Collaboration "At that final discharge meeting…we were quite a solid team." (SW2). Authenticity of and Safety in Simulation Activities "I work in a care home…the acting of delirium was quite good, good for pharmacists to get experience with that" (P1).Views on the IPE experience: "more feedback on what I could do to improve" (P2) "I thought the debrief was fab, thorough and I got a lot out of it" (SW2). Future IPE Activities: should definitely be added to our course(N2)

Conclusion: Students recognised the value of the IPE experience and saw it as an opportunity to learn from each other.

Workshops

WORKSHOP 1

Designing and Piloting Interprofessional, Immersive Simulations in a Simulated Environment to address Diverse Learning Needs"

Author(s): Professor Sharon Haughey (1), Dr Vicky Adams, Dr Nichola Booth, Dr Orlagh Daly (2) Dr Janine Stockdale, Dr Billiejoan Rice, Hannelie Edgar, Ms Alison Smart (1)

Institution: (1) Queen's University Belfast, (2) Ulster University

Workshop background In 2024 we co-designed and piloted immersive experiences with undergraduates from dentistry (QUB), occupational therapy (UU) and pharmacy (QUB). Using a motivational template and a systematic process, the immersive scenarios were developed by an interprofessional group of practitioners, with co-designed refinements from academic (Dr Nichola Booth) and patient experts. Particular emphasis was placed on mapping and agreeing the uni-professional and interprofessional learning goals. During the pre-brief students completed pre-reading on neurodiversity and aging. Students then engaged in two immersive scenarios and a debrief (PEARLS). Student reactions were recorded using the Love/ Break up letter methodology to start the debrief discussion.

Aim: This workshop will provide participants with an active demonstration of how immersive scenarios can help learners.

Learning objectives

1. When designing simulation scenarios review how learning goals are related to student motivation
2. Map learning goals to different disciplines within a simulation using a interprofessional template
3. Show how immersive simulation can engage students with some of the physical and sensory differences that a neurodiverse individual or older person may experience
4. Appreciate how immersive simulation can highlight the differences in processing and acting on instructions with heightened awareness or sensory perception
5. Formulate ways of adapting the clinical environment & communication/consultation skills for individual patients.

Overview The workshop will provide a description of the co-design process for the immersive scenarios. A number of participants will then have the opportunity to experience the immersive scenarios and provide feedback. The first immersive scenario involves participants giving/following instructions to construct an object with environmental changes simulating physical and sensory differences. The second immersive scenario involves the use of aging suits and the completion of basic tasks involving medicines and dental hygiene. At the close of the workshop student feedback/outcomes from the pilot will be discussed alongside ideas for future development and roll out.

Expected Impact The workshop demonstrates the value of co-designed immersive scenarios for interprofessional teaching. It aims to inspire and support participants with the development of their own teaching in this area. Best practice will be shared and discussed. The workshop authors are also keen to develop opportunities for future collaborations for roll out.

Participants: 15 – not everyone would experience it but could break group up into two and put some participants into learning conversation suite to watch

Equipment requests Flat room for intro and discussion (seating for 20 people) Patient home environment (4-6 participants) One primary care consultation room (2 participants)Pharmacy environment open (2 participants)Learning conversation suite Aging suits - one or two of these Dental kit (VA to supply) Medicines and prescription kit (SH to supply) Neurodiversity kit (SH and VA to supply)

WORKSHOP 2

Presenter **Mrs Stephanie Leckey**

The nuggets, nuances and no nos of designing and delivering a novel F0 simulation-based educational program

Author(s): Dr Neil Kinnear Neil Kinnear (1), Mrs Stephanie Leckey (1)

Institution: (1) NHSCT

The NHSCT has rapidly expanded its quota of clinical educators with formal roles in delivering simulation-based education in the past few years. This workshop will explore an 18 month journey for a team of interprofessional educators in Causeway Hospital who designed and delivered a weekly simulation-based educational program for undergraduate medical students from University of Ulster and Queens University Belfast. This journey has culminated in the design and delivery of a bespoke simulation-based program for 19 F0 medical students whilst concurrently collecting qualitative data through focus groups and audio diaries which was fully approved through Research and Ethics Committees.

Learning objectives of workshop :

- To consider a toolkit of practicalities when designing and planning a novel simulation-based education program.
- To explore the challenges, unexpected benefits and lessons we have learnt in delivering a novel simulation-based educational program.
- To gain an insight into completing qualitative research alongside delivering a novel simulation-based educational program.

Overview of workshop: This workshop will give participants an insight into the journey NHSCT has been on regarding simulation-based education and how a simulation program for undergraduate medical students on the Causeway site has developed over the past 18 months. We will explore how the program was adapted and evolved over that time as guided by student feedback.

The workshop will help participants to consider their vision for simulation within their own organisation. We will look at a practical toolkit for the formation and delivery of a novel program and explore how to work towards participation in robust qualitative medical education research.

Expected impact: It is expected that participants would be able to clarify their vision for simulation-based education in their area of practice and be empowered to formulate a plan using the tools provided to enact that vision. We hope by sharing the challenges, benefits and lessons learnt, participants would be able to see their vision for simulation come to fruition and would be able to navigate the practicalities and challenges of delivering regular simulation-based educational activities.

It is hoped that participants would be enthused to participate in high quality medical education research as we build a community of practice amongst simulation educators.

Maximum number of participants: 20

Equipment requests Flipchart/paper/pens, Projector/IT, Water/glasses,

WORKSHOP 3

Exploring transformation of new digital healthcare record system within interprofessional simulation.

Author(s): Mrs Doris Corkin (1), Dr Kathryn Ferris (2), Mrs Pauline Cardwell (1), Lynne Robinson, Mr Kevin Campbell (3), Dr Neil Kennedy (2)

Institution: (1) School of Nursing & Midwifery, QUB, (2) Queens University Belfast, (3) School of Nursing & Midwifery

Background to workshop: Interprofessional (IP) simulation gives opportunity to provide transformation in the training and education of our child health nursing and medical students, a central tenet to sharpen fundamental skills, which helps to develop competencies in the future, healthcare workforce (NMC, 2018; GMC, 2009). Therefore timely that we explore new digital healthcare system encompass having gone live (pilot) within one Trust during the last six months, with an ambitious plan to roll out across Northern Ireland. This means multi-professional records accessible at the touch of a button. Currently within the simulated environment is the use of laminated paper copies, to facilitate the teaching of documentation, such as PEWS and medication charts, may soon become inappropriate.

Learning objectives of workshop:

- Overall aim: To explore nursing and medical perspectives of using new digital patient record system (training prototype) during interprofessional simulation:
- identify benefits of digital technology in relation to patient data
- discuss possible challenges when moving from laminated paper records to new digital system
- Although, a lack of research studies in relation to digital systems (Peacock et al, 2022), practice within healthcare is continuing to change.

Overview of workshop: This interactive workshop aims to provide an open platform to discuss and explore how this new transformative digital record system is accessed and utilised, to support the development of contemporary interprofessional simulation.

Overall, this session will focus on examining practice and how such technologies are harnessed, to enhance the interprofessional simulation experience for all involved.

Expected IMPACT: Workshop will provide a unique opportunity for collaboration between practitioners, technicians and educationalists to explore practice developments within simulation-based education. Modification of the simulation setting and resources will become a vital part of training the future workforce, therefore important to embrace with resilience to help support continued authentic simulated experiences.

WORKSHOP 4

Tech in education: distraction or driving force?

Author(s): Dr Michael Williams (1)

Institution: Queen's University of Belfast

Workshop
Technological advances have punctuated all of our lives, and influenced healthcare education. No longer do we use overhead projectors, but we have logbooks on phones in our pockets, lectures in clouds and tutorials in our homes. As educators, we should embrace what tech offers - but not blindly. This workshop will highlight the pedagogical value, or lack of value, of both high and very low tech

Learning objectives of workshop
At the end of this workshop, attendees will have:

- considered the potential functionality of virtual reality (VR) for learning and assessment
- reflected on the factors that make simulation an effective learning opportunity
- discussed the use of tech in their own environment

Methods

- examining a patient in the metaverse
- visiting an online eye clinic where you are on shift
- removing a foreign body from a balloon
- small group discussions

Outcomes
Attendees will have developed their enthusiasm for tech in education, but hopefully will approach it with a questioning and learning-centered attitude.

Conclusion
Tech offers amazing functionality, but should not be embraced without thought first about learning outcomes, and should not be used for it's own sake.

WORKSHOP 5

Preparation of pre-registration midwifery students for effective simulation-based learning

Author(s): Felicity Kalu, Carolyn Moorehead, Mary Gillespie, Clare Hughes, Lorna Lawther, Janine Stockdale, Lynne Churchman

Institution: (1) Queens University Belfast, (2) Queens University Belfast

Introduction: Simulation-based learning (SBL) is rapidly developing at various levels of healthcare education and practice. SBL is a student-centred learning approach that is immersive in nature, and promotes students learning through active participation and constructive feedback. SBL provides students with the opportunities to practice and learn in a safe environment using realistic scenarios and equipment, resulting in the development of their knowledge, skills, and professional attitudes. Despite the benefits of SBL, students who are not familiar with this type of learning can find the build-up to simulation very stressful. Understanding how to adequately prepare students for effective SBL is important.

Objectives: At the end of the workshop, conference delegates will be able to understand:

- How to prepare students to become familiar with the SBL process to enhance high fidelity simulation
- How to enable students to become actively involved in the SBL immersion experience through relevant theoretical preparations and application of the SHEEP model human factors.
- How to prepare students to learn from constructive feedback.

Methods The workshop will start with a short introduction of SBL and its benefits.
There will be discussions on how students are enabled to familiarise themselves with the clinical environments and the equipment.

There will also be a discussion on how students are prepared to communicate with their facilitators including how to the use the phones in the rooms.

They will be a demonstration on the use of realistic scenarios with the application of the SHEEP model human factors to enhance SBL.

Outcomes: The workshop will provide opportunities for all participants to learn together, ask questions and leave the conference with practical tips on how to effectively prepare students for positive and enjoyable SBL

Conclusion: Knowledge sharing on how learners can be adequately prepared for effective simulation-based learning is essential for ongoing high fidelity simulation.

Max participants: 15