Wednesday 3rd September 2025

09:00 – 17:00

Western Gateway Building, UCC

Talks – Room WGB 1.07

Poster Viewing – Ground Floor

WGB G08, WGB G13, WGB G14, WGB G15

Welcome!

Dear Friends and Colleagues,

Welcome to the College of Medicine and Health Annual Research Conference.
We are delighted to welcome you to this year's Annual Research Conference hosted by the College of Medicine and Health. The theme for 2025, "Academic Health Sciences," reflects our deep commitment to advancing health and wellbeing through innovation, collaboration, and impactful partnerships with clinical colleagues—all with the goal of improving patient outcomes.

This theme also highlights the College's ongoing efforts to establish an Academic Health Sciences System (AHSS) in the South West region. This integrated initiative between University College Cork and HSE SW is designed to ensure that research and innovation translate directly into benefits for patients. The work being presented today by our attendees is central to realizing this vision.

We are thrilled by the enthusiastic response to this year's conference, with over 300 registrations and more than 150 abstracts submitted by researchers working across a wide spectrum of disciplines. These include but are not limited to: Future Medicines; Future Ageing & Brain Science; Children; Food, Microbiome & Health and Health Services Research.

The programme features presentations from four distinguished invited speakers, alongside a rich selection of oral presentations. These are delivered in two engaging formats: Eight-minute "Latest Advances" talks and Three-minute "Elevator Pitches"

All presentations have been selected from submitted abstracts and showcase the breadth and depth of research taking place across our community.

We will conclude the day with what promises to be a lively and thought-provoking panel discussion, chaired by our Head of College, Professor Helen Whelton, and featuring a diverse panel of experts from across the university and the HSE South West Region. It is truly inspiring to see how research can address pressing societal needs and global health challenges—helping to shape the future of healthcare.

A day of this scale and significance would not be possible without the dedication and support of many individuals. We extend our heartfelt thanks to the College of Medicine and Health staff for their exceptional work, particularly in organizing the abstracts and poster sessions; Dr Susan Rafferty-McArdle, Jill O'Callaghan, Jane Hurley, Laoise Power, Anna Toner, Dr Ken O'Riordan & Caroline Seacy.

We are also deeply grateful to our Schools', Institute's, Centre's, students and staff for their invaluable contributions. Special thanks go to the members of the College of Medicine and Health Research and Innovation Committee for their dedicated work

throughout the year. We welcome attendance and participation by our HSE SW Research office colleagues and the CUH Research Committee.

Finally, we extend our sincere appreciation to everyone who contributed to making today's event a success. Your efforts—too numerous to name individually—are truly valued.

We also take a moment to remember our dear colleague, Dr Ashleigh Byrne. We are pleased to share that a number of research prizes and bursaries will be established in her name by her family in the coming year—a fitting tribute to her legacy.

We hope you enjoy the conference and take full advantage of this opportunity to connect, collaborate, and explore new possibilities in research and innovation.

Professor Gerard O'Keeffe
Vice Head for Research & Innovation
College of Medicine & Health, UCC

Professor Helen Whelton
Head of The College of Medicine & Health, UCC
& Chief Academic Officer to the HSE South West Region

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President, University College Cork

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Cork University Business School and INFANT Research Centre
From ULTRA to LINDA-FAMILIA: Scaling Up Digital Health for Maternal and Child Health in East Africa

09:35 – 10:15 **LATEST ADVANCES 1**
(8-minute research talks with 2 questions)

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Cancer Research @UCC & CUH/UCC Cancer Centre, CUH
Analysing accrual to the LIAM Mc interventional survivorship clinical trial

Dr. Cristina Cuesta-Marti
Department of Anatomy and Neuroscience & APC Microbiome Ireland, UCC
Gut microbiome regulation of brainstem development during early life

Professor Ken O'Halloran
Department of Physiology, UCC
Gene transfer therapy to protect respiratory system performance in Duchenne muscular dystrophy

Dr. Ann Doherty
Department of General Practice, UCC
Prevalence of Think Cascades in community dwelling adults: longitudinal analysis of The Irish Longitudinal Study on Ageing

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(3-minute elevator pitch style talks, 1 question)

Nerea Hernández Egido
School of Pharmacy, UCC
Engineering circular RNAs for selective protein expression in dysfunctional endothelial cells

Zoë Williams
School of Medicine and APC Microbiome Ireland, UCC
Biological Sex Influences Exercise-Induced Changes in Memory, Mood, and Neuropathology in a Mouse Model of Alzheimer's Disease

Jill Mitchell
Department of Obstetrics and Gynaecology & INFANT Research Centre
Development of a Prediction Model for Mortality in Infants Undergoing Therapeutic Hypothermia for Neonatal Encephalopathy

Andrea Lee
School of Public Health and INFANT Research Centre, UCC
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10:30 – 12:00 **COFFEE BREAK + POSTER SESSION + NETWORKING**
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Chaired by Professor Nicole Müller and Professor Laura Sahm

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Cancer Research @UCC & CUH/UCC Cancer Centre, CUH
Cancer Research@UCC: Connecting research and patients in an academic health science system

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Centre for Gerontology and Rehabilitation, College of Medicine and Health, UCC
Co-Designing a Multinational Logic Model to Support Palliative Care in Advanced Dementia: The In-Touch Project

Eibhlín Looney
School of Public Health, UCC
Refining the Choosing Health Eating for Infant Health intervention and implementation strategy: Re-CHErIsH

Dr. Leanne Ahern
School of Clinical Therapies, College of Medicine and Health, UCC
Behaviour change for Parkinson's disease: A randomised controlled feasibility study to promote physical activity and exercise adherence among people with Parkinson's disease

Dr. Aoife Fleming
School of Pharmacy, UCC and Vice Head of Interprofesstional Learning, CoMH
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(3 min elevator pitch style talks, 1 question)

Emer Lynch
Cancer Research @UCC, School of Medicine, UCC, Cork University Hospital
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Nora O'Connor
School of Public Health, UCC
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Emma Wilson
School of Medicine, UCC and INFANT Research Centre
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Pawel Hursztyn
School of Public Health, UCC & National Suicide Research Foundation, Cork, Ireland
Factors Influencing Mental Health Service Delivery during Public Health Emergencies. A Scoping Review

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UCC-HSE and The Academic Health Sciences System
Chaired by Professor Gerard O'Keeffe and Anna Toner, UCC AHS

15:00 – 15:10 WELCOME AND OPENING REMARKS
Professor Helen Whelton
Head of CoMH and Chief Academic Officer, HSE SW
The Academic Health Sciences System

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Professor Denis O'Mahony
HSE SW Director of Research and Professor of Gerontology
School of Medicine, UCC
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Professor Patricia Kearney
Professor of Epidemiology, School of Public Health, College of Medicine & Health, UCC
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15:40 – 15:55

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(3 min elevator pitch style talks, 1 question)

Louise Murphy *Employment-based PhD
School of Nursing & Midwifery, UCC and Cork University Hospital
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Anne Harnett *Employment-based PhD
School of Pharmacy, UCC and University Hospital Limerick
Healthcare professionals' experiences of caring for acute hospital in patients with difficulty swallowing solid oral dose forms: a qualitative interview study

Rosanne Fortes
Department of General Practice, UCC
Investigating the Potential Prescribing Cascade of Cardiac Alpha-1-Blockers Leading to Vestibular Sedative Prescriptions Among Older Community-Dwelling Adults in Ireland

16:00 – 16:30

PANEL DISCUSSION
Moderator - Professor Helen Whelton, *Head of CoMH and Chief Academic Officer, HSE SW*

Panellists
Dr Andy Phillips, *Regional Executive Officer, HSE SW*
Prof Denis O'Mahony, *HSE SW Director of Research*
Ms Rafaela Carapeto, *Research Manager, HSE SW*
Dr Siobhan Cusack, *Director of Research Strategy & Projects, UCC*
Professor Eugene Dempsey, *Professor of Neonatology, CUH & UCC*
Professor Frances Shiely, *Professor of Clinical Trials, UCC*

16:30 – 17:00	Professor Gerard O'Keeffe, Vice Head for Research & Innovation CoMH Closing remarks, prize announcement and close of the conference

Oral Presentations

Session 1: Latest Advances

Analysing accrual to the LIAM Mc interventional survivorship clinical trial

Jack P. Gleeson(1,2), Anita Cahill (2), Katie E Johnston (2), Stephanie Corkery (2), Joanne Kelly (2), Denise Stenson-Russell (2), Clodagh Scannell (2), Laia Raigal-Aran (1), Josephine Hegarty (3), Roisin M. Connolly (1,2), Mohamad M. Saab (3), Richard M Bambury (1,2) & Brendan Noonan (3)
1) Cancer Research @UCC, College of Medicine and Health, UCC, Cork, Ireland
2) CUH/UCC Cancer Centre, Cork University Hospital, Cork, Ireland
3) School of Nursing and Midwifery, University College Cork

Background: Multidisciplinary supportive care interventions are key to preventing and managing adverse effects from cancer treatment. The LIAM Mc (Linking In with Advice and supports for Men impacted by Metastatic cancer; ClinicalTrials.gov: NCT05946993) Trial is an enhanced 12-week multidisciplinary supportive care survivorship programme with direct input from a physiotherapist, dietitian, nurse specialist, community supports, psycho-oncology and medical social work. Here we analyse the accrual and barriers to participation in this trial.

Methods: Men with a locally advanced or metastatic GU cancer who had recently completed a course of treatment or were stable on active anti-cancer treatment were eligible for participation. Patients were recruited from Oncology and Urology outpatient clinics and contacted by a research nurse regarding participation. Reasons for declining participation were requested and recorded.

Results: 124 men were contacted regarding the study, of whom 56 proceeded to complete the screening assessments and sign consent. 66.1 years was the mean age of participant. Prostate Cancer was the most common underlying diagnosis (n=49, 87.5%), followed by kidney cancer (n=5, 8.9%), penile cancer (n=1, 1.8%) and testicular cancer (n=1, 1.8%). Participants described significant psychological, social and physical benefits from the programme during focus group sessions. Work (n=16, 28.6%), personal (n=11, 19.6%) and geographical reasons (n=9, 16.1%) were cited as the main reasons not to participate in the trial.

Discussion & Conclusion: Despite overwhelmingly positive reports from participants, significant barriers remain to recruiting participants to survivorship studies. Understanding these barriers and proposal of solutions to mitigate same will help improve recruitment and retention.

Gut Microbiome Regulation of Brainstem Development During Early Life

Cristina Cuesta-Marti2,3, Lars Wilmes2,3, Caoimhe M.K. Lynch2,3, Gerard Moloney2,3, Gerard Clarke2,4, John F. Cryan2,3 & Lily Keane1,2,3
1Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden.
2APC Microbiome Ireland, University College Cork, Ireland.
3Department of Anatomy & Neuroscience, University College Cork, Ireland.
4Department of Psychiatry and Neurobehavioural Science, University College Cork, Ireland.

The brainstem controls core functions including sensorimotor integration and autonomic regulation, with disruptions implicated in neurodevelopmental disorders. The pons expands six-fold between birth and five years in humans, driven by oligodendrocyte progenitor cell proliferation and myelination, particularly involving $Olig2^+$ OPCs transitioning from $Sox2^+$ to $Sox2^-$. However, extrinsic factors regulating this postnatal growth remain poorly understood. The gut microbiome has emerged as a key regulator of brain development through bioactive metabolites that influence myelination and microglial maturation.

We aimed to determine how the gut microbiome influences early brainstem development by shaping the central metabolic environment and regulating neuroimmune and glial cell types. We performed untargeted metabolomic profiling on brainstem from postnatal day 2 germ-free (GF) and specific pathogen-free (SPF) mice (n=5/group), with differential metabolite and pathway enrichment analysis. We analysed microglial gene expression signatures in existing RNA datasets from P2 GF and SPF mice.

We identified 34 significantly differentially abundant metabolites in GF vs SPF brainstems, including carnitine (microglial energy metabolism), glutathione (oxidative stress regulation), and S-adenosylmethionine (epigenetic programming). Pathway analysis showed enrichment in lysine degradation and arginine biosynthesis. Transcriptomic data revealed dysregulation of CD11c-associated genes in GF mice. Given our recent identification of a specialized $CD11c^+$ microglial population essential for hindbrain development, these findings suggest microbiome influence on developmentally critical $CD11c^+$ microglia.

The gut microbiome contributes to early postnatal brainstem development through regulation of metabolic landscapes and neuroimmune populations, offering potential therapeutic insights into neurodevelopmental disorders.

Gene transfer therapy to protect respiratory system performance in Duchenne muscular dystrophy

Ken D. O'Halloran (1), Aoife D. Slyne (1), Mai K. Elmallah (2)
1. Department of Physiology, University College Cork, Cork, Ireland.
2. Department of Pediatrics, Duke University, USA.

Duchenne muscular dystrophy (DMD) is an X-linked life-limiting neuromuscular disease due to mutations in the DMD gene resulting in an absence of dystrophin. Dysfunction extends to the striated muscles of breathing resulting in ventilatory insufficiency. Current therapy for DMD is limited but gene therapy offers considerable promise.

Owing to the large size of the dystrophin gene, delivery of shortened versions of the gene, termed microdystrophins, have emerged as therapeutic options. Clinical trials in boys with DMD predominantly focus on ambulatory measures. As such, there is a paucity of information on the efficacy of microdystrophin in restoring respiratory system function in DMD.

In the present study, we compared the mdx mouse model of DMD with a transgenic line of mdx mice expressing human microdystrophin (mdx Δ R4-23/Δ C; Tg.mdx). We also explored the efficacy of AAV-delivered microdystrophin in adult mdx mice.

Preliminary observations reveal remarkable recovery of respiratory EMG activities and inspiratory pressure in Tg.mdx mice. AAV delivery of microdystrophin at a clinically relevant dose resulted in vector genome expression and expression of microdystrophin in heart and respiratory muscle but no improvement in respiratory system performance.

Our results demonstrate that stable expression of microdystrophin is associated with impressive preservation of respiratory system performance in a mouse model of DMD. However, AAV-delivered microdystrophin in mdx mice with established disease offers challenges with no improvement in diaphragm muscle function at the therapeutic dose used in clinical trials. Further optimisation of AAV-delivered microdystrophin is required to improve therapy for respiratory system performance in DMD.

Prevalence of ThinkCascades in community dwelling adults: longitudinal analysis of The Irish Longitudinal Study on Ageing (TILDA)

Ann Sinéad Doherty(1), Frank Moriarty (2, 3), Fiona Boland (4), Barbara Clyne (5), Tom Fahey (6), Rose Anne Kenny (3, 7), Denis O' Mahony (8, 9), Emma Wallace (1)
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2. School of Pharmacy and Biomolecular Sciences, RCSI University of Medicine and Health Sciences
3. The Irish Longitudinal Study on Ageing (TILDA), Trinity College Dublin
4. Data Science Centre, School of Population Health, RCSI University of Medicine and Health Sciences
5. Department of Public Health & Epidemiology, School of Population Health, RCSI University of Medicine and Health Sciences
6. Department of General Practice, RCSI University of Medicine and Health Sciences
7. Department of Medical Gerontology, School of Medicine, Trinity College Dublin
8. School of Medicine, University College Cork
9. Department of Geriatric & Stroke Medicine, Cork University Hospital

Background: Prescribing cascades occur when medication is prescribed to prevent/treat the adverse effects of another medication and may be intentional or unintentional. Research examining how much these prescriptions contribute to problematic polypharmacy is limited. This study aimed to examine the prevalence of nine prescribing cascades (ThinkCascades indicators) in The Irish Longitudinal Study on Ageing (TILDA).

Methods: Secondary analysis of a prospective cohort study examining TILDA participants, a nationally representative cohort of community-dwelling adults aged ≥50 years (N=6,118). Data from Wave 1 (2009/2011) to Wave 5 (2018) were utilised to examine nine ThinkCascades dyads. Exposure was incident use of Drug A at wave x. The outcome, prescribing cascade, was incident use of Drug B at wave x+1, in addition to continued use of Drug A.

Results: Five prescribing cascades were identified. Prevalence ranged from 0.5% (1/201) for the diuretic to overactive bladder medication cascade, to 8.3% (5/60) for the non-steroidal anti-inflammatory drug (NSAID) to antihypertensive cascade. Twenty-four participants (2.1%, N=1.153) experienced at least one ThinkCascades dyad over the period. Healthcare utilisation was similar for those who experienced any ThinkCascades and those who did not.

Conclusion: Five prescribing cascades were identified, with relatively low prevalence overall. NSAID-related hypertension treated with antihypertensives was the most prevalent. Medication adverse effects should be part of the differential diagnosis for older people presenting with new symptoms. Four ThinkCascades were not identified in this study, which may indicate prescriber awareness. Larger study samples with higher event rates are required to explore associations with adverse health outcomes.

Session 1: Elevator Pitches

Engineering circular RNAs for selective protein expression in dysfunctional endothelial cells.

Nerea Hernández Egido (1,2), Faiza Khalid (1), Fatma Betul Dincaslan (1,2), Meaghan Richardson (1,2), Lianne M. Mulder (1), Malgorzata Krajewska (3), Piotr S. Kowalski (1,2)
1. School of Pharmacy, University College Cork, Ireland
2. APC Microbiome Ireland, University College Cork, Ireland
3. School of Biochemistry and Cell Biology, University College Cork, Ireland

The success of the messenger RNA (mRNA)-based vaccines against COVID-19 proved the clinical potential of RNA technology for protein production in vivo. Circular RNA (circRNA) is a new class of single-stranded RNA with a closed-loop structure that improves its stability. In contrast to mRNA, circRNA is translated via Internal Ribosome Entry Site (IRES)-mediated translation that often relies on the assistance of factors known as Internal Ribosome Entry Site Trans-Acting Factors (ITAFs) which may vary in their expression depending on the cell type and cell state. IRES engineering could provide an avenue for tissue-specific expression by making circRNA the preferred RNA for the ribosome in a cell under stress conditions such as hypoxia and inflammation, relevant in high-medical-need diseases such as sepsis or cancer. Here, we investigated a library of IRES sequences for their ability to drive robust and specific circRNA translation. CircRNAs containing the 40 viral and cellular IRES candidates and the Gaussia luciferase reporter gene were synthesised, purified and assessed in vitro. We found that Group IV viral IRES displays robust secreted luciferase activity in human endothelial cells (ECs). This data was correlated with an in-silico analysis of the IRES candidates to predict potential ITAFs binding the circRNA. Moreover, IRES-containing circRNAs were delivered into ECs under inflammatory and hypoxic conditions to study protein expression in comparison to its linear counterpart. LPS and TNF-α activation did not significantly affect the performance of the IRES-containing circRNAs in ECs. Furthermore, we observed differences in translation between circRNA and mRNA under hypoxia.

Biological Sex Influences Exercise-Induced Changes in Memory, Mood, and Neuropathology in a Mouse Model of Alzheimer's Disease

Zoë A.P. Williams (1,2), Andrew O. Sasmita (1,2), Klaus A. Nave (3), Olivia F. O'Leary (1,2), John F. Cryan (1,2), Sarah Nicolas (1,2), Yvonne M. Nolan (1,2).
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2. APC Microbiome Ireland, University College Cork, Cork, Ireland.
3. Department of Neurogenetics, Göttingen, Max Planck Institute for Multidisciplinary Sciences, Germany.

Alzheimer's Disease (AD), characterised by declining memory, cognition, and emotional alterations, occurs more frequently in females. Exercise enhances memory and decreases anxiety-like behaviours in preclinical models of AD, through the generation of new neurons in a process called adult hippocampal neurogenesis (AHN). This type of brain plasticity is decreased in AD patients. Despite the biological sex bias in AD, little research has explored whether the exercise-induced changes in AD models are sex specific. The aim of this study is to determine the effects of voluntary exercise on cognition, anxiety-like behaviours, AHN, and neuropathology in male and female AD mice.

19 to 22-week-old male and female 5xFAD mice (genetic mouse model of AD; hemizygous display AD phenotype) were group housed in sedentary conditions with or without continuous access to a running wheel (n=8-22). 4 weeks after beginning the exercise intervention, behavioural tests were conducted for pattern separation and anxiety-like behaviour. Mice were euthanized by transcardial perfusion 6 to 10 weeks after the running intervention began to assess AHN and Amyloid plaque pathology.

Voluntary exercise had sex specific effects on cognition and anxiety-like behaviours, decreasing anxiety-like behaviours in females, but improving cognition in males. Males showed an exercise-induced increase in AHN in the dorsal hippocampus, the hippocampal subsection responsible for learning and memory, whereas exercise successfully decreased hippocampal plaque density in both sexes. These findings highlight the importance of considering biological sex when optimizing exercise efficacy and contribute new knowledge to the potential of exercise as a therapeutic for AD.

Development of a Prediction Model for Mortality in Infants Undergoing Therapeutic Hypothermia for Neonatal Encephalopathy

Jill M. Mitchell (1,2) Clare Rodrigues (1), Margo Dunworth (3), Julie Mc Ginley (3), Laura O'Byrne (1,2), Roisin Hall (4), Paul Corcoran (4), Indra San Lazaro Campillo (4), Peter Mc Kenna (3), John R. Higgins (1), Joye Mc Kernan (4), Ali S. Khashan (2,5), Gillian M. Maher (2,5), John Murphy (3), Brian H. Walsh (2), Richard A. Greene (1,4), Fergus P. McCarthy (1,2)

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2. *INFANT Research Centre, Cork, Ireland*
3. *National Women and Infants Health Programme*
4. *National Perinatal Epidemiology Centre*
5. *School of Public Health, University College Cork, Cork, Ireland*

Objective

To develop and internally validate a prediction model to predict neonatal mortality in infants with neonatal encephalopathy requiring therapeutic hypothermia using national-level data.

Methods

We analysed medical records of infants who received therapeutic hypothermia in 19 maternity hospitals from 2016 to 2021, collected through the National Neonatal Therapeutic Hypothermia Development Project. Multivariable logistic regression with backward stepwise selection was used to develop the model. Potential predictors included variables on maternal characteristics, labour and delivery outcomes, and resuscitation and biochemical characteristics. An initial prediction model utilised all variables significant in the univariable analysis, followed by a simplified model that included fewer candidate variables while maintaining predictive performance. Discrimination was assessed using the area under the receiver operating characteristic curve (ROC) C-statistic. Internal validation was performed using bootstrapping to evaluate overfitting, and the THERM (Therapeutic Hypothermia Early Risk Model for Mortality) Excel-based tool was created to enable clinicians to calculate individualised mortality risk.

Results

Among 385 infant-mother pairs, 46 (11.9%) infants died. Four predictors emerged as the best predictors of neonatal mortality: prelabour Caesarean section, use of adrenaline, base excess ≤ -22 mmol/L, and seizures during the first day of life. The apparent C-statistic was 0.903 (95% CI 0.860–0.948), with minimal optimism adjustment (0.885; 95% CI 0.827–0.936).

Conclusions

Four routinely collected clinical and biochemical variables were identified as predictors of neonatal mortality in infants undergoing therapeutic hypothermia. The THERM tool offers a practical resource for clinicians, enabling personalised risk assessment and aiding parental counselling during the first day of life.

The Association between Neonatal Jaundice and Autism Spectrum Disorder and Attention-Deficit/Hyperactivity Disorder by Age 14 years: Findings from the Millennium Cohort Study

Andrea Lee1,2, Sorcha Higgins1,2, David O'Driscoll1,3, Jill M. Mitchell2,4, Brian H. Walsh2,5, Gerard W. O'Keeffe6, Ali S. Khashan1,2, Gillian M. Maher1,2
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2. INFANT Research Centre, University College Cork, Cork, Ireland.
3. Specialist Neurodevelopmental ADHD Pathway (SNAP), Cork Kerry Mental Health Service, Cork, Ireland.
4. Department of Obstetrics and Gynaecology, University College Cork, Cork, Ireland.
5. Department of Neonatology, Cork University Maternity Hospital, Cork, Ireland.
6. Department of Anatomy and Neuroscience, University College Cork, Cork, Ireland.

Background: While previous evidence suggests an association between neonatal jaundice and neurodevelopmental disorders, results are inconsistent and limited. We aimed to examine the association between neonatal jaundice and autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD) in offspring by age 14 years.

Methods: We used data from the Millennium Cohort Study, a nationally representative longitudinal study of children born in the UK. Data on neonatal jaundice requiring treatment and potential confounders were maternal-reported and collected at 9-months postpartum. Data on ASD and ADHD were based on maternal-reported doctor diagnoses. A diagnosis of ASD or ADHD was assumed if parents reported ASD or ADHD at age 5, 7, 11 or 14 years. Crude and adjusted logistic regression examined neonatal jaundice and ASD and ADHD relationship, adjusting for several socioeconomic, maternal and lifestyle factors.

Results: A total of 18,294 singleton babies were included at baseline. Of these, 1,254 (6.9%) experienced neonatal jaundice, and there were 575 (3.7%) cases of ASD and 497 (3.2%) cases of ADHD by age 14 years. Results were consistent across all crude and adjusted models, while the fully adjusted odds ratio for the association between neonatal jaundice and ASD was 1.43 (95% CI 1.09, 1.89) and 1.26 (95% CI 0.92, 1.74) for ADHD.

Conclusion: Neonatal jaundice was associated with an increased likelihood of ASD by age 14 years, and while the association between neonatal jaundice and ADHD was not statistically significant, an association cannot be ruled out. Future research should examine the potential biological mechanisms mediating this association.

Session 2: Latest Advances

Co-Designing a Multinational Logic Model to Support Palliative Care in Advanced Dementia: The In-Touch Project

Suzanne Timmons (2), Elaine Lehane (1), Noeleen Brady (1), Irene Hartigan (1), Catherine Walshe (3), Kevin Brazil (4), Nancy Preston (3), Jenny van der Steen (5), Martin Loucka (6), Silvia Gonella (7), Paola di Giulio (7), Sandra Marins Pereira (8), Sharon Kaasleinen (9), Cathy Payne (10), Nicola Cornally (1)
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5. Radboud University Medical Centre, The Netherlands
6. 3rd Faculty of Medicine, Charles University, Czechia
7. Department of Public Health and Pediatric Sciences, University of Turin, Italy
8. The University of the Azores, Portugal
9. Department of Family Medicine, McMaster University, Canada

The In-Touch project aims to transform palliative care for people with advanced dementia in nursing homes by promoting a psychosocial, person-centred approach to care. In-Touch brings together two established interventions: Namaste Care, which enhances daily in the moment care, and the Family Carer Decision Support tool, which facilitates family participation in planning for future care needs. The In-Touch Logic Model provides a comprehensive framework that clarifies the project's main elements, the processes that drive change, strategies for implementation, and the outcomes it aims to achieve.

The development of the Logic Model was established following the Wisconsin Logic Model framework and drew from three main sources: (1) A thorough review of both theoretical and practical literature provided the initial structure and helped identify key assumptions, change mechanisms, and external influences. (2) Complementary input from an international team of 13 researchers across 10 countries, completed via a detailed online survey to gain further insights to the programme's resources, activities, and intended results. (3) A focus group with care partners from several countries gaining practical insights, and real-life perspectives of everyday care for people with advanced dementia.

Feedback from both researchers and care partners resulted in a refined logic model. The final version sets out six core intervention components, eight guiding assumptions, and five strategies for implementation. This collaborative and iterative process demonstrates the value of involving diverse stakeholders early on, ensuring the intervention is robust, adaptable, and responsive to the needs of individuals with advanced dementia and those who care for them.

Refining the Choosing Health Eating for Infant Health intervention and implementation strategy: Re-CHErIsH

Eibhlín Looney (1), Moira Duffy (1), Dimity Dutch (1), Helen Ahern Galvin (2), Molly Byrne (3), Rebecca Golley (4), Catherine Hayes (5), Tony Heffernan (6), Aisling Jennings (7), Brittany Johnson (4), Patricia Kearney (1), Colette Kelly (8), Patricia Leahy-Warren (9), Marian McBride (10), Sheena McHugh (1), Kate O'Neill (1), Sarah Redsell (11), Anna Lene Seidler (12), Elaine Toomey (13), Karen Matvienko-Sikar (1)
1. School of Public Health, University College Cork, Cork, Ireland
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5. Public Health and Primary Care, School of Medicine, Trinity College Dublin, Dublin, Ireland
6. Mallow Primary Healthcare Centre, Cork, Ireland
7. Department of General Practice, University College Cork, Cork, Ireland
8. School of Health Sciences, University of Galway, Galway, Ireland
9. School of Nursing and Midwifery, University College Cork, Cork, Ireland.
10. Health & Wellbeing, Strategy & Research, Healthcare Strategy, Health Service Executive, Dublin, Ireland
11. School of Health Sciences, University of Nottingham, Nottingham, England, UK
12. Department of Child and Adolescent Psychiatry, University Medical Centre Rostock, Rostock, Germany
13. School of Nursing and Midwifery/Centre for Health Evaluation, Methodology Research and Evidence Synthesis, University of Galway, Galway, Ireland

Background. The Choosing Healthy Eating for Infant Health (CHErIsH) intervention was developed to support healthy infant feeding and prevent childhood obesity. The intervention included brief, consistent, verbal messages delivered by healthcare professionals (HCPs) at primary-care childhood vaccination visits. A feasibility study identified areas for refinement of intervention and trial processes. This study identified and addressed feasibility and implementation issues in the CHErIsH recruitment processes and intervention delivery.

Methods. A multi-phase, mixed-methods approach was employed. Phase 1: the multidisciplinary team developed potential refinements to CHErIsH intervention delivery and trial processes. Phase 2: an online survey informed by the Theoretical Framework of Acceptability, was conducted to evaluate parents/caregiver attitudes about proposed refinements. Phase 3: interviews conducted with HCPs (e.g., lactation consultants, midwives) to ensure that parent/caregiver favoured refinements are feasible in practice.

Results. Phase 1 potential refinements involve including other HCPs (e.g., public health nurses (PHNs)), and increasing frequency and timing of intervention delivery. In Phase 2, 95 parents/caregivers indicated that including PHNs in intervention delivery, incorporating additional intervention delivery timepoints, online intervention delivery, antenatal recruitment, and updated recruitment processes were feasible and acceptable. Preliminary findings from seven interviews with HCPs indicate that including PHNs in intervention delivery, and additional intervention delivery timepoints are acceptable and feasible. Further interviews are scheduled and analysis of HCP data is ongoing.

Conclusions. Refining and adapting the CHErIsH intervention in ways which are acceptable and feasible to HCPs and parents/caregivers is key to maximising the likelihood of successful future implementation and evaluation of the CHErIsH intervention.

Behaviour change for Parkinson's disease: A randomised controlled feasibility study to promote physical activity and exercise adherence among people with Parkinson's disease.

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Objective: Exercise is known to reduce fall risk and frailty in Parkinson's disease, but motor and non-motor symptoms hinder adherence. This study aimed to feasibility test an exercise intervention with additional behaviour change techniques, examining recruitment, intervention procedures, and responsiveness of measures. Methods: A mixed-methods parallel-arm, single-blinded, randomized feasibility study. Participants (Hoehn and Yahr 1-3) were randomly allocated to intervention or control groups. Both received 12 weeks of education, supervised exercise, and home exercises. The intervention group received additional behavior change techniques to enhance adherence. Enrolment, attendance, adherence, and adverse events were recorded. Outcomes included physical activity, balance, falls, strength, and self-efficacy. Surveys and interviews explored acceptability. Results: Twenty-six people were screened; sixteen randomized, fourteen completed. Exercise class attendance in both groups was high. Adherence to home exercises was higher in the intervention (70% vs 63%). No serious adverse events. Time resources were acceptable. Physical activity and aerobic endurance reached minimally important differences. Interviews indicated participants enjoyed the group dynamic and gained skills. Feedback will improve acceptability. Conclusion: The intervention is feasible and well-accepted. While this feasibility study was not designed to measure frailty, sarcopenia, or fall risk directly, enhancing exercise adherence through behaviour change techniques may represent a promising strategy to address these outcomes in future trials. Tailoring interventions to individual preferences could further support long-term engagement in exercise, which is a known protective factor against frailty, fall risk, and sarcopenia physical decline in PwPD. Trial registration: The study is registered on ClinicalTrials.gov (NCT06192628). Registered 5th January 2024.

A mixed methods study exploring general dental practitioners' views and experiences of antimicrobial use and stewardship in Ireland.

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Background:
Antimicrobial prescribing in dentistry contributes to approximately 10% of overall antibiotic prescribing in primary care which is significant (1). There is an opportunity to enhance antimicrobial stewardship (AMS) in dentistry practice in Ireland to address this. In order to understand the factors influencing antimicrobial prescribing by dentists, their views and experiences must be explored.

Objective:
To conduct a mixed methods study to explore general dental practitioner's views and experiences regarding antimicrobial use and antimicrobial resistance (AMR).

Method:
An explanatory sequential mixed methods study was conducted. First, a survey exploring dental antimicrobial prescribing and views on antimicrobial prescribing and AMR was emailed to Irish Dental Association members in September 2024. The survey findings were analysed descriptively. The findings helped to refine the topic guide of the subsequent qualitative, semi-structured interviews conducted with general dental practitioners in November/December 2024. The verbatim interview transcripts were analysed by thematic analysis, (Braun and Clarke) and then mapped to the Theoretical Domains Framework (2,3). Ethics approval was obtained and all participants provided informed consent.

Results:
A total of 79 survey responses (62% female) were obtained and 12 interviews (six female) were conducted. The survey found that 45 (57%) dentists referred to the national health service antibiotic prescribing guidelines. Many dentists felt antibiotics are overprescribed in dentistry (61/78, 78.2% agree/strongly agree) and 59 (74.7%) agree/strongly that patients often expect to be prescribed an antibiotic. The results found that 41% (31/77) of respondents reported never calculating a weight-based antibiotic dose for a child. The main domains reported were knowledge, environmental context and resources, memory, attention and decision-making, beliefs about consequences, beliefs about capabilities, social influence and social/professional role. Dentists reported the pressure from patients to prescribe antibiotics and also the lack of time to review and intervene on patients with infection. 'Just in case' antibiotic prescribing was noted in the survey and interview findings. Dentists interviewed noted the challenge when making decisions for infections not responding to the initial course of antibiotics, and communicating with patients where English is not their first language. Challenges in dental interventions, or antibiotic compliance, in children or those with special needs were also noted as impacting on decisions. Many highlighted the importance of continuing professional development (CPD) and audits to improve antimicrobial prescribing practices.

Conclusion:
This study identified important social and contextual factors in general dental practice which influence the prescribing of antimicrobials. To support the development of AMS in dental practice it is important to engage with dentists to ensure initiatives are tailored to their setting. CPD for dentists, patient education and surveillance of antibiotic prescribing in dental practice are recommended.

Session 2: Elevator Pitches

Climate conscious care – a pathway to more sustainable oncology practice

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Background:
As an international climate crisis accelerates, it must be acknowledged that healthcare including oncology care, accounts for over 5% of all emissions worldwide. In turn, global warming, pollution and climate-related disasters have a direct negative impact on oncology care delivery and patient outcomes. Healthcare practitioners, as global citizens dedicated to patient care, have an inherent imperative to deliver climate conscious care.

Methods:
Evidence-based alterations to oncology practice that reduce climate impact of care were identified in the extant literature. All active National Cancer Control Programme (NCCP) systemic anticancer therapy (SACT) protocols were reviewed for identified intervention touchpoints. A sustainability matrix for inclusion into national protocols and an intervention infographic were developed to promote action points for intervention within day-to-day clinical practice. A proposed business plan was developed to for Spark Impact Innovation funding to effectively and cohesively implement these action points and assess this climate impact reduction plan.

Results:
N=333 NCCP protocols were reviewed, with over 1200 opportunities identified to change practice and reduce the climate toxicity of care. Infographic developed flagging potential intervention points encompassable into day-to-day oncology practice, and available in multiple different European Languages to promote international dissemination. Spark Impact Innovation funding approved to implement climate impact reduction plan in CUH Chemotherapy Day Ward and Radiotherapy Department, with output plan to develop a nationally implementable sustainability tool.

Conclusion:
A global imperative exists to reduce the climate impact of cancer care to deliver optimal patient outcomes. Evidenced-based approaches to this exist, with ongoing efforts to optimise implementation.

Identifying Systematic Leverage Points to Minimise Food Related Inequalities in the South Side of Cork City, Ireland.

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Background: In Ireland, there is a large gap in life expectancy between the most and least deprived areas, and a higher prevalence of diet-related diseases in socially disadvantaged groups. One of the mediating factors between socio-economic insecurity and increased disease risk is food-related inequalities. Individuals from socio-economically disadvantaged backgrounds are more likely to be exposed to unhealthy food environments, resulting in limited access to healthy foods and an increased risk of diet-related diseases.

Methods: Three group model-building sessions were conducted with community members and professionals to determine the factors, including drivers and barriers to healthy dietary behaviours, for people living in socio-economic insecurity. A causal loop diagram was created, alongside connections and loops between factors, which was used to identify systematic leverage points and policy actions for change by the participants that would support healthier eating patterns.

Results: Barriers to healthy eating included: poor public transport, time constraints, prioritization of other necessities, high cost of food, lack of cooking facilities, substandard accommodations, widespread availability of ultra-processed foods, lack of access to farmers markets, stigma around food-poverty, mental health difficulties, lack of food education, marketing strategies, and cultural norms. Leverage and action points included educational programmes in schools, changing loyalty schemes in supermarkets, banning advertising and promotion of unhealthy foods, improving community spaces, and zoning laws for shops near schools.

Conclusion: This research highlights the importance of improving food environments for those living in socio-economic insecurity and will be used to inform actions taken by the Cork Food Policy Council.

Retrospective Service Evaluation of the First Year of Service of Ireland's First Offsite Early Pregnancy Unit

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Background: Early Pregnancy Units (EPU) are a dedicated service for investigation and management of early pregnancy complications. In August 2023 the Cork University Maternity Hospital (CUMH) relocated its EPU to an offsite location 4km from the hospital, creating the first offsite EPU in Ireland. A challenge of an offsite EPU is the safe transfer of patients to hospital in emergency situations. The aim of this study was to review patient transfers during the first year of service and evaluate the safety of the service.

Methods: Retrospective review of all EPU transfers from the offsite EPU to CUMH from August 28th 2023 to August 31st 2024, inclusive. Variables of interest included anonymised patient demographics, referral data, transfer data, and patient outcomes, collected from electronic medical records and EPU logbook.

Results: In its first year of service the offsite EPU reviewed 4860 individuals of whom 54 (1.1%) required transfer to CUMH. The mean rate of transfers per month was 4.2, with 85.2% self-transferring, 13% transferring by ambulance, and 1.9% by hospital car. Most individuals (88.9%) were transferred due to high risk ultrasound findings while the remainder (11.1%) were transferred due to clinical symptoms. Of those transferred, 68.5% went directly to the gynaecology ward while 31.5% required review in the emergency department. Mean duration of admission was 1.3 days and no maternal morbidity occurred.

Conclusion: Irelands first offsite EPU had a low incidence of hospital transfers during its first year of service. Most transfers were of stable, non-emergent patients, with no subsequent adverse outcomes.

Factors Influencing Mental Health Sevice Delivery during Public Health Emergencies. A Scoping Review.

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Introduction: Public health emergencies (PHEs), including pandemics, natural disasters, and armed conflicts, create profound disruptions to healthcare systems worldwide, particularly affecting the continuity and effectiveness of mental health service delivery. In these contexts, mental health systems must demonstrate both resilience and adaptability, especially when traditional face-to-face services are constrained. This scoping review aimed to identify the key factors shaping the delivery of mental health services during PHEs and to synthesise the evidence on effective and potentially harmful interventions.

Methods: We conducted a scoping review guided by the Arksey and O'Malley methodology, further enhanced by Westphaln's adaptations to integrate mixed-methods approaches. A comprehensive search strategy was applied across six academic databases and three grey literature sources. Data were analysed using content analysis and mapped against the Four Ss framework (staff, stuff, space, systems) and the WHO Strategic Framework for Emergency Preparedness.

Results: Our findings reveal a highly complex landscape of mental health service delivery during PHEs. Psychological First Aid (PFA) and stepped Mental Health and Psychosocial Support (MHPSS) approaches emerged as effective strategies, whereas interventions such as psychological debriefing showed potential for harm. Reporting on cultural adaptation was limited and inconsistent. Digital interventions were predominantly used during pandemics, with lower utilisation in other emergency contexts, highlighting differing levels of feasibility and acceptability. Key systemic challenges included persistent underfunding, workforce limitations, fragmented service coordination, and insufficient mechanisms for monitoring and evaluation.

Conclusion: This review underscores the urgent need to build resilient mental health systems through enhanced integration in emergency preparedness, investment in culturally competent care, flexible hybrid delivery models, and strengthened intersectoral collaboration.

Session 3: Elevator Pitches

Cardiovascular Disease Risk Assessment in Patients with Rheumatoid Arthritis: A Retrospective Chart Review of Routine Care

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Introduction: Patients with rheumatoid arthritis (RA) have an elevated risk of developing cardiovascular disease (CVD). Despite European guidelines recommending routine CVD risk assessment, implementation in clinical practice is challenging. The objectives of this review were to determine if patients attending an Irish tertiary rheumatology centre received CVD risk assessments in line with European guidelines and assess the extent of CVD risk factor screening over five years of routine rheumatology care.

Methods: A retrospective chart review was conducted for patients newly diagnosed with RA in 2018, with five-year follow-up. Data were extracted to determine if CVD risk assessments were performed, and where absent, risk was retrospectively calculated. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement checklist for cohort studies was used to guide the reporting of this study.

Results: Among 21 patients, no documented CVD risk assessments were identified. CVD risk factor screening was consistently insufficient. There was a lack of documented clinical data necessary to conduct a CVD risk assessment on more than half of patients at study entry, and one quarter of patients at five-year follow up. Of those with data available (n=10), retrospective calculations showed 80% had an undetected moderate or higher CVD risk at diagnosis. There was no documented referral to primary care for CVD risk assessment.

Conclusion: Implementation of CVD risk management guidelines in the routine care of patients with RA is challenging. The interpretation and operationalisation of guideline recommendations by rheumatology healthcare professionals in relation to implementation barriers needs to be explored.

Healthcare professionals' experiences of caring for acute hospital inpatients with difficulty swallowing solid oral dose forms: a qualitative interview study.

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Introduction
Healthcare professionals (HCPs) care for patients, some of whom have difficulty swallowing medicines, thus leading to challenges with medication administration. Solid oral dosage forms (SODF) e.g. tablets, may need to be substituted or modified, and this can increase the complexity of medication management.

Aim
To establish the views of HCPs regarding the challenges encountered when caring for hospital patients with difficulty swallowing SODF.

Methods
Semi-structured, in-person interviews were conducted in June and July 2024 with nurses, doctors, pharmacists, speech & language therapists and dietitians in University Hospital Limerick using convenience and purposive sampling. All interviews were recorded, transcribed verbatim, and anonymised. Analysis comprised of initial open coding of transcripts with generation of non-hierarchical codes and subsequent categorisation into themes. Ethical approval was obtained.

Results
Thirteen HCPs were interviewed (92% female). Five preliminary themes emerged: (i) clinical identification - challenges in initial identification of patients with difficulty swallowing SODFs; (ii) HCPs knowledge and confidence - lack of HCP knowledge and confidence in navigating these challenges; (iii)sub-optimal adherence – ability to adhere to regimen can be negatively impacted; (iv) Interprofessional relationships – a lack of cohesive multidisciplinary team, despite it being a key requirement; (v) lack of timely access to appropriate supports – such as electronic decision support, expert advice, education and information.

Conclusion
Initial analysis highlights the specific challenges of medicines management encountered by HCPs when caring for this patient group. Future work will map the findings to the Theoretical Domains Framework, informing the development of a behavioural change intervention to address these issues.

Investigating the Potential Prescribing Cascade of Cardiac Alpha-1-Blockers Leading to Vestibular Sedative Prescriptions Among Older Community-Dwelling Adults in Ireland

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Introduction
A prescribing cascade occurs when a new drug is prescribed to treat an adverse drug reaction (ADR) caused by another drug. An unintentional cascade may occur if cardiac alpha-1-blocker-related dizziness is treated with a vestibular sedative.

Aim: To characterize the prevalence of and patient factors associated with the cardiac alpha-1-blocker to vestibular sedative prescribing cascade in older community-dwelling adults in Ireland.

Methods
A retrospective cohort study with a case-only design used prescription sequence symmetry analysis to examine incident users of both cardiac alpha-1-blockers and vestibular sedatives aged ≥ 65 years. Anonymized prescription data (2017–2020) was extracted from the Irish Health Service Executive Primary Care Reimbursement Service. A 365-day observation window was used with stratified analyses. Crude and adjusted sequence ratios (aSR) with 95% confidence intervals (CI) were calculated.

Results
A significant positive association was identified for the cardiac alpha-1-blocker to vestibular sedative cascade (aSR, 1.54; CI, 1.27 – 1.86). Overall, 250 participants commenced a vestibular sedative in the 365-day period following cardiac alpha-1-blocker initiation representing a prevalence of 2.95% (N=8,486)). The aSR was higher among men (aSR, 2.07; CI, 1.51 – 2.85), those aged 65-69 years (aSR, 1.78; CI, 1.20 – 2.68), and for doxazosin (aSR, 1.56; CI, 1.29 – 1.89).

Conclusion
A potential prescribing cascade among older adults was identified, where cardiac alpha-1-blocker-induced dizziness may lead to vestibular sedative prescription. Older men, those aged 65–69 years, and doxazosin users faced higher cascade risk. The findings highlight the importance of considering ADRs in older patients presenting with dizziness in primary care.

Poster Presentations

Food, Microbiome & Health

Tryptophan-metabolizing gut microbes are associated with anxiolytic and neurogenic effects of voluntary exercise in rats

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Animal studies have shown that the anxiolytic effect of exercise is associated with an increase in adult hippocampal neurogenesis (AHN). The gut microbiota is emerging as a key player in regulating the effects of exercise on mood and AHN.

To determine changes in gut microbiota associated with exercise-mediated modulation of AHN and anxiety, male Sprague Dawley rats were pair-housed in standard housing or with unlimited access to running wheels for 8 weeks. The novelty-suppressed feeding test was used to assess anxiety-like behaviours. AHN was measured by immunofluorescence of hippocampal doublecortin-positive (DCX+) cells. 16S rRNA gene amplicon sequencing of faecal pellets was carried out to determine exercise-induced changes in the gut microbiome.

The latency to eat was reduced in rats who had access to running wheels compared to sedentary controls ($p<0.01$), indicative of an anxiolytic effect of exercise. The number of DCX+ cells was increased in the hippocampus of rats with access to running wheels ($p<0.05$), indicative of exercise-induced neurogenesis. 16S rRNA gene amplicon sequencing analysis revealed exercise-induced differences in the relative abundance of bacteria genera involved in tryptophan metabolism. Analysis of bacterial functional modules revealed that exercise was associated with increased tryptophan synthesis.

This study showed that exercise decreased anxiety and bacterial genera involved in tryptophan metabolism, coupled with an increase in AHN. Given that microbial tryptophan metabolism has been shown to regulate AHN, our results support the role of exercise in the regulation of gut microbiota necessary for anxiety and AHN regulation.

Public perception of food policies for transitioning to healthy and sustainable food systems in Europe.

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Background: Government policies have the potential to drive a transition from the current food systems-often detrimental to both the environment and human health- towards a win-win-win model that supports sustainable, healthy, and equitable outcomes. The FEAST project aimed to investigate European citizens' perceptions of and support for ten food policies.

Methods: A cross-sectional online survey was conducted with 24,245 participants across 27 European countries and the UK. Data were weighted to ensure representativeness. Descriptive statistics with 95% confidence intervals were used to present support levels, and ordinal regression analyses examined associations with sociodemographic covariates.

Results: Support varied across policies. The highest level of support was for a 0% VAT on fruits and vegetables (79.0%;(77.8–79.4). Other policies receiving relatively high support included a ban on sales of energy drinks to minors (62.3%;(61.3–63.3) and environmental sustainability labels on packaged foods (51.5%;(50.5–52.5). Policies with lower levels of support included; bans on cartoon characters on packaging, (45.18%;(44.19-46.16); outdoor advertisements of unhealthy foods, (39.16%;(38.19-40.13); social media marketing of unhealthy foods, (36.95%;(36.00-37.92); increased taxes for added sugar products, (36.56%;(35.61-37.58); bans at supermarket checkouts, (35.71%;(34.77-36.67); bans on price discounts, (34.79%;(33.85–35.75), and taxes on red meat production (21.70%;(20.88-22.54). Higher support was significantly associated ($p < 0.001$) with being employed full-time and having tertiary education.

Conclusion: These findings offer valuable insights to inform the design, promotion, and implementation of food policies across Europe. Understanding public support is crucial to enhancing the feasibility and effectiveness of strategies aimed at promoting healthier and more sustainable diets.

The dietary emulsifier polysorbate-80 induces lipid accumulation and cell death via ferroptosis in intestinal epithelial cells

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The microbiota and westernised diet are suggested to contribute to the development of several chronic conditions including obesity, inflammatory bowel disease (IBD), metabolic syndrome. Certain dietary additives e.g. polysorbate 80 (p80) and carboxymethyl cellulose (CMC), commonly found in ultra-processed food, have been implicated in the deterioration of these conditions in experimental models by negatively impacting the intestinal microbiota and the subsequent host response. However, mechanistic understanding of these additives on intestinal epithelial cells (IECs) are largely unknown. Preliminary studies revealed that p80, but not CMC, was toxic to human IECs. This study aimed to identify cell death mechanism(s) regulating p80-induced death in IECs. Using small molecule inhibitors targeting the cell death pathways of apoptosis, necrosis, necroptosis, autophagy and ferroptosis, we show that p80 causes an early structural damage on the mitochondria, an increase in reactive oxygen species (ROS), iron accumulation and lipid peroxidation resulting in an increased ferroptotic cell death over time. These structural findings were supported by alterations in ferroptosis markers such as FTH1, NRF2 and NCO2, by western blotting in p80-treated cells, followed by their reversion upon ferroptosis inhibitor-treatment. p80 injected directly into ligated small intestinal loops in sedated mice showed increased lipid peroxidation (MDA-levels), which was significantly reduced upon ferroptosis-inhibition. In conclusion, our data contributes to the understanding of how a modern lifestyle factor, dietary emulsifiers found in ultra processed food, can affect intestinal epithelial cells health status and contribute to the increased incidence of chronic intestinal conditions such as IBD and metabolic syndrome.

The Lived Experience of Suicidal Thoughts and Behaviours in Adults with Cancer

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Background:
Individuals diagnosed with cancer are at elevated risk of suicide, yet the lived experience of suicidal ideation and self-harm within this population is under-researched. While quantitative research has identified contributing factors such as cancer type, stage, sex, age, psychological distress, pain, and hopelessness, less has been explored from the individuals' perspective on their experiences of their health and well-being.

Aim:
This study aims to explore the lived experiences of adults with cancer who have experienced suicidal thoughts or self-harm, with a focus on how their mental and physical health was before and after their cancer diagnosis.

Methods:
This is a qualitative hermeneutic phenomenological study grounded in an interpretivist epistemology and experiential ontology. Purposive sampling will be used to recruit 15–20 adults (18+) with a current cancer diagnosis and a recent (within 3 months) episode of suicidal ideation or self-harm. Participants will be identified by mental health staff in Cork University Hospital and the Mercy Hospital. Data will be collected through in-depth semi-structured interviews, either in person or virtually. The semi-structured interviews will be led by a topic guide that will explore physical and mental health before and after cancer, and experiences of suicidal thoughts and behaviours.

Conclusion:
This study will provide nuanced insights into the experience of a diagnosis of cancer and the influence of the individual context in which it occurs. This knowledge will inform clinical practice, responses, and future research.

Early experience with Laparoscopic Capsule Monarch feeding tubes, as a long-term jejunostomy, in patients with Oesophago-Gastric Cancer compared with conventional methods

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Introduction:
The 9.6Fr Vygon Needle Catheter Jejunostomy (NCJ) has been the standard laparoscopic jejunostomy technique at Mercy University Hospital for oesophago-gastric (OG) cancer patients. Although effective for short-term enteral nutrition, its dependence on skin sutures and its lack of internal bolster, is associated with significant complications in long-term use, including tube dislodgement, tube occlusion, and suture-site infections, often requiring repeated intervention.

Aim:
This study aimed to assess the safety, feasibility, and complication profile of an alternative feeding tube – 12Fr AMT Capsule Monarch gastrostomy - featuring an internal bolster and sutureless external T-bar fixation, when repurposed for long-term jejunostomy feeding.

Methods:
Clinical outcomes for patients receiving Monarch tubes (July 2024–January 2025) were prospectively collected and compared with retrospectively reviewed outcomes for Vygon tubes (January–June 2024) from patient healthcare records. All patients had oesophago-gastric malignancies requiring prolonged enteral nutrition support.

Results:
Nineteen patients were included: ten received Monarch tubes and nine received Vygon tubes. Indications included neoadjuvant or definitive chemoradiotherapy, palliative care, and malnutrition following total gastrectomy. No perioperative complications were observed in either group. The Monarch group experienced fewer catheter-related complications, with no tube dislodgements or occlusions, and demonstrated reduced need for outpatient interventions and emergency department presentations, compared to the Vygon cohort.

Conclusion:
Laparoscopic insertion of the AMT Capsule Monarch tube offers a safe, effective and innovative alternative for long-term jejunostomy feeding. Its favourable complication profile supports its adoption as the preferred conduit for prolonged enteral nutrition in patients with oesophago-gastric cancer.

Barriers and Facilitators to Support Healthier and Sustainable Food Environments in Cork City

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Unhealthy dietary patterns are a major risk factor for non-communicable diseases and premature mortality. Despite ongoing policy efforts, socioeconomic inequalities and climate challenges continue to drive malnutrition in various forms. Building a sustainable food system is essential to ensure food security and adequate nutrition for all.

A qualitative study was conducted to identify barriers and facilitators to the development and implementation of policies supporting healthier and more sustainable food environments in Cork City, Ireland. Data were collected through semi-structured interviews with eight key stakeholders from public health, local government, and community-based organizations. Observed barriers include fragmented governance, which hinders coordinated efforts. Socioeconomic disparities especially in disadvantaged communities, along with cultural resistance to dietary changes and limited public awareness regarding the interconnectedness of food, health, and sustainability, present substantial challenges. At the policy level, limited resources, food industry influence, national policies, and EU trade regulations restrict local food sovereignty.

Facilitating factors included the Cork Food Policy Council's efforts to foster collaboration among local authorities, civil society, and producers. Community gardens, educational initiatives, and school-based programs focused on nutrition and food growing emerged as promising strategies to promote early behavioral change. Stakeholders emphasized the need for stronger political will, cross-sectoral collaboration, and long-term investment in nutrition education.

The study highlighted the critical importance of local leadership, community engagement, and cross-governmental coordination in achieving sustainable food system transformation. The findings have been shared with local stakeholders and have contributed to the Cork Food Policy Council vision for a Food Strategy for Cork 2025-2030.

Must Be Love: Microbial Modulation Of Oxytocin By The Gut Microbiota In Hypothalamic Cells

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Oxytocin is a neuropeptide primarily synthesized in the hypothalamus. It contributes to the regulation of peripheral and central physiological processes. Central oxytocin modulates social behaviour and emotional processing. Increasing evidence suggests that abnormal oxytocin signalling plays a role in neurodevelopmental disorders, such as autism spectrum disorder (ASD), where reduced oxytocin expression has been reported in both preclinical and clinical studies. Interestingly, it has been shown that microbiome-targeting strategies, including the use of putative probiotics, can normalise oxytocin expression and ameliorate ASD-like behaviours in animal models. However, what the underlying mechanisms are is currently unknown. Taking all of these into account, the goal of the study is to investigate how microbial metabolites modulate hypothalamic oxytocin expression and signalling.

To identify the mechanism by which microbiome-targeting strategies might modulate oxytocin expression, we first mined the genomes of putative probiotics including Limosilactobacillus reuteri MM4-1A, Lactobacillus plantarum PS128 and Blautia stercoris MRx0006 with demonstrated efficacy to increase oxytocin expression in periclinal ASD models using in-silico analysis. Using Gut-brain and Gut-metabolic modules, we identified changes in the glutamine/glutamate synthesis genes as putative targets. We will then generate supernatants from bacteria with mutations in these pathways to investigate their effects on oxytocin expression in murine immortalised hypothalamic mHypoA2/28 cells.

This research will contribute to a better understanding on the mechanisms underlying oxytocin expression and signalling in the hypothalamus, highlighting the role of the gut microbiota as a potential therapeutic approach.

Sex-specific effects of gut microbial depletion on adult hippocampal neurogenesis and spatial and contextual memory

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Growing evidence links gut microbiota to brain function with most studies done in males. However, limited research has examined whether gut microbial depletion affects adult hippocampal neurogenesis (AHN) and associated behaviours, particularly in females. Therefore, this study investigated the effects of antibiotic-induced gut microbiota depletion on cognitive, anxiety- and antidepressant-like behaviours, and AHN in male and female rats.

Male and female Sprague Dawley rats (PND70) received antibiotic-supplemented (ampicillin, vancomycin, imipenem) drinking water or normal drinking water for the experiment duration. After 6 weeks of antibiotic administration, rats underwent a battery of behavioural tests. Doublecortin-positive cells in the hippocampus were counted as a measure of AHN. Data were analysed using student's T-test.

In males, antibiotics decreased AHN in the dorsal hippocampus, impaired contextual memory in the novel object in context test, induced a mild anxiogenic effect in the open-field test, improved spatial memory in the Morris water maze (MWM) and had no effect in the forced swim test or on locomotor activity. Conversely, in females, antibiotics did not impact AHN, contextual memory, or anxiety behaviour. In females, antibiotics induced a trend ($p=0.07$) of reduced immobility in the forced swim test, and a mild spatial memory impairment in the MWM but this effect may have been confounded by antibiotic-induced reductions in locomotor activity.

These findings suggest sex-specific effects of gut microbiota depletion on AHN and hippocampus- associated behaviours and highlight the importance of including biological sex as an experimental variable. Future studies are required to determine the mechanisms underlying these sex differences.

Brown seaweed supplementation to patients with prediabetes modulates inflammatory responses in intestinal epithelial cells

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Type 2 diabetes mellitus (T2DM) is preventable but typically irreversible in most cases. However, exceptions exist, as evidence shows individuals achieve remission through lifestyle changes, especially in early diagnosis. The gut microbiota plays a key role in metabolic disorders by promoting chronic inflammation, insulin resistance, and increased energy intake. Brown seaweeds, rich in bioactive polysaccharides and phenolic compounds, have antioxidant and anti-inflammatory properties and may beneficially modulate the gut microbiota. This study aimed to examine the effect of brown seaweed in a double-blind, randomized, parallel-design pilot study in prediabetic individuals. Fecal samples were collected over 12 weeks (W0, W6, W12) of seaweed or placebo (maltodextrin) supplementation to prediabetic and untreated control individuals. Fecal water (FW) was extracted and tested on HCT116-Dual® reporter cells for effects on viability and inflammation. FW treatment did not affect cell viability regardless of disease state or supplementation. FW from prediabetic individuals activated the NF-κB pathway similarly to controls at weeks 0 and 12, with some differences at week 6. Addition of IL1b, to induce an inflammatory environment, resulted in similar NFkb activation in all groups regardless of length of supplement consumption or disease state. In contrast, secretion of IL-1b induced IL-8 was reduced by FW from the seaweed treated prediabetic compared to placebo prediabetic group ($p>0.05$). Our findings indicate that changes in microbial composition due to seaweed supplementation to pre- diabetic can reduce epithelial inflammation. Further studies are ongoing to examine the microbiota and metabolite profiles upon seaweed supplementation in these patients.

Regional and sex-specific characterisation of the oxytocinergic system in the mouse gastrointestinal tract

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Oxytocin is a neuropeptide involved in the regulation of social behaviour, gastrointestinal (GI) function, and inflammation. While the body's primary source of oxytocin is the hypothalamus, oxytocin-producing neurons have also been identified in the enteric nervous system (ENS). This suggests that the GI tract may serve as a peripheral and targetable reservoir for oxytocin. However, to date, the distribution of oxytocin and its receptor has not been well characterised. Here, we aimed to map the expression of the GI oxytocinergic system along the length of the GI tract in male and female mice.

Epithelial scrapings from adult C57/BL6 mice were separated from the circular and longitudinal muscular layers to differentiate between enterocytic oxytocin production and oxytocin expression in the muscle/ENS. We quantified oxytocin and oxytocin receptor (OxtR) gene expression along the GI tract using RT-qPCR.

In the stomach, both oxytocin and OxtR were predominantly expressed in the fundus compared to the corpus. In the small intestine, oxytocin was enriched in the epithelial layer of the jejunum and ileum compared to the muscular layer. Additionally, significantly higher oxytocin expression was observed in females across the jejunum, ileum, and proximal colon. In contrast, OxtR expression was more abundant in the muscular layer in all the small intestine segments and proximal colon, with a 2-fold increased expression in the female jejunum.

These findings reveal a regional, layer, and sex-specific distribution of oxytocin within the gut. Our future work will explore potential microbial influences on GI oxytocin expression and its functional implications.

Gut Microbiome and Metabolome as Predictors of Therapeutic Response in Rheumatoid Arthritis and Psoriatic Arthritis

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Background
While targeted immune-therapies have transformed the management of rheumatoid arthritis (RA) and psoriatic arthritis (PsA), treatment responses remain suboptimal and unpredictable. Emerging evidence suggests the gut microbiome and metabolome may influence therapeutic efficacy. This study aims to address this gap by integrating clinical, dietary, microbial, and immunological data to identify biomarkers predictive of response.

Method
This prospective observational study aims to recruit 150 patients (75 RA, 75 PsA) with moderate-high disease activity initiating/switching biologic disease-modifying antirheumatic drugs or Janus kinase inhibitors at Cork University Hospital. Clinical disease activity and patient-reported outcomes are assessed at baseline and 12 weeks using validated tools (ACR20/50/70). Dietary intake is evaluated using a validated Food Frequency Questionnaire. Stool samples are collected for metagenomic sequencing; blood samples are analysed using flow cytometry to assess T-cell subsets, specifically regulatory-T cells and T-helper 17 cells.

Progress
To date, 58 patients have been recruited, with 46 (21 RA, 25 PsA) included in interim analysis. The PsA group was 60% male; RA group, 61.9% female. Mean ages were 53.4(PsA) and 62.7(RA) years with similar BMI and disease duration. All PsA participants completed follow-up with a 50% non-response rate; 19 of 21 RA participants completed follow-up, with a 25% non-response rate. Analysis is ongoing to evaluate the influence of diet, stool metagenomics and cellular analysis on response.

Conclusion
These interim findings highlight a significant unmet need for improved therapeutic response, particularly in PsA. This study exemplifies the values of Academic Health Science System by integrating clinical care and translational research to support precision medicine.

'I Knew Nothing About Parkinson's': Insights into Receiving a Diagnosis of Parkinson's Disease and the Impact of Self-Management, Self-Care, and Exercise Engagement, from People with Parkinson's and Family Members' Perspectives: Qualitative Study

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This paper draws on stories of receiving the diagnosis of Par-kinson's disease , which emerged from a broader narrative study exploring beliefs about exercise and challenges facing people with Parkinson's disease. Back-ground/Objectives: By interviewing people with Parkinson's disease (PwPD) and their family members, this paper aimed to gain insights into PwPD's expe-riences with diagnosis, its influence on exercise engagement, and access to services in Ireland. Methods: This study employed a qualitative research design, using purposeful and maximum variation sampling. PwPD (varying in age, sex, geographical setting, and disease severity) were recruited from urban physiotherapy services. Semi-structured interviews with 12 PwPD and a group interview with four family members were con-ducted between November 2022 and January 2023. The interviews were recorded, transcribed, and analysed using thematic analysis. Results: Four themes emerged: (1) firstly, there was disempowerment and emotional shock at diagnosis: PwPD expressed frustration with delays in diagnosis and with how language and empathy affected their ability to cope initially. (2) There was a lack of signposting and services access: a strong need exists for clear information on services and resources to prevent social disen-gagement. (3) In terms of exercise education and self-management support, PwPD lacked early exercise education and guidance, relying on self-education. (4) With regard to the emotional burden on family caregivers, family members manage care logistics and face emotional burdens, which they try to conceal. Conclusions: The delivery of a Par-kinson's diagnosis could be improved by recognising its psychosocial impact on PwPD and families. Providing clear information on services within weeks of diagnosis was considered crucial. Limited exercise education affected PwPD's ability to self-manage. Early physiotherapy access is strongly recommended to help delay functional decline and encourage an active lifestyle.

A Novel Adjunct Technique in Dealing with Penetrating Cardiac Injuries

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Penetrating chest injuries frequently constitutes an acute, life-threatening condition. This case report examines a 37-year-old individual who sustained self-inflicted penetrating injuries from a nail gun on two distinct occasions. Initially, the nail breached the left ventricle, resulting in perforations of the septum and mitral valve. This necessitated an emergency sternotomy to repair the left ventricular perforation, along with the mitral and septal perforations, utilising proline sutures. Five years later, a recurring self-inflicted nail gun injury necessitated an emergency thoracotomy. The left ventricular perforation was rectified via the innovative hot cross bun technique. In an emergency situation, this permitted minimal blood loss. This also facilitated the identification of ischaemic changes in the myocardium in a cases where pericardial adhesions following a prior sternotomy impaired the visualisation of coronary arteries. In summary, the unique hot cross bun approach facilitates little blood loss and the safe extraction of penetrating foreign bodies in emergency situations.

IGF1$^+$ Microglia Drive Diffuse Midline Glioma Proliferation: Identifying Therapeutic Vulnerabilities in the Developing Brainstem

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Diffuse midline glioma (DMG), H3K27M-mutant—formerly known as diffuse intrinsic pontine glioma (DIPG)—is a universally fatal paediatric brain tumour that arises in the pons during early childhood. Median survival remains under 12 months with standard radiotherapy. During this same developmental window, the pons undergoes a five-fold increase in volume, driven by tightly coordinated waves of cellular proliferation and myelination. This overlap suggests that paediatric brain tumours like DMG may hijack normal neurodevelopmental processes to initiate and sustain growth.

Microglia—the brain's resident immune cells—are essential regulators of both neurodevelopment and tumour progression. Given their dual roles, we hypothesised that specific microglial populations emerging during brainstem development may contribute to DMG pathogenesis.

To investigate this, we performed single-cell RNA sequencing on microglia isolated from postnatal day 2 mouse brainstem and identified eight distinct transcriptional subpopulations. One subset, marked by high CD11c and IGF1 expression, showed strong similarity to microglia found in human DMG tumours. Immunofluorescence analysis of patient tissue confirmed the presence of CD11c$^+$IGF1$^+$ microglia in the tumour microenvironment.

Functionally, FACS-isolated CD11c$^+$IGF1$^+$ microglia significantly enhanced proliferation of SF8628 DMG cells compared to canonical microglia, while conditioned media from CX3CR1-Igf1f/f microglia (lacking microglial IGF1) reduced tumour cell growth relative to wild-type controls, implicating IGF1 as a key driver.

We have identified a developmentally emergent CD11c$^+$IGF1$^+$ microglial population that promotes DMG growth via IGF1. We are now testing whether targeting or reprogramming this population can suppress tumour progression in two immunocompetent preclinical models of DIPG. These studies aim to uncover novel microglia-targeted therapies informed by the developmental origins of this devastating disease.

Retrospective review of community early medical abortion complications requiring review in secondary care.

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Introduction
The Health (Regulation of Termination of Pregnancy) Act 2018 was signed into Irish law on 21st December 2018. Under the Irish termination of pregnancy model of care, women may have early medical abortion (EMA) up to nine completed weeks of pregnancy (9 weeks + 6 days) with their primary healthcare provider. EMA is a safe procedure for which complications are rare however women may require referral to secondary care to facilitate prompt recognition and management of complications, reducing long- and short-term mortality.

Aims
Determine the incidence and type of complication following EMA requiring medical review in our unit.

Methods
Retrospective review of all women who attended our unit following an EMA between the 1st of January 2021 and 31st December 2024. Anonymised data pertaining to reason for presentation, symptoms and examination were recorded along with investigations, outcomes and complications.

Results
Annually 98.5% of terminations nationally are carried out before twelve completed weeks of pregnancy and 90% of these are EMA. Over the four-year period of our study approximately 2500 women resident in Cork underwent EMA and 352 subsequently presented to our unit. The most common concern was for an incomplete EMA (n=170) with 12.8% (n=45) requiring treatment for infection. The incidence of ongoing intrauterine pregnancy was 7.3% (n=26) with a median gestational age at that time of nine weeks. The rate of ectopic pregnancy was 4.8% (n=17).

Conclusion
The EMA model of care in Ireland is safe with a very few women experiencing complications requiring review in secondary care.

Restoration of Drug Sensitivity and Apoptosis to Drug-Resistant Oesophageal Cancer Cells by USP18 Knockdown in the Presence of IFN-α

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Oesophageal cancer is challenging to treat, often exhibiting resistance to current treatments (chemo-or radiotherapy). The five-year survival rate for patients is below 20% across Europe. Thus, new treatment approaches are urgently required.

The Autophagy group at CancerResearch @UCC has found differential expression of the ISGylation network in cells that respond differently to drug treatment. ISGylation is a mechanism similar to ubiquitination, where ISG15 is conjugated to targets via the sequential cooperation of E1, E2 and E3 enzymes. Ubiquitin Specific Peptidase 18 (USP18), an ISG15-specific enzyme, can remove ISG15, reversing this reaction. We are examining USP18's role in chemosensitivity in oesophageal cancer cells.

We have shown that siRNA-mediated knockdown (KD) of USP18, in the presence of IFN-α increases the sensitivity of KYSE450 and KYSE140 cell lines to the chemotherapeutic agents 5-fluorouracil (5-FU) or oxaliplatin. This chemosensitisation is associated with the induction of apoptosis in these "apoptosis incompetent" cell lines. In addition, USP18KD in the presence of IFN-α and 5-FU/oxaliplatin, upregulated autophagy as demonstrated by elevation of autophagosomes (Cyto-ID assay) and expression of the autophagy marker LC3II (western blot). Knockdown of USP18 in the presence of IFN-α significantly increased levels of ISG15 conjugates. We are conducting mass spectral analysis to identify and functionally categorise these ISGylated proteins.

These data identify USP18 as a regulator of two pathways that can influence drug sensitivity in oesophageal cancer cells. Ultimately, we aim to examine the mechanisms underpinning these effects and determine whether USP18 or a downstream mediator are targets for therapeutic benefit in oesophageal cancer.

Machine Learning as an Adjunctive Tool for Risk Stratification in Cardiovascular Surgery

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Background: Post-operative outcomes of cardiovascular surgery vary greatly among patients for a variety of reasons. While the specific reasons are often multifactorial and complex, certain machine learning methods are promising ways to both estimate mortality after surgery and elucidate important factors linked with mortality.

Study Design: Using the MIMIC-IV database, we identified 11,261 patients on the cardiovascular surgery unit. We estimated all-cause one-year mortality for each patient after their most recent operation. The dataset included patient demographics (including age, sex, and BMI), as well as the maximum and minimum common laboratory values measured prior to each surgery (including electrolytes, eGFR, and red cell distribution width).

Results: Of the models tested, logistic regression outperformed all other approaches with respect to accuracy ($p = 0.0075$ with respect to a two-tailed t-test with the next strongest model). The model had an accuracy, sensitivity, and specificity of 85.07%, 82.89%, 85.19% respectively. Furthermore, features weighted heavily by the model are consistent with known predictors of mortality in the literature.

Conclusion: Pre-operative laboratory values are effective predictors of all-cause one-year mortality post-cardiovascular surgery used in conjunction with machine learning. Renal function, red cell distribution width, leukocytosis, and erythrocyte indices appear to be important prognostic factors.

The short chain fatty acid butyrate inhibits the pro-tumorigenic functions of IL-36 in colorectal cancer

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Interleukin (IL)-36 cytokines, members of the IL-1 family, play a dual role in colorectal cancer (CRC). While IL-36R signalling in the tumour microenvironment enhances type 1 anti-tumour immunity, its activation on CRC cells promotes proliferation, migration, and invasion. In line with this paradox, we have found both IL-36 agonists and antagonists to show tumour-suppressive effects in murine CRC models. Therefore, identifying mechanisms that selectively inhibit the pro-tumorigenic functions of IL-36 without compromising its immune-activating properties is essential for therapeutic development.

Given emerging evidence of crosstalk between the gut microbiome and IL-36 signalling, we investigated the effects of microbial-derived metabolites on IL-36 function in CRC. Stimulation of human (HT29) and murine (CT26) colon cancer cell lines with IL-36β or IL-36γ enhanced proliferation and migration, while co-treatment with butyrate (1mM), a short-chain fatty acid produced by fibre-fermenting bacteria, significantly suppressed IL-36-induced tumourigenic behaviours and pro-inflammatory cytokine production. In contrast, deoxycholic acid (5mM), a secondary bile acid produced by gut bacteria, had no effect.

Mechanistically, butyrate inhibited IL-36-mediated phosphorylation of mTOR and ribosomal protein S6, key components of the mTORC1 pathway, without affecting p42/44 MAPK or NFκB. This effect was independent of butyrate's known HDAC inhibitory activity, as Trichostatin A did not reproduce this suppression. Expression of butyrate-activated GPCRs (FFAR2, FFAR3, HCAR2) was confirmed in both cell lines, and their role is currently under investigation.

These findings identify butyrate as a selective modulator of IL-36 pro-tumorigenic signalling and suggest that targeted manipulation of microbial metabolites may offer a novel therapeutic avenue in CRC.

Evaluating the Impact of Pre-Clinical and Post-Clinical Attachment Surveys on Learning Outcomes for 3rd-Year Medical Students at Cork University Hospital

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In order to enhance third-year medical students experience on clinical placement, pre-clinical and post-clinical attachment surveys would allow to evaluate students' goals, learning experiences, and prospects for improvement on clinical placement.

Aim:
To evaluate the student prospects, goals of learning and achieving learning activities by conducting survey before and after clinical placement.

Methods:
UCC third year medical students, scheduled for clinical placement in Cork University Hospital for 4 weeks were sent anonymous pre-clinical placement and post-clinical attachment survey questionnaire was sent to all students.

Results:
Survey questionnaire was sent to 48 students with 44/48 students (92%) and 38/48 students (79%) responded to pre-clinical and post-clinical attachment survey respectively. On preclinical survey, 66% students report primary goal was to improve clinical skills while 23% students reported to gain experience in hospital environment. When inquired about preferred teaching methods, 73% students reported hand on practice in clinical rotation while 16% reported small group interactive discussions.

Post clinical attachment, 81% students reported bedside teaching, clinical skills and tutorials as most useful aspect of clinical attachment. Overall, 79% students reported meeting learning outcomes from clinical attachment. Around 71% students finds teaching materials/skills and learning activities used by teachers to be effective on clinical placement. When prompted about areas of clinical improvement, there was mixed response with 32% students would like have to more bedside teaching while other students reported small groups of students, less tutorials and more time on wards to help with learning on clinical environment.

Conclusion:
The results of survey indicate that student’s main learning outcome of developing clinical skills in real clinical environment is well achieved by most students

Simulating Crohn's Disease Conditions: In Vitro Evaluation of Budesonide Release from Marketed Formulations

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Crohn's disease is a chronic autoimmune condition affecting approximately 1.6 million people in Europe, with inflammation that can occur throughout the gastrointestinal (GI) tract [1]. The disease is associated with physiological changes that may influence the performance of oral drug delivery systems [2]. This study evaluated the in vitro release profiles of four commercial budesonide formulations under simulated GI conditions representative of healthy and Crohn's disease states.

Drug release was assessed using a type II paddle apparatus with a dissolution protocol simulating the stomach, upper small intestine, and lower small intestine. Biorelevant media were employed, with disease-state conditions mimicking Crohn's disease-specific changes in pH, transit time, and bile salt concentration. Samples were collected at defined intervals and analysed via high-performance liquid chromatography.

While some formulations showed comparable release profiles across both conditions, others exhibited premature or delayed release in Crohn's disease-simulated media. Considerable differences in release behaviour were also observed between products under healthy conditions. The relative performance of each formulation may depend on the site of inflammation, with certain products potentially better suited for targeting either the proximal or distal small intestine.

These findings highlight the potential for Crohn's disease-related GI alterations to impact drug release and therapeutic efficacy. Incorporating disease-relevant conditions in in vitro testing is essential to guide formulation design and selection for patients with Crohn's disease.

Funded by the European Union (GA 101057491).
[1] Effinger A. et al., Mol Pharm 18 (2021) 1530–1543.
[2] Effinger A. et al., J Pharm Pharmacol 71 (2019) 674–698.

Sternal plating for traumatic sternal non-union: a case series and review

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Sternal non-union is a rare complication of sternal fracture but one which may impact patients symptomatically or cosmetically. Should conservative measures fail, the indications for operative intervention have become more defined in recent years and new techniques have been developed to restore sternal position and thus correct chest wall shape and function.

We present two cases of aseptic sternal non-union. Case 1 involved a young patient with a protracted history of sternal pain owing to an injury induced by repeated low-grade stress. Case 2 refers to another young individual who presented with persistent pain 1 year after suffering a fractured sternum in a motor bike accident.

Despite polarising inciting events, both were found to have non-union injuries to the sternum with evidence of pseudoarthrosis. We examine their management with parallel locking compression plate sternal fixation.

We also evaluate the current literature with respect to sternal plating, novel operative and non-operative alternatives, including recombinant human parathyroid hormone, and peri-operative considerations, such as closed incision negative pressure therapy. With ever improving access to axial imaging, particularly in the setting of trauma, these injuries are likely to increase in prevalence.

Patient and Public Involvement in Randomised Controlled Trials to improve outcomes for adults with multimorbidity in primary care and community settings: A Systematic Review Protocol

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Background: Patients and public involvement (PPI) in randomised controlled trials (RCTs) aiming to improve outcomes for patients with multimorbidity in primary care is essential to ensure research is patient-centred and relevant. However, evidence indicates that PPI input is poorly reported in medical research, including RCTs. This protocol outlines a systematic review that aims to explore reported PPI contribution in RCTs and/or RCT protocols, focused on interventions to improve care for adults with multimorbidity in primary care settings.

Method: This systematic review will include RCTs and RCT protocols of research focused on multimorbidity (defined as co-existence of two or more chronic health conditions) in primary care and community settings. The review will examine reported PPI input to the RCT protocol and subsequent published RCT. Electronic database searches will be conducted in MEDLINE, EMBASE, CINAHL, the Cochrane Central Registry of Clinical Trials, ClinicalTrials.gov, and the ISRCTN Registry, in addition to grey literature. No limitations will be placed on language or search date. Data will be extracted on RCTs meeting the inclusion criteria (conditions included, intervention type, outcomes) and PPI reported contribution. A narrative synthesis will be conducted. This protocol is reported according to PRISMA for systematic review protocols guidelines.

Impact: The systematic review will extend understanding of PPI reporting in RCTs focused on improving care for patients with multimorbidity. The findings will be beneficial in highlighting PPI involvement as well as identifying any gaps. This will support PPI input planning for future RCTs in this area, ensuring research is person-centred, and impactful.

Evaluating the impact of Trauma-Informed Care educational input for Radiation Therapy Students

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Introduction: Trauma-informed care (TIC) education is relevant to the education and practice of radiation therapists (RTTs) (1). RTT's have frequent contact with patients during potentially stressful treatments and can reduce the risk of re-traumatisation (1). Additionally, RTT's experience a variety of stresses that may develop into burnout, which has been demonstrated to impact patient care, employee health, and organizational effectiveness (2). Therefore, incorporating TIC training in RTT's education is critical (1).

Methods: TIC educational input was designed based on learning objectives of TIC models 'the 4 R's' (3), and provided to second year students in MSc Radiation Therapy, UCC. A feedback form was administered to collect pre and post ratings of knowledge, competency, and confidence in applying TIC in work; as well as ratings of satisfaction, relevance, and benefit of the training; and whether the students would recommend this training to others. Participation was voluntary and anonymous. Quantitative data is displayed on graphs.

Results: All of the students in attendance (n=8) completed the feedback form. All respondents reported an increase in knowledge about trauma and TIC, competency as a TIC healthcare worker, and confidence in applying TIC in their work, following completion of the educational input. All respondents were 'very satisfied' with the training, all rated the training as 'very beneficial' for supporting them in their work and for enhancing patient care, and all rated the training as 'very relevant' to their work. All students reported that they would recommend TIC educational input to other students/healthcare professionals.

Discussion: The findings demonstrate the positive impact of TIC educational input on RTT knowledge, competency, and confidence in applying TIC in their work, with benefit for supporting both the student in their professional role and for enhancing patient care. There is suggested benefit for other students/healthcare professionals to complete this training. In summary, TIC educational input is therefore an important component of RTT education, with likely benefit for other student healthcare professional training programmes.

References:
1. Thompson M, Fleishman J, Tonning K. A trauma-informed care curriculum in radiation therapy education. Radiation Therapist. 2024: 33(1): 31-37. 2024
2. Akroyd D, Caison A, & Adams RD. Burnout in radiation therapists: the predictive value of selected stressors. 2002: 52(3): 816-821.
3. SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach. 2014.

Impact of Adrenomedullin on Human Intestinal Microvascular Endothelial Cell model

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Adrenomedullin (AM) is a small hormone ubiquitously present in various tissues with multiple biological functions. Recent studies have shown that AM also acts as a regulator of inflammation in inflammatory bowel diseases (IBD) in preclinical models and pilot human studies [1,2]. AM can promote proliferation and migration in endothelial cells thereby aiding vascular regeneration [3]. This data indicates that AM may be regulating human intestinal endothelial cells (HIMECs) in Crohn's disease (CD). However, the mechanism(s) targeted by AM in HIMECs are yet to be uncovered. The aim of this study is to examine the effect of adrenomedullin in HIMECs under basal and inflamed culture conditions, mimicking a CD-inflammatory environment. Analysis of single-cells RNA sequencing datasets from patients with CD revealed that Intestinal Endothelial cell subpopulations have the highest gene expression of the AM receptor (CALCRL) and coreceptor (RAMP2) with their expression gradually reduced from healthy to the inflamed state. Similarly, CALCRL and RAMP2 expression is decreased in the inflamed HIMECs model. Treatment with AM peptide to HIMECs did not significantly increase proliferation or migration in wound healing assay, while an early activation of two canonical signaling pathways (cAMP/phospho-CREB and phospho-ERK1/2) was detected by AM. A third canonical pathway (phospho-AKT) was upregulated independently of AM treatment. In conclusion, HIMECs respond to AM by an early activation of cAMP/CREB and ERK1/2 pathways, but without known AM-functional effect on proliferation and migration. Further studies aiming to identify AM-regulated signaling pathways in HIMECs are currently underway by RNA sequencing.

Interprofessional Medication Safety Session - Promoting Safe Prescribing and interprofessional collaboration through Interprofessional Education Workshops

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Introduction:
Medication errors occur frequently, with a recent study suggesting 237 million medication errors occur in England annually. A recent systematic review estimated that 36% of patients experienced a medication error in the ED, with approximately 43% of these being potentially harmful without causing death1. The 'Interprofessional Medication Safety workshops' explored various aspects of safe medication prescribing, including common errors and reporting incidents. The aim was to investigate whether the workshop would result in improved student confidence in self-reported interprofessional competencies using the Interprofessional Collaborative Competency Attainment Scale (ICCAS) tool.

Methods:
Three IPE workshops, for approximately a total of 440 medical, nursing, midwifery and pharmacy students, took place in 2025, facilitated by experienced discipline-specific facilitators and a hospital Medication Safety pharmacist. One patient case and hospital drug chart (Kardex) was reviewed by students in mixed profession groups. All students then transcribed a corrected kardex. Feedback was collected, with consenting students also completing a pre- and post- ICCAS survey to self-report on interprofessional and teamwork competencies. Ethical approval was obtained.

Results:
There were 117 matched pre and post-workshop survey responses which showed statistically significant improvements ($p<0.05$) in all ICCAS subscales of Communication, Collaboration, Roles and Responsibilities, Collaborative Patient/Family-Centered Approach, and Team Functioning; Conflict Management showed less change. Students reported positively on the workshop format, with >75% rating their ability to collaborate interprofessionally as improved afterwards.

Discussion and Conclusion:
Positive engagement with active case-based learning methods strengthened interprofessional communication and teamwork, and improved prescribing practical skills and safety knowledge.

Understanding Barriers to Patient Participation in Radiotherapy Clinical Trials: A Real-World Institutional Analysis

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Background:
Clinical trials are essential for advancing radiotherapy (RT) treatments and improving patient outcomes. Our RT clinical trials portfolio commenced in 2021, comprising interventional, academic, and industry-sponsored trials across genitourinary, oligometastatic, survivorship, and quality-of-life domains. Despite radiation being required by 50% of cancer patients, RT trials account for only 9% of all randomised controlled trials (RCTs) globally. This retrospective summary explores real-world reasons patients decline RT trial participation, to provide information around important patient factors for us to consider for future studies

Methods:
All eligible patients referred for RT were informed about suitable clinical trials during consultations with a Clinical Nurse Specialist and Radiation Oncologist. Follow-up pre-screening calls by the RT Clinical Trials Radiation Therapist Specialist documented reasons for declining trial participation. A retrospective review of screening logs from July 2021 to May 2025 was performed.

Results:
Of 391 eligible patients reviewed, 330 (84%) declined trial entry across 8 different RT trials. Key reasons for refusal included dissatisfaction with randomisation (26.7%), preference for standard of care (6.7%), and lack of perceived benefit (4.8%). Trials with no-treatment or placebo arms saw lower acceptance rates compared to those offering active treatment in all arms. Logistical barriers (e.g. travel, time, work), psychosocial stress, and trial complexity also impacted decisions.

Conclusion:
Trial design and logistical burden significantly influence patient participation. Improving communication, simplifying protocols, and involving and integrating patient advocates into trial development through patient and public involvement in research will help these challenges. Future expansion of our trial portfolio will target broader disease sites to enhance equitable trial access and participation.

Discontinuation of maintenance therapy for the patients diagnosed with multiple myeloma in Minimal Residual disease (MRD) negative remission without high risk features

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Introduction:
Multiple myeloma (MM) is an incurable, clonal plasma cell malignancy that represents 10% of all haematological cancers, with nearly400 patients diagnosed in Ireland annually. After initial chemotherapy and stem cell transplantation, patients receive continuous maintenance therapy, usually with Lenalidomide. Lenalidomide treatment can improve progression-free survival and in some studies, overall survival. However, discontinuation of Lenalidomide can be as high as 27 % due to debilitating side effects including diarrhoea, weakness and tiredness, skin rashes, cytopenias, thrombosis, and infections.

Aim: To investigate if patients with standard risk cytogenetics and without high-risk features can discontinue maintenance treatment at 24 months without affecting Minimal Residual Disease (MRD) negativity

Methods:
This is a non-randomised interventional trial. Eligible patients can choose to continue or discontinue maintenance treatment, while a control group consists of patients with high risk/detectable disease.
All patients will receive standard of care monitoring, including blood tests, yearly bone marrow biopsies and also 4 quality of life assessments throughout the 2 year follow up.
Ethical approval for this research was granted by the Clinical Research Ethics Committee of the Cork Teaching Hospitals. Clinicaltrials.gov ID NCT05866757

Conclusion:
This study will contribute to the current knowledge about duration of the maintenance therapy for MM patients. Helping to select cases that could safely avoid prolonged maintenance therapy, thus preventing potential side-effects and drug-related toxicities while optimising quality of life. It would also result in a considerable cost-saving for the health system.
Thanks to the UCC Cancer Trials Group for their support for this study

Does Retinoic Acid-induced growth-response influence the outcome of irradiation in Glioblastoma cells?

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Purpose: Glioblastoma multiforme (GBM), stands as the most prevalent and aggressive primary brain tumour amongst adults (1). Among emerging strategies, retinoic acid (RA) has garnered attention as a potential adjunct to radiation therapy (RT) in GBM treatment (2). RA, a derivative of vitamin A, exhibits a spectrum of biological effects, including modulation of cell proliferation, differentiation, and programmed cell death (3). Pre-clinical investigations have underscored the ability of RA to heighten cancer cell sensitivity to ionising radiation, thus augmenting the therapeutic potential of RT (3). This study aims to investigate the impact of RA administration on irradiation outcomes in GBM cells.

Methods and Materials: The study used the commercially available GBM cell line A172 to evaluate cell viability and cytotoxicity subsequent to treatment with RA +/- irradiation. For optimal growth and treatment conditions, it was determined that seeding 100,000 cells per T25 flask for each treatment group was ideal. The experimental groups included dimethyl sulfoxide (DMSO)/RA alone, DMSO/RA followed by irradiation (2Gy), and control groups. A wax mould was created for the flasks to maintain a consistent and reproducible position throughout the treatment process. Three water equivalent blocks (30x30x5.0cm) were placed above and at either side of the wax mould. Assessment of cell viability and cytotoxicity was conducted 16 hours post irradiation to ascertain the impact of RA in conjunction with irradiation.

Results: Results indicated a significant decrease in cell viability in A172 cells treated with RA followed by irradiation compared to cells treated with RA alone or control groups ($p < 0.05$), suggesting a synergistic effect between RA and irradiation. The observed effects can potentially be attributed to RA's modulation of cellular signaling pathways involved in the DNA damage response, thereby sensitising GBM cells to radiation-induced cytotoxicity.

Conclusion: This study underscores the potential of RA as a radiosensitiser in GBM therapy, offering promising avenues for improving treatment outcomes in patients with this challenging disease. The findings contribute to the growing body of evidence supporting RA's adjunctive role in enhancing the effectiveness of radiation therapy in GBM. Moreover, using contemporary formulations of RA and A172 cell lines commonly employed in GBM research ensures clinical relevance and translational applicability of the study's findings.
References:
1. Yalamarty SSK, Filipczak N, Li X, Subhan MA, Parveen F, Ataide JA, et al. Mechanisms of resistance and current treatment options for glioblastoma multiforme (GBM). Cancers (Basel). 2023;15(7):2116.
2. Pepper NB, Stummer W, Eich HT. The use of radiosensitizing agents in the therapy of glioblastoma multiforme-a comprehensive review. Strahlenther Onkol. 2022;198(6):507–26
3. Lavudi K, Nuguri SM, Olverson Z, Dhanabalan AK, Patnaik S, Kokkanti RR. Targeting the retinoic acid signaling pathway as a modern precision therapy against cancers. Front Cell Dev Biol. 2023; 11:1254612

Characterisation of γδ T cell functional capacity and inhibitory receptors within Colorectal Cancer tumours

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Unlike αβ T cells, γδ T cells are MHC unrestricted and excellent 'universal donor-unrestricted' cells offering 'off-the-shelf' allogenic adoptive cell therapy (ACT). Vδ1 cells, a γδ T cell subset, are tissue resident cells which can detect and kill several different types of solid tumour cells in-vitro including colorectal cancer (CRC) cells. De Vries et al., (2023) found that in MMR-d CRC, HLA-class-I-negative tumours an abundance of infiltrating and activated Vδ1 cells, and not αβ T cells, were responsible for responses to immune checkpoint blockade treatment. Our aim was to characterise the γδ T cell functional capacity and inhibitory receptors within CRC tumours to better inform γδ T cell ACT for CRC.

Using The Cancer Genome Atlas, we found significantly elevated gene expression (FDR <0.001) of TIGIT, an inhibitory receptor, and TRDV1, the Vδ1 T Cell Receptor (TCR) gene, in proximal (n=160) relative to distal (n=118) CRC tumours and in the proximal tumour an elevation of TRDV1 gene expression in normal adjacent to tumour (NAT) tissue relative to CRC tumours. These observations have been confirmed by flow cytometry. We found significantly ($p < 0.05$) higher proportions of Vδ1 cells in NAT compared to tumours (n=13). There was no difference in the proportions of Vδ1+TIGIT+ cells between NAT and tumours (n=13). There were significantly ($p < 0.05$) higher proportions of Vδ1 cells expressing the cytolytic molecule Granzyme B in tumours than NAT (n=7). In conclusion, Vδ1 cells are excluded from CRC tumours, yet when present in the tumour have potentially higher cytotoxic capacity.

Development of Polymeric Nanoparticles for Intestinal Delivery of RNA as a Treatment for Ileal Crohn's Disease

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Crohn's disease (CD) is a chronic inflammatory condition of the gastrointestinal tract with a global and accelerating incidence. Due to the side effects and loss of response to current treatments, an effective local therapy would bring considerable benefit. This project aims to develop an oral RNA-based treatment for ileal CD. For that, appropriate delivery vehicles are necessary to protect the RNA and withstand barriers such as intestinal fluid, digestive enzymes and mucus, ensuring effective delivery to the epithelium.

A library of amino-polyester (APE) polymers was used to produce APE-lipid nanoparticles (APE-LNPs) and evaluated for the delivery of messenger RNA (mRNA) and small interfering RNA (siRNA) to differentiated intestinal epithelial cell (Caco-2) monolayers, in the absence and presence of biorelevant intestinal medium (FaSSIF-V2). Size, zeta potential, and RNA entrapment of APE-LNPs were also assessed after incubation in this medium.

APE-LNPs showed similar efficacy for siRNA and mRNA delivery after incubation in FaSSIF-V2 compared to lipid nanoparticles present in Moderna's COVID-19 vaccine (SM-102). Polymer composition was found to be a determining factor for mRNA delivery efficacy and nanoparticle physicochemical stability in FaSSIF-V2. As a whole, select formulations preserved their size and RNA entrapment in this medium, and delivery was more impacted for mRNA compared to siRNA. Notably, removal of helper lipids or inclusion of bile acid excipients significantly improved mRNA delivery in FaSSIF-V2 (50% and 3-fold compared to standard formulation, respectively). Currently, APE-LNPs formulations are being optimized for stability and delivery efficacy with mucus and pancreatic enzymes.

ACKNOWLEDGMENTS: Funded by the European Union (GENEGUT, GA 101057491).

Targeted delivery of RNA-based therapeutics to the gut to modulate the JAK-STAT pathway in Crohn's Disease

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Crohn's disease (CD) is a human immune-mediated inflammatory disease of unknown etiology that affects the gastrointestinal (GI) tract and is a global health issue due to its lifelong nature and significant burden on patients and public health [1]. Oral Janus Kinase (JAK) inhibitors can alleviate disease in patients with CD, but the US FDA has issued warnings about side effects from systemic JAK inhibition. Therefore, new targeted delivery approaches are needed to block GI-selective JAK activity. The JAK1/2-STAT1 intracellular signaling pathway, activated by Th1 cytokines IFN-γ and TNF-α, drives inflammatory gene expression in multiple cell types and is linked to active CD [2]. SOCS1 is an endogenous negative regulator of JAK1/2. RNA interference (RNAi) using small interfering RNA (siRNA) targeting JAK1/2-STAT1 and SOCS1 overexpression via exogenous mRNA are promising strategies to reduce JAK-STAT pathway activation. The GENEGUT project aims to develop oral RNA-based therapies for ileal CD. In this study, we developed approaches to deliver siRNAs targeting JAK1/JAK2/STAT1 and SOCS1 mRNA into human intestinal epithelial cell (IEC) models. IECs exposed to IFN-γ/TNF-α replicated the CD inflammatory microenvironment, with increased cytokine production and cell death. Selected siRNAs effectively blocked JAK1, JAK2 and STAT1 expression and activity, preventing downstream inflammatory and cell death pathways in undifferentiated IECs. SOCS1 overexpression also suppressed JAK1/2-STAT1 activation and enhanced cell survival in undifferentiated IECs, and partly reduced the JAK-STAT pathway in differentiated epithelial monolayers. Ongoing work aims to optimize RNA delivery into differentiated epithelial monolayers and patient-derived organoids for translational applications.

Cyclodextrin-based nanoparticles for oral delivery of RNA-therapies in ileal Crohn's disease

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This study explores cyclodextrin-based nanoparticles (CD NPs) as carriers for RNA therapies targeting ileal Crohn's Disease. Chemically modified cyclodextrins, were formulated as nanoparticles and evaluated for efficiency in delivering siRNA targeting the EpCAM gene. Results showed over 60% EpCAM knockdown in undifferentiated cells and about 30% in differentiated cells. Importantly, knockdown efficiency remained stable in the presence of simulated intestinal fluid and mucin, indicating protection of the RNA cargo and potential to overcome the mucus barrier. These findings suggest CD NPs are promising vectors for RNA delivery in gastrointestinal conditions. Funded by the European Union (GA 101057491)

Characterisation of Cell Surface Activation and Inhibitory Receptors on Expanded γδ T-cells.

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γδ T-cells can be expanded and cultured from blood, using specific cytokines and agonists, to preferentially expand anti-tumour γδ T-cells (Harmon et al., 2023). Inhibitory receptors regulate T-cell activation and are upregulated on exhausted αβ T-cells, however, γδ T-cells retain effector functions despite their increased expression (Davies et al., 2024). Understanding the phenotype and functionality of a γδ T-cell product is essential for an effective adoptive cellular therapy.

γδ T-cells were isolated from Irish Blood Transfusion Service (IBTS) donors (n=4) and recruited Healthy Blood Donors (HBD) (n=4). γδ T-cells were expanded with stimulants for 21 days and phenotyped by flow cytometry. γδ T-cell proliferation by TCR activation and effects of TIGIT inhibitory receptor engagement on proliferation, were measured using Cell-Trace Violet.

There were more cells expanded from HBD (9.54x106) compared to IBTS donors (0.41x106) (p=0.053). Within this product there were more CD3+Vδ1+ and CD3+Vδ2+ cells expanded from HBD (Vδ1=4.8x104, Vδ2=1.48x106) compared to IBTS donors (Vδ1=3x104, Vδ2=6x104). TIGIT was constitutively expressed on CD3+Vδ1+ cells pre- and post-expansion yet significantly elevated on CD3+Vδ2+ cells post-expansion for both IBTS and HBD (n=4, $p<0.005$). On average TIGIT was co-expressed with NKG2D on 63.6%, LAG-3 on 20.5%, TIM-3 on 56%, CD69 on 53.5% and CD226 on 54.3% of CD3+Vδ1+ cells expanded from HBD (n=3). Post-expansion, CD3+Vδ1+TIGIT+ cells had significantly elevated Granzyme B expression than CD3+Vδ1+TIGIT- cells (p=0.0472) expanded from HBD (n=3). In conclusion, γδ T-cells expand more from HBD than IBTS blood. Expanded cells are functional and activated, but further TIGIT engagement studies are needed.

What aspects of outcome measurement instruments are important to parents/caregivers in child health trials: A mixed-methods study

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Background:
The perspectives and preferences of parents/caregivers on Outcome Measurement Instruments (OMIs) and data collection processes used in child health studies may impact study engagement as well as the quantity and quality of data collected in child health studies. The aim of this study was to evaluate what characteristics of OMIs may influence caregivers' decisions to participate in studies of interventions to prevent childhood illness and/or improve child health outcomes.

Methods:
An online mixed-methods cross-sectional survey was conducted between July and October 2024 with 490 parents/caregivers of at least one child ≤ 12 years old. This survey examined parents/caregivers' preferences for where, when, how and with whom data is collected in child health studies. It also evaluated what types of OMIs parents/caregivers were most comfortable using to provide data. Data were analysed using descriptive statistics.

Results:
The most important OMI characteristics influencing caregivers' provision of data, in order of preference, were potential for risk or discomfort to their child, the ease of data provision, and perception of potential benefit to others. Data collection which occurred online, in caregivers' own time, and in their own home were rated as most preferred by parents/caregivers.

Discussion:
These findings suggest child safety, child comfort, caregiver understanding/trust, and ease of data collection should be prioritized by researchers when designing and implementing child health studies. Consideration of these preferences is important to maximizing the quantity and quality of data which may have implications for child health research in the future.

Embedding child health behaviour screening within Australian primary health care to support growth, health, and development

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Background: Early childhood is pivotal in establishing health behaviours including dietary intake, physical activity, sedentary behaviour, and sleep. Primary Health Care (PHC) is a valued and trusted setting for monitoring and health promotion. Current recommended practice in PHC is based on growth monitoring, which has several limitations including caregiver stigma and impact on rapport. This research proposes child health behaviour screening as an alternative approach in PHC.

Methods: Aligned with the Knowledge to Action Framework, multi-stage research was conducted. A scoping review of PHC guidelines and systematic review of screening tools aimed to explore current recommendations and resources to support screening. Workshops with multi-disciplinary PHC practitioners aimed to identify and prioritise tool features and implementation strategies to tailor screening to the Australian PHC context. Finally, a multi-method pilot study aimed to understand caregiver acceptability.

Findings: Australian PHC guidelines (n = 18) recommended monitoring and promoting child health behaviours, but lacked practical tools and resources to support practitioners. Acceptable and feasible screening tools (n = 14) exist internationally, however none had been tested in Australian PHC. PHC practitioners (n = 29) identified tool features and resources to support implementation. Caregivers (n = 39) indicated acceptability and feasibility of child health behaviour screening, and considerations for providing screening tool results and resources.

Conclusions: This research provides proof-of-concept evidence for the feasibility and acceptability of child health behaviour screening in Australian PHC. Future research exploring effectiveness and how to implement screening at scale is required, alongside updated guidelines to support and sustain practice.

Developing a Core Outcome Measurement Set for Infant Feeding

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Background: Infant feeding refers to what, how, and when infants are fed in the first year of life. Heterogeneity in how infant feeding is measured in early childhood interventions limits evidence synthesis and contributes to research waste. Standardisation of valid and reliable outcome measurement instruments is needed to improve intervention evaluation. This research outlines development of a core outcome measurement set for 26 outcomes included in a previously developed infant feeding core outcome set.

Methods: Firstly, a scoping review to identify what outcome measurement instruments have been used in previous interventions was conducted. Secondly, a systematic review of studies reporting the measurement properties of the identified outcome measurement instruments is currently underway. Following this, an e-Delphi and a consensus meeting will be conducted, to agree on the final core outcome measurement set.

Findings: The scoping review identified 240 outcome measurement instruments used in 157 interventions. Types of outcome measurement instruments varied and included individual questions, questionnaires, dietary recall and records, weighing scales, and other anthropometric approaches. Preliminary findings from the systematic review demonstrate a lack of valid and reliable tools to measure core infant feeding outcomes.
Discussion: The observed heterogeneity in how core infant feeding outcomes are measured in early childhood interventions, highlights the need for the development and standardisation of valid, reliable, and feasible outcome measurement tools in this area.

Children's Thermal Sensitivity in Educational Settings: Evidence for Age-Specific Comfort Standards in Climate-Adaptive School Design

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Children spend 30-50% of their waking hours in classrooms where poor thermal conditions exacerbate health inequities and impair cognitive function. Current thermal comfort standards rely on adult office worker data, creating a critical gap in protecting vulnerable student populations under climate change.

We analysed 6,997 thermal comfort records from the ASHRAE Global Thermal Comfort Database, comparing thermal sensation responses between school children (n=3,716, ages 10-17) and undergraduates (n=3,281, ages 18-21). Ordinal regression models examined how air temperature drives thermal sensation votes across age groups.

Children demonstrated significantly heightened thermal sensitivity compared to adults, particularly during heat extremes. Proportional odds modelling failed for children (X^2=16.2, p=0.01), revealing age-specific response patterns. For every 1 °C temperature increase, children showed 46% higher odds of elevated thermal sensation versus 43% for undergraduates. Partial proportional odds modelling revealed children's strongest sensitivity at the warm-to-hot transition (~52% odds decrease), indicating greater vulnerability to heat stress.

These findings demonstrate urgent need for age-specific thermal comfort standards in educational settings. Children reduced environmental control (fixed uniforms, limited behavioural adaptation) and heightened physiological sensitivity require lower classroom set points and narrower temperature fluctuation bands. Age-appropriate thermal standards represent cost-effective interventions supporting both learning outcomes and health equity in a warming world. With only 4% of global thermal comfort data representing classrooms, expanding thermal comfort research in schools going children, and the implicit health impact, is essential for achieving inclusive, quality education goals while protecting vulnerable populations from escalating heat exposure.

Development and Characterisation of a Microneedle Sensor for Intrapartum Fetal Monitoring

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This study reports the in vitro and ex vivo development of a microneedle pH sensor for intrapartum fetal monitoring. The sensor aims to address the limitations of current methods of intrapartum monitoring by offering a minimally invasive way to continuously measure fetal pH and detect small variations indicative of hypoxia.
Platinum microneedles were passivated with ArCare and coated with iridium oxide via electrodeposition. Sensitivity was evaluated in phosphate buffered saline and artificial interstitial fluid, using external Ag/AgCl and internal platinum pseudo reference electrodes.

In phosphate buffered saline, the sensor exhibited a linear response across 6.5 to 7.45 pH in increments of 0.05 pH units over the clinically relevant range (6.5–7.45), with slopes of –60.5 mV/pH (R^2 = 0.946) and –71.5 mV/pH (R^2 = 0.857) in the external and internal configurations, respectively. In artificial interstitial fluid, slopes of –31.9 mV/pH (R^2 = 0.901) and –25.5 mV/pH (R^2 = 0.979) were obtained. Ex vivo tests on human skin confirmed successful microneedle penetration without visible iridium oxide transfer or significant tissue damage, as shown by methylene blue staining.

The sensor's performance compared favourably with previously reported microneedle sensors that used alternative materials and larger pH increments, while demonstrating its ability to detect small pH changes, essential for timely intrapartum clinical intervention. These promising results demonstrate that the proposed microneedle pH sensors could be used to continuously monitor intrapartum fetal interstitial fluid pH. This study is a significant step toward improving the objectivity and specificity of intrapartum fetal monitoring through continuous, minimally invasive pH measurement.

Assessing the Stability of Dopamine in Neonatal Infusions: A Two-Day Simulated Neonatal Intensive Care Unit (NICU) Study

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INTRODUCTION
Dopamine infusions, diluted for neonatal hypotension, are prone to oxidation, which may reduce potency and form degradants. Kirupakaran et al. (2020) linked 24-hour syringe changes to arterial pressure swings, suggesting inotrope instability. This study evaluates dopamine degradation under simulated NICU conditions, examining the effects of temperature, light, flow rate, concentration, and diluent.

METHODS
The stability of compounded dopamine solutions (1.5 and 5 mg/mL) in 0.9% NaCl, 5%, or 10% dextrose was assessed at 0.8 or 0.04 mL/h. A 50 mL syringe was run via a Perfusor® Space® pump, with an intravenous line placed inside a 38°C and 80% RH humidity chamber exposed to daylight, UV light or darkness. Samples were assayed by RP-HPLC for dopamine concentration and degradants over 48 h.

RESULTS
Greatest degradation occurred in UV-exposed samples (e.g., NaCl 0.9%: 0.66 % ± 0.04; n = 3), followed by low flow rates (e.g., 5 % dextrose at 0.04 mL/h: 0.46 % ± 0.04; n = 3). Other conditions had < 0.1 % impurities and a 48h potency of 94–102 %. 5,6-Dihydroxyindoline was identified as the initial degradant. Antioxidant levels declined in most infusions, with the greatest decline under UV in NaCl (83.2 % ± 9.4; n=3).

CONCLUSION
Results reveal infusion-related factors affecting dopamine stability in simulated NICU conditions. While potency remained above 90% for all infusions, the degradant 5,6-dihydroxyindoline was identified. Its unknown safety in neonates warrants further investigation. These findings advance our understanding of dopamine degradation in clinical settings and support safer use in NICU settings.

REFERENCES
1. Kirupakaran K, De Sousa P, Le Roux C, Redwood L, Rabe H, Patel BA. Evaluation of the causal effects between dopamine infusion changeover and fluctuations in mean arterial pressure in neonates. Arch Dis Child. 2020 Apr;105(4):390–4

Investigating SKOR1 as a novel therapeutic target to prevent α-Synuclein-Induced degeneration in cellular models of Parkinson's Disease.

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Parkinson's disease (PD) is a neurodegenerative disease involving αSynuclein (αSyn) accumulation, the degeneration of nigrostriatal dopamine neurons, thus causing motor impairments. There are no disease-modifying therapies for PD, making it crucial to identify novel targets for neuroprotective therapy. Previous analysis highlighted SKI Family Transcriptional Corepressor-1 (SKOR1) as the most upregulated gene in the αSyn rat-model of PD. It is unknown whether SKOR1 knockdown could protect against αSyn.

SH-SY5Y cells were co-transfected with 500ng of GFP or GFP-αSyn plasmid with 10nM of control siRNA (siSCR) or a SKOR1 knockdown siRNA (siSKOR1). The cellular 6-OHDA model involved transfection with siSCR or siSKOR, before treating with 10nM 6-OHDA, or vehicle, daily for 3 days. Cells were cultured for 72hr before imaging GFP-positive neurites, and fixation for immunocytochemistry. The impact of SKOR1 modulation on neurite length, cell viability and soma area were studied.

The negative effect of SKOR1 overexpression on neurite length, was comparable to that caused by αSyn overexpression. siSKOR1 displayed a neuroprotective effect on neurite length in αSyn-overexpressing cells. Immunocytochemistry showed that this neuroprotective effect was not due to altered αSyn levels. siSKOR1 did not have a neuroprotective effect on neurite length in 6-OHDA-treated cells, suggesting that siSKOR1's neuroprotective effect in SH-SY5Y cells, depends on αSyn interaction.

SKOR1 is known to negatively regulate the BMP-SMAD pathway, but its mechanism is unknown. Altered SKOR1 levels did not impact levels of phosphorylated SMAD (pSMAD) in SH-SY5Y cells. To investigate if SKOR1 is affecting transcription, a SMAD-GFP reporter was used, which indicated an inverse relationship between SKOR1 levels and transcriptional activity, highlighting SKOR1 as a negative regulator of BMP transcription.

This highlights SKOR1 as a potential target for a-Syn-focused PD therapies.

The impact of maternal prebiotic supplementation on anxiety and depressive-like behaviors and adult hippocampal neurogenesis following postpartum stress in female mice.

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Biological sex is a risk factor for the development of anxiety and depression, with women being uniquely vulnerable to postpartum depression. Stress during the postpartum period increases this risk. Changes in gut microbiota composition are associated with these stress-related psychiatric disorders, while administration of prebiotics (non-digestible carbohydrates that boost activity of beneficial gut microbiota) have anxiolytic and antidepressant-like effects in male rodents. However, few studies have investigated the contribution of the maternal gut microbiome to stress-related disorders in females. Furthermore, the impact of postpartum stress and prebiotic supplementation on adult hippocampal neurogenesis (AHN) - the production of new neurons and a stress-sensitive measure of brain plasticity - is unknown. Therefore, we investigated whether administration of the prebiotics fructo- and galacto-oligosaccharides (FOS+GOS) affected anxiety and antidepressant-like behaviours and AHN after stress during the postpartum period in female mice.

Upon confirmation of pregnancy, C57BL/6 adult female mice received 7.5% FOS+GOS supplemented or control water throughout the experiment. The limited bedding and nesting stressor was applied from postpartum day 4 to 11, and behaviours were assessed from postpartum day 23 +/-1 (n=8-10).

FOS+GOS reduced anxiety-like behaviour in the open field ($p<0.0001$) and increased sociability in the three-chamber test ($p<0.05$), irrespective of stress. In stressed dams, FOS+GOS reduced anxiety in the marble burying test ($p<0.05$). An antidepressant-like effect was observed in the forced swim test in non-stressed FOS+GOS-treated dams only ($p<0.05$). FOS+GOS increased AHN, with greater enhancement in stressed dams ($p<0.0001$) than non-stressed dams ($p<0.01$) (n=6).

These findings suggest maternal microbiota modulation via prebiotics may reduce vulnerability to postpartum mood disturbances and promote hippocampal neuroplasticity

Behaviour change interventions for physical activity in people with chronic respiratory disease in Ireland: a survey of patients and providers perspectives

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Background
People living with chronic respiratory disease are less physically active than others [1]. The most effective interventions influencing physical activity behaviour in chronic respiratory disease remains unclear. This study aimed to explore the use and perceptions of behaviour change interventions among people with chronic respiratory disease and those who deliver physical activity programmes in The Republic of Ireland.

Methods
Two anonymous online and paper-copy cross-sectional surveys were piloted and distributed via social media and relevant gate-keepers between November 2023 - April 2024. Findings were summarised using descriptive statistics, including frequencies, percentages, means and medians. Interventions were mapped to the COM-B model and the Theoretical Domains Framework [2, 3].

Results
The response rate to the provider survey was N=107 (71%) and N=112 people responded to the survey of people with chronic obstructive pulmonary disease (COPD). Encouragement was perceived by providers of physical activity programmes to be the most effective intervention to influence physical activity (81/84, 96%), followed by education (80/84, 95%) and individualized goal setting (79/84, 94%). People with COPD identified social support (76/105, 72%), which mapped to the most theoretical domains, and one-to-one interaction with a trainer (73/105, 70%) to be the most effective interventions influencing their physical activity behaviour. Using the COM-B model, motivation was identified as a common mechanism of action in influencing behaviour.

Conclusions
Interventions including motivational components are frequently perceived as effective influencers of physical activity behaviour by people living with chronic respiratory disease and those who work with them in the Republic of Ireland.

Experiences Of People With Parkinson's Disease Of Video-Based Motor Symptom Assessment

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Parkinson's Disease (PD) symptoms vary widely, making objective assessment challenging. PragmaClin Research Inc. developed the Parkinson's Remote Interactive Monitoring system (PRIMS), which collects the Movement Disorder Society's Unified Parkinson's Disease Rating Scale motor examination data via an instruction screen and Microsoft Kinect Depth cameras, and assigns severity ratings using machine-learning algorithms. We captured the experiences of people with PD (PwPD) trialing the system.

PwPD were recruited via PD, neurology and geriatric clinics and PD social/support groups. Participants completed the PRIMS trial, a post-assessment survey (including the System Usability Scale (SUS)), and an optional audio-recorded interview. Survey data were analysed descriptively, with interview findings providing additional context.

Twenty-seven participants completed the PRIMS trial and survey; 13 completed optional interviews. Most were aged 65-69 (44.4%) or 75-79 (33.3%), and male (66.7%), across Hoehn & Yahr stages 1-4. Almost all (95.6%) users reported being 'extremely' or 'somewhat' satisfied with the assessment, considering PRIMS valuable for symptom monitoring, where video-based assessments could complement in-person consultations and communication with healthcare providers. SUS scores (80–85+) reflected excellent usability, with strong agreement on ease-of-use and low perceived-complexity. However, 52.1% somewhat or strongly disagreed that PRIMS could replace face-to-face consultations. Participants recommended clearer movement demonstrations and highlighted varied responses to observing themselves on video. While GP surgeries and health centres were seen as viable settings, home-based access via personal devices was viewed as most accessible.

PwPD suggest that remote video-based symptom assessment such as PRIMS would be acceptable, but this must consider technological abilities and setting convenience.

An Evaluation of The Alzheimer's Association of Ireland's 'TeamUp for Dementia Research' service

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Background: The Alzheimer Society of Ireland (ASI) coordinates TeamUp for Dementia Research (TUDR), a service matching people living with dementia (PwD) and their families/friends with research opportunities.

Aim: Evaluate the experience and value for service users and opportunities for development.
Methods: Mixed methods were employed, through 1) an anonymous online survey of TUDR members and 2) semi-structured interviews with key stakeholders. Survey data was analyzed descriptively. Qualitative interviews were thematically analyzed.

Results: 49 members completed the survey (14% response rate); including PwD (16.3%), caregivers (current 40.8%; former 28.6%), and others (14.2%) (61.2% female). Most were aged 50-64 (44.9%) or 65-79 (34.7%). Before registering with TUDR, 73.5% didn't know how to participate in research. Two-thirds of those offered opportunities (n=35) have participated in a research study through TUDR (68.6%). Members indicated empowerment from contribution and learning about dementia, describing TUDR as "dedicated" and "friendly". Some described feeling there was nothing "relevant" for them to participate in. Interviews were conducted with 10 TUDR members (PwD n=1, current carers n=3, former carers n=6) and 11 stakeholders (researchers n=8; ASI staff n=2; national stakeholder n=1). Seven themes, with sub-themes, were identified: 'Hearing about TUDR'; 'Sign-up & communication processes'; 'Challenges in recruitment'; 'Understanding of what TUDR is and involves'; 'Navigating research relationships'; 'Value of TUDR'; 'Service development'.

Conclusions: TUDR enables person-centered opportunities to participate in dementia research, while supporting recruitment and bolstering national dementia policy. Dedicated human and fiscal resources could support wider outreach/advertising and increased research opportunities for members.

Antibiotic-induced gut microbiota depletion protect nigrostriatal integrity in a 6-OHDA rat model of Parkinson's disease.

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Parkinson's disease (PD) is a neurodegenerative disorder characterised by degeneration of midbrain dopaminergic neurons. Evidence indicates PD may begin in the gut, with gastrointestinal dysfunction and dysbiosis observed. Antibiotic-induced microbiota depletion (AIMD) model is used to study the microbiota's role in neurodegeneration. It has been found to worsen PD symptoms in α-synuclein-overexpressing mice, but improve them in 6-OHDA rats; whether this affected TH-positive neuron survival remains unknown. Therefore, we examined the effects of AIMD on nigrostriatal integrity and motor function using a brain-first 6-OHDA PD rat model. Adult Sprague-Dawley rats received unilateral stereotactic injections of 6-OHDA and broad-spectrum antibiotics two weeks before and after surgery. Motor tests and faecal collections (at day 0, 7, and 14), immunostaining (TH, NeuN, Iba-1, HDAC-5), and 16S-sequencing for microbiota profiling were performed. Immunohistochemistry of TH, a dopaminergic neuronal marker, confirmed that AIMD mitigated loss of striatal dopaminergic fibres and dopaminergic neuronal cell bodies in the nigral region in 6-OHDA-lesioned animals treated with antibiotics. Similarly, antibiotic treatment reduces neuronal cell loss in 6-OHDA-lesioned animals using NeuN, a neuronal marker. Furthermore, AIMD improved motor performance and decreased nigrostriatal microglial activation in 6-OHDA-lesioned animals treated with antibiotics. In 6-OHDA-lesioned animals, AIMD decreased the expression of HDAC-5 (neuroprotection-inhibiting enzyme) in nigral dopaminergic neurons following treatment with antibiotics. Overall, these findings show that AIMD could potentially maintain nigrostriatal integrity following 6-OHDA-induced insult. Because gut dysbiosis is observed and identified as a symptom in PD patients, these findings highlight the potential of gut microbiota modulation for neuroprotection in PD.

Peer Support for Lewy-body Dementia: A Scoping Review

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Background: Lewy-body dementia (LBD) is the second most common neurodegenerative disease after Alzheimer's disease. As part of the wider 'Emerald Lewy' research programme, a scoping review was conducted to interrogate the existing literature to better understand the international evidence for models of peer support for people living with LBD and their care partners.

Methods: We conducted a systematic scoping review of the literature, searching six electronic databases: PubMed, Cochrane, EMBASE, SCOPUS, CINAHL and PsycINFO. Two reviewers independently screened titles and abstracts, completed full text review, quality-appraised the included studies and extracted the data. The data were synthesized narratively.

Results: Five studies were eligible for inclusion. The findings highlighted that existing peer support models for LBD are largely heterogeneous in intervention format, design and characteristics. Interventions include individual and group-based formats, delivered both in-person and online, with duration ranging from 4-16 weeks and frequency from 15-150 minutes. Population sample included both people with LBD and their care partners (n=2) or care partners only (n=3). Interventions varied in facilitator background and training. Some positive themes were identified across the literature; psychoeducational support, informational support and sense of community/shared experiences. Only one standardised peer support intervention for LBD was identified (PERSEVERE).

Conclusion: Few exemplars of peer support for LBD have been reported in the literature, and those that do focus on peer support exhibit high heterogeneity, presenting challenges for replication and development of the evidence base. Further research is needed to develop and evaluate well-defined models of LBD-specific peer support.

The Prevalence and Incidence of Parkinson's Disease in Europe: A systematic review and meta-analysis.

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Background: Parkinson's disease (PD) is a common progressive neurodegenerative condition of largely unknown aetiology. Accurate epidemiological studies are essential in guiding public health planning of PD care in an ageing population. This study aims to determine the incidence and prevalence of PD in Europe.

Methods: A systematic literature search was performed. Peer reviewed studies were selected from the following databases from 2005-2023: MEDLINE, Embase, EBSCO Host (Academic Search Complete and CINAHL Plus). Reference lists of the included studies were examined as a backward search measure. Google Scholar was used to forward search. Data were extracted into a standardized assessment form and arranged into evidence tables for prevalence and incidence. Meta-analysis was conducted using both Meta XL software and R.

Results: Of 49 identified studies, 22 examined prevalence, 16 examined incidence, and 11 examined both prevalence and incidence. The selected studies were conducted across 22 countries with no studies identified for the remaining countries in Europe. Thirty studies reported crude prevalence ranging from 67.5 to 4,490 per 100,000. Pooled prevalence results are 356/100,000 (95% CI 279-454). Twenty-three studies reported crude annual incidence ranging from 9.95 to 263 per 100,000. Pooled incidence rates are 34.7/100,000 person years (95% CI 24-50).

Conclusions: Significant heterogeneity was observed between studies, with large variations in reported incidence and prevalence of PD in Europe. Variations may be partly explained by varying study design, approach to case-finding and diagnostic criteria. Use of UKPDSBB criteria in future studies should be encouraged to reduce heterogeneity.

Exploring the impact of LRRK2 genetic mutations on cellular susceptibility to pesticides as a risk factor for Parkinson's disease

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Parkinson's disease (PD) is defined by degeneration of midbrain dopaminergic neurons. ~5% of PD cases are genetic, with the G2019S mutation in leucine-rich repeat kinase 2 (LRRK2) being the most common. Sporadic cases are thought to involve gene-environment interactions, with pesticide exposure being a well-established environmental risk factor.

We hypothesised that the G2019S-LRRK2 mutation increases cellular susceptibility to pesticide-induced degeneration. To test this, we treated SH-SY5Y cells stably overexpressing either wild-type(WT)-LRRK2 or G2019S-LRRK2 with the pesticides rotenone or glyphosate for 72h, with or without pre-treatment for 1h with the LRRK2 kinase inhibitor, MLi-2. Immunocytochemistry confirmed higher basal LRRK2 kinase activity in G2019S-LRRK2 cells compared to WT-LRRK2 cells, which was unaffected by pesticide treatment. MLi-2 significantly reduced kinase activity by 38% in WT-LRRK2 and by 60% in G2019S-LRRK2 cells.

Neurite length was significantly shorter in G2019S-LRRK2 cells than in WT-LRRK2 cells, under both baseline and pesticide-treated conditions. Rotenone and glyphosate induced dose-dependent reductions in neurite length in both genotypes. Two-way ANOVA revealed a significant interaction between LRRK2 genotype and pesticide treatment, suggesting a potential synergistic effect of chronic pesticide exposure with G2019S-LRRK2 mutation. Both pesticides also reduced cell viability, although this was not genotype-dependent. MLi-2 had no significant effect on neurite length in WT-LRRK2 cells, but significantly restored neurite length in rotenone-treated G2019S-LRRK2 cells. Two-way ANOVA revealed a significant interaction between LRRK2 genotype and MLi-2, indicating a genotype-specific response to LRRK2 inhibition.

These findings highlight a key role for LRRK2 in maintaining neurite integrity in SH-SY5Y cells and support further investigation into potential interactions between LRRK2 mutations and environmental pesticide exposure in the context of PD risk.

UNDEPRESSME. Towards an understanding of the gut-brain axis in depression: focus on microbial metabolites

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Depression is a highly prevalent disorder, yet current treatments often fail, highlighting the urgent need for better models to unravel disease mechanisms and develop novel therapeutics. However, studying human brain function remains challenging due to both the inaccessibility of the central nervous system (CNS) and the lack of suitable in vitro models. Consequently, depression research has traditionally relied on rodent models. While these models have provided valuable insights into the neurobiology of depression, they cannot fully capture the complexity and heterogeneity of human mental disorders. Human induced pluripotent stem cells (hiPSCs) provide a promising human-based platform to bridge this translational gap, enabling the study of cellular and molecular mechanisms relevant to depression in a patient-specific context.

Emerging evidence highlights a bidirectional relationship between depression and the microbiome-gut-brain axis, a key regulator of brain function and behaviour. However, the molecular pathways through which the microbiota and microbial metabolites influence the central nervous system remain poorly understood. The UNDEPRESSME project focuses on elucidating how microbial metabolites influence the central nervous system by using hiPSC-derived human neurons and microglia from people with depression. Through this approach, we aim to uncover a potential direct link between gut microbiota activity and brain function in depression, offering new insights into pathophysiology and identifying new therapeutic targets.

Linking gut microbiome taxa and their metabolites to cognitive decline in neurocognitive disorders

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Objectives: This study explores the link between gut microbiome alterations and neurocognitive disorders (NCDs). It aims to (1) characterize gut microbiota profiles and their association with cognition in cognitively healthy (HC), mild cognitive impairment (MCI), and early-stage dementia (ESD) cohorts; and (2) investigate links between serum metabolome, inflammatory and neurodegeneration markers.

Methods: A total of 89 adults aged over 60 (HC=32, MCI=32, ESD=25) underwent clinical assessments and cognitive testing. Stool microbiota were analyzed through shotgun metagenomic sequensing; blood samples were analyzed for inflammatory cytokines, neurodegeneration biomarkers (pTau-181, pTau-217, Aβ40/42, GFAP, NfL), and untargeted serum metabolites.

Results: Blood biomarkers reflected clinical cohort designations (i.e. HC, MCI or ESD; $p<0.002$) and cognitive test performance ($p<0.001$). Elevated biomarkers of neurodegeneration (GFAP, NfL, pTau) and inflammation (IL-10, IL-6, TNF-α) were observed in MCI and ESD vs HC ($p<0.05$). 16 serum metabolites were depleted and 10 enriched in MCI or ESD, with gender-specific patterns. Microbiome diversity did not differ globally after adjustment, though alpha diversity was higher in MCI than ESD before accounting for medication. 89 differentially abundant taxa clearly distinguished cognitive groups with 7 depleted and 2 enriched in ESD after deconfounding. A multi-modal model integrating cognitive, microbiome, metabolite, and blood marker data distinguished HC from ESD with high accuracy (AUC = 0.971; 0.918 after deconfounding), and remained robust without cognitive input (AUC = 0.884).

Conclusion: Specific gut microbial and metabolic alterations are associated with cognitive decline, supporting the gut–brain axis as a potential source of non-invasive biomarkers and therapeutic targets in NCDs.

Pre- and Post-Evaluation of an Occupational Therapy-Led Reablement Service Post-Acute Hospital Discharge

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Background:
An occupational therapy led reablement service was established through collaboration between the acute hospital services and local home support office. Older persons (aged 65 years and over) are referred to the reablement service upon discharge and receive coordinated care including temporary health care assistant (home support) visits and tailored occupational therapy interventions to support participation in activities of daily living (ADL).

Objective:
To evaluate the impact of this novel reablement model on the functional and health outcomes of older adults discharged from hospital.
Methods:
Pre and post intervention study design. A one-sample t-test was used to compare mean change from baseline (T1) to discharge (T2). Effect sizes were calculated using Cohen's d.

Data Collection:
Data were collected on entry to the service and at discharge with follow-up data collection at 3 and 6 months. The primary outcome measures were functional performance (Canadian Occupational Performance Measure, Barthel Index, Clinical Frailty Scale, Zarit 4-Item Burden Interview; Life Space Assessment) and health related quality of life (EQ-5D-5L). Secondary outcomes include healthcare utilisation (e.g., GP visits, primary care services, and home support service requirements), length of acute hospital stay, and intensity of reablement input.

Findings:
There were significant improvements in functional status as indicated by the Barthel Index (M=4.48, t(45) =6.36 , p</001, d =0.94), Life Space (M= 39.24, t(45), , Life-Space (M = 39.24, t(45) = 6.50, p < .001, d = 0.96), COPM (M = 7.11, t(44) = 13.31, p < .001, d = 1.98), and EQ-5D-5L (M = 25.87, t(45) = 6.19, p < .001, d = 0.91), all indicating large effect sizes. Caregiver burden as measured by the Zarit scale significantly decreased (M = -1.98, t(44) = -3.19, p = .003, d = -0.48). No statistically significant change was observed in CFS (M = -0.33, t(44) = -1.98, p = .054, d = -0.30).

Conclusion:
Early findings suggest that this OT-led model enhances post-discharge recovery and may reduce reliance on long-term services. This integrated approach exemplifies the academic health sciences system in action—linking hospital and community services for evidence-based, person-centered care.

The Development of a Palliative Care Curriculum for GP Trainees: An eDelphi Study

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Introduction

Palliative care enhances quality of life for patients with life-limiting illnesses. General Practitioners (GPs) are central to delivering community-based palliative care. However, GP trainees often lack confidence in this area. While palliative care is a recognized educational need, limited research exists on the most relevant curriculum content. Identifying these needs can help design targeted training.

Aim

To identify which palliative care competencies should be prioritized for GP trainees in Ireland.

Method

A two-round e-Delphi study was conducted with palliative care subject experts including GPs, palliative care nurses, and palliative care specialist physicians. Participants assessed 48 competencies derived from the European Association for Palliative Care and HSE frameworks using a 1–7 Likert scale (1 = Not a Priority, 7 = Essential Priority). Competencies with ≥80% agreement were accepted; those with <60% were excluded. Competencies with 60–80% agreement were reassessed in round 2. Data were analyzed using Delphi consensus methods.

Results

In round 1 (n=42), 20 competencies reached consensus, 11 were excluded, and 17 were reassessed. In round 2 (n=33), 7 of those 17 achieved consensus. Overall, 27 of 48 competencies were rated as high priority. Key priority areas included Clinical competence, Decision-making, Communication, and Collaboration. Spiritual care and caregiver support yielded mixed responses.

Conclusion

This Delphi study identifies core competencies that may inform curriculum design and palliative care training for GP trainees in Ireland, supporting more confident and effective primary palliative care delivery.

Elucidating the effects of gut microbiota-derived metabolites in iPSC-derived co-cultures from ADHD patients

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Affecting more than 5% of children and adolescents worldwide, Attention-Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder that persists into adulthood in ca. 60% of the patients. The interplay between genetic and environmental factors (e.g., maternal diet) is involved in its aetiology. In fact, previous studies have reported that gut microbiome dysbiosis might contribute to ADHD. At the brain cellular level, abnormalities in the dopaminergic system have been strongly associated with the ADHD pathophysiology, while microglial dysfunctions, oxidative stress and neuroinflammation may also impact the development of this disorder. However, the role of microglia in the establishment of oxidative stress and neuroinflammation in dopaminergic neurons has not yet been explored. Here, these cell types will be derived from induced pluripotent stem cells from adult ADHD patients and matched controls regarding sex and genetic predisposition and be investigated as monocultures and cocultures. More specifically, oxidative stress, neuroinflammatory and metabolic markers will be measured. In this context, the effects of potentially detrimental and beneficial gut microbiota-derived metabolites will be examined. In conclusion, this project will help elucidate the role of these risk factors, as well as the microbiota-gut-brain-axis, in ADHD.

Population Health, Health Services Research, Implementation Science

Assessment of Laboratory Turnaround Time for Hematology and Biochemistry Results at Cork University Hospital Emergency Department, Ireland

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Background:
Laboratory turnaround time (TAT) is a key performance indicator in emergency medicine, directly impacting clinical decision-making and patient outcomes. The Royal College of Emergency Medicine recommends that emergency department (ED) laboratory results be available within 60–120 minutes. Delays can lead to prolonged patient stays, delayed treatments, and compromised patient care.

Aim & Objectives:
This audit aimed to assess compliance with the recommended TAT for hematology and biochemistry results in the ED, with an ultimate goal of achieving 100% adherence. The objectives were to:
Evaluate the TAT for hematology and biochemistry results over a one-week period.
Assess the impact of different time periods (day vs. night shifts) on delays.

Methodology:
A retrospective audit was conducted over one week (21–28 August 2024) at Cork University Hospital ED. Data from 162 randomly selected patients (1 per hour) were analyzed from the hospital's Integrated Clinical Management (ICM) system. Results were categorized into three shifts: Overnight (12 AM – 8 AM)
Daytime (8 AM – 4 PM)
Evening (4 PM – 12 AM)
TAT compliance was evaluated for hematology and biochemistry separately.

Results:
Hematology: 69.1% of results were within the 120-minute target, while 30.9% were delayed. The highest delay rate was observed overnight (50%), compared to the daytime (19.6%) and evening (25%).

Biochemistry: Only 56.2% of results met the TAT, with 43.8% exceeding 120 minutes. The highest delay rate was during the daytime (48%), followed by overnight (44%) and evening (39.2%).

Conclusion & Recommendations:
Significant delays were identified, particularly in biochemistry and overnight shifts. Factors such as staffing levels, sample transport efficiency, and lab prioritization of urgent tests likely contributed. To improve TAT, we recommend:
Increasing staff during peak hours.
Introducing point-of-care testing (POCT) for critical biochemistry tests.
Optimizing lab workflow to reduce bottlenecks.
Conducting follow-up audits to assess improvements.

By implementing these measures, the ED can enhance efficiency, reduce patient wait times, and align with best practice guidelines.

Ultrasound-Guided IV Access for Difficult Intravenous Access (DiVA) in the Emergency Department

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Introduction:
Up to one-third of ED patients present with difficult intravenous access (DiVA), causing delays and increased discomfort[12]. Ultrasound (US)-guided IV placement improves success in DiVA cases, with higher first-attempt success and reduced pain and ED stay[5]. However, its use is limited by gaps in training, equipment, and formal sign-off[34].

Aim:
To assess current practice, barriers, and staff interest in US-guided IV cannulation and establish a baseline before implementing a DiVA pathway.

Methods:
A survey of 20 ED clinicians at Cork University Hospital collected data on experience, US use, training, and perceived barriers. Descriptive statistics were used.

Results:
* 65% were trained, but only 20% signed off.
* 80% used US infrequently.
* Main barriers: lack of training (40%), sign-off (25%), equipment (20%), and time (20%).
* 90% escalate to US only after ≥2 failed attempts.
* Average comfort level was 5.1/10; likelihood to use if signed off was 8.8/10.
* 95% showed interest in further training.

Conclusion:
US-guided IV access remains underutilised despite strong interest. Key barriers include lack of sign-off, training, and equipment access. Implementing a DiVA pathway and training program is vital to enhance IV access safety and efficiency. Re-audit is recommended post-intervention.
*

References:
[1],[2] American J Emerg Med 2021; Alexandrou E et al. J Hosp Med 2015.
[3] Whalen M et al. J Infus Nurs 2017.
[4] Witting MD. J Emerg Med 2012.
[5] Sabri A et al. BMC Nurs 2017.

Enhancing Health Literacy in Urology: Can Surgical Videos Improve Patient Understanding of Kidney Stone Removal?

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Introduction: Health literacy (HL), how patients access, understand, and act on health information, is important and unknown for kidney stone patients. This study assessed whether adding a short educational video, produced by the European Association of Urology (EAU), could improve patient understanding and satisfaction with ureteroscopy for kidney stone treatment, when used alongside standard written information.

Methods: Patients attending a pre-operative assessment clinic completed the Brief Health Literacy Survey (BHLS) and the Assessment of Understanding Questionnaire (AOUQ). The intervention group viewed the EAU ureteroscopy video and then completed the AOUQ along with three procedure-specific knowledge questions. All participants were contacted 4–8 weeks later for a structured telephone follow-up to assess recall of the procedure and any post-operative complications.

Results: To date, 33 patients have been recruited (16 in the intervention group, 17 in the control group). Over one-third of participants demonstrated low health literacy at baseline. Patients in the intervention group showed a statistically significant improvement in their understanding after viewing the video ($p < 0.01$) and scored significantly higher on the AOUQ than those in the control group ($p < 0.01$). Additionally, 83% of patients in the video group reported feeling more comfortable and informed about the procedure.

Conclusion: Preliminary findings suggest that a short, targeted educational video can enhance patient understanding and satisfaction with ureteroscopy. Larger studies are warranted to confirm these results and to explore the potential impact on post-operative outcomes.

Personalised Surgical Consent Using Artificial Intelligence: A Feasibility Study

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Introduction: Standardised consent forms are often generic and fail to address a patient's reading ability, medical co-morbidities, or specific concerns. Manually creating personalised consent forms for every patient and procedure would be time-consuming and inefficient. This study explores whether artificial intelligence (AI) can be used to generate personalised consent forms that account for these individual factors.

Methods: Ten hypothetical patient profiles were created, each scheduled for a different surgical procedure and presenting with varied medical co-morbidities and reading levels. Five urology and five general surgery procedures were selected. These case prompts were submitted to four AI models: ChatGPT, MedicalAI, GoogleAI, and Deepseek. The AI-generated consent forms were assessed by a panel comprising consultants, registrars, SHOs, and non-medics. Forms were evaluated using a validated quality checklist and a 5-point Likert scale. Readability was also analysed using standard scoring tools.

Results: Fifteen AI-generated consent forms were reviewed and scored using a validated Patient Information Leaflet (PIL) scoring system. Across all models, the average scores for content accuracy, structure, and clarity were high, with ChatGPT consistently achieving the highest marks. It scored an average of 18.7/20, particularly excelling in personalisation, clarity of risk explanation, and alignment with the patient's literacy level. Deepseek followed with a mean score of 17.2/20, while MedicalAI and GoogleAI scored 16.5/20 and 14.8/20, respectively. All models demonstrated the ability to tailor content based on patient reading level.

Conclusion: AI can effectively generate personalised surgical consent forms tailored to patient reading levels and clinical context. While current limitations include a lack of visuals and references, ChatGPT appears to be the most effective AI model for this application at present.

Histopathology LEAN project for improvement of skin turn-around-times

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Background
Turnaround time (TAT) is one of the key indicators of laboratory service and performance. In the histopathology lab, Cork University Hospital, a consistent backlog of skin cases in the cut-up process is causing delays and adversely affecting the TAT for patients. Two similar audits conducted in our department in 2023 a 2024 showed that on average the lab receives 48 to 50 skin cases daily.

Goal Statement
The goal statement of this quality improvement project is that all skin cases received into the laboratory the previous day should be cleared and processed on the following day.

Methods
The SIPOC tool was used to construct a process map from which the primary issues causing the backlog could be identified by both medical scientists and NCHDs, such as inadequate cut-up staff, varying levels of cut-up experience, and conflicting work responsibilities. From this, certain measures were implemented and trialed, and the number of daily skins cases cut-up/ processed was analyzed pre and post implementation.

Results
Implementation of a cut-up assistant saw an average increase of 60% in cases cut-up per hour by cut-up staff. Other measures which supported this increase were re-allocation of cases deemed “non-skins” and brief morning huddles to assess the number and complexity of cases and plan accordingly.

Conclusion
Optimum TATs are crucial for patient care and as a laboratory quality indicator. The most significant improvement in skins TATs was seen following implementation of a cut-up assistant. Data from this project may be used to potentially fund this position.

Adaptation of the Registered Nursing Forecasting (RN4CAST) Nurse Survey for Use in the Systemic Anti-Cancer Therapy (SACT) day unit: A mixed-methods study

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Background:
Systemic anti-cancer therapy (SACT) nurses are facing increasing workloads against the backdrop of increased treatment complexity and patient caseload, coupled with a lack of policy guidance or research about the required composition of SACT workforce to ensure optimal care and outcomes (Markert et al., 2009). The Registered Nursing Forecasting (RN4CAST) survey was a ground-breaking international research initiative designed to predict what happens to the quality of patient care and care outcomes when components of the workforce change in acute and geriatric inpatient units (Aiken et al. 2013). However, the RN4CAST method is yet to be applied to the oncology setting, so we have adapted it to create the new RN4CAST SACT day unit (RN4CAST-SACT-D) survey. This study aims to pilot test and evaluate the feasibility of the amended the RN4CAST-SACT-D survey.

Methods: A mixed methods feasibility study with an embedded qualitative semi-structured interviews and process evaluation.
Results: The primary outcome will be a narrative description of study feasibility, including recruitment and retention, data quality and validity and stakeholder acceptability. Secondary outcomes will include (1) practice environment and job satisfaction, (2) staffing levels and workload, (3) nurse burnout, (4) quality and safety, (5) activities done and left undone.

Conclusion: The RN4CAST-SACT-D offers an exciting opportunity to forecast the requirements of the SACT nursing workforce to enable more effective human-resource planning, high-quality care and improved patient outcomes.

A qualitative study exploring the experiences, views and scope of practice of pharmacists working in infectious disease services in Irish hospitals

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Background:
Infectious diseases (ID) pose challenges within healthcare. While ID pharmacists play an essential role in the provision of a variety of ID services, insights into this role remain underdefined in the Irish context.

Objective:
To explore the experiences, roles and scope of practice of pharmacists providing ID services in Irish hospitals.

Methods:
Interviews were conducted with pharmacists working in ID services in Irish hospitals in November 2024. Thematic analysis was used. Ethical approval was obtained.

Results:
Sixteen pharmacists were recruited from twelve hospitals across Ireland. The sample included variety in gender, age, experience and roles. Predominant themes included the broad scope of the role and responsibilities, the positive impact of ID pharmacists, barriers and challenges in the role such as staffing shortages and lack of facilities, comparison to international standards and future aspirations. While pharmacists play a crucial role in medication management, patient counselling and multidisciplinary collaboration, inadequate formal recognition, gaps in training, importance of interprofessional collaboration and the lack of specific ID service in some hospitals, were raised. Pharmacists expressed a strong desire for independent prescribing rights and pharmacist-led ID clinics.

Conclusions:
While pharmacists contribute substantially to ID patient care in Ireland, challenges that limit their full integration into healthcare teams were identified and should inform future service development to advance the pharmacist role in ID services. Ensuring integration and expansion of their role in the health service through policy changes, structured training, and independent prescribing could enhance patient outcomes and align with international best practices.

Unmet Needs in Self-Harm Risk Assessment in the Emergency Department: A Mixed-Methods Evaluation

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Background:
Emergency departments (EDs) are crucial assessment and management of self-harm, but clinician uncertainty may contribute to ineffective care. Clinical Decision Support Systems (CDSSs) show potential in enhancing care processes, but their effective implementation remains unexplored. The PERMANENS project aims to develop a CDSS software prototype that can assist clinicians in the personalized detection and assessment and management of risk patients presenting with self-harm. We employed a user-centred approach which allowed us to identify current unmet needs in self-harm risk assessment within ED.

Methods:
This mixed-method research employed an online survey and focus groups targeted to end-users of the CDSS. This study was conducted across Ireland and Spain. The online anonymous survey (N=92) was conducted among healthcare professionals (HP) working in hospital ED nationally, and contained open and close-ended questions, taking under 10 minutes to complete. Four focus groups were conducted with LE members (N = 8) and HP (N = 5).

Results:
Results indicated that HPs were in favour of using the CDSS and could envision integrating it into their practice. No significant differences in relation to age, occupation, or gender were found. For focus group, data analysis was informed by Braun and Clarke's thematic analysis. Prominent themes included continuity of care, psychoeducation and specialized training for ED staff, and the importance of clear post-discharge information.

Conclusion:
The implementation framework approach is particularly valuable given the study's novel, user-centred design—marking the first effort to integrate patient input throughout both the development and implementation phases of a CDSS in the context of suicide risk models.
Keywords: unmet needs, suicide prevention, self-harm, mixed-methods, clinical decision support tools

I am still repairing: Long-term Mental Health Impact of Pregnancy and Birth Complications - A Qualitative Descriptive Study.

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Background: Many women generally perceive pregnancy and childbirth as a positive experience, however, about 1 in 3 women may have a negative/traumatic experience due to severe obstetric or neonatal complications/morbidity. We explored women's lived experiences of pregnancy and birth complications, the impact of such complications on their mental health as well as services and resources needed for women's mental health delivery in Ireland.

Method: We conducted semi-structured interviews with women from March to May 2023. Eligible women were >18 years of age and at least 12 months and up to 5 years since experiencing a pregnancy and birth complication. Participants were purposively sampled and all participants opted to have their interviews online. We analysed data using reflexive thematic analysis. Patient and public involvement contributors informed the development of the interview schedule.

Results: Twenty-one women participated in the study. Preeclampsia and emergency caesarean section were the most reported complications women had experienced. We identified four themes in the preliminary analyses; Unpredictability of birth events and the need for control were a key challenge for participants. The childbirth environment had a major impact on participants' experiences with some "feeling distressed" and others lacking an advocate. All participants highlighted communication challenges with healthcare providers and restrictions caused by COVID-19. However, most women emphasized the importance of receiving risk information about complications before childbirth.

Conclusion: This study contributes to a better understanding of the information, resources, and support needs of women who experience complications during pregnancy and birth in Ireland.

Association Between Maternal Pregnancy Complications and Long-term Depressive and Anxiety Disorders: Findings from UK Millennium Cohort Study

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Background: Existing evidence on the association between pregnancy complications and long-term depression/anxiety in the mother is limited. This study aimed to explore this association using the UK Millennium Cohort Study (MCS) data.

Method: Pregnancy complications were self-reported at the first interview nine months postpartum from a list of 21 complications. Follow-up surveys including questions about depression/anxiety diagnosis were carried out at 3, 5,7,11, and 14 years postpartum. The primary outcome measures are diagnosis of depression/severe anxiety in the mother up to 14 years postpartum. We applied multivariable logistic regression models and adjusted for several potential confounders.

Results: The study cohort consisted of 10,530 women who were followed up from 9 months to 14 years postpartum. The results supported an association between threatened miscarriage [OR, 1.38 (95% CI: 1.16 – 1.64)], bleeding in later pregnancy [OR, 1.37 (95% CI:1.11 – 1.69)], preeclampsia [OR, 1.45 (95% CI: 1.23 – 1.69)], and depression/anxiety up to 14 years postpartum, but not for gestational diabetes mellitus [OR, 1.02 (95% CI, 0.75 – 1.38)]. In a separate analysis using the number of reported complications, each additional pregnancy complication conferred 20% increase in odds of having a depression/severe anxiety diagnosis [OR, 1.56 (95% CI: 1.42 – 1.71)], [OR, 1.72 (95% CI: 1.47 – 2.00)], [OR, 2.06 (95% CI,:1.62 – 2.62)] for 1, 2, and 3+ complications respectively.

Conclusion: Threatened miscarriage, bleeding in later pregnancy, and preeclampsia were associated with long-term depression/severe anxiety. Women who reported numerous pregnancy complications had the highest odds of long-term depression/severe anxiety diagnosis.

Sexual Health Matters: Understanding the information needs of female cancer survivors

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Background:
Advancements in oncology have significantly improved survival rates, but many cancer survivors, particularly women, face ongoing challenges related to sexual health. Sexual health, encompassing physical, emotional, and relational well-being, is a critical aspect of quality of life. Research indicates that 70–80% of women with breast and gynecological cancers experience sexual health issues after treatment. Despite this, sexual health remains a neglected area in survivorship care, with less than half of those affected receiving adequate support.

Aims:
This study aimed to assess whether cancer patients received adequate information about sexual health, where they sought information, and their preferences for how and when they would like to receive it in the future.

Methods:
A mixed-methods approach was employed. Participants diagnosed with breast or gynaecological cancer and attending CUH, CUMH, or SIVUH were invited to complete an online survey. A subset of participants then took part in qualitative interviews to delve deeper into key themes.

Results:
Preliminary findings reveal that approximately 60% of participants did not receive any information on sexual health, and 80% reported that their concerns were not sufficiently addressed by healthcare professionals. Participants expressed preferences for receiving information through in-person discussions, reputable online resources, and written materials. Additionally, they emphasized the importance of clinician-initiated conversations about sexual health, ongoing follow-up care, and a holistic, patient-centered approach to care.

Discussion:
A hybrid model of care combining face-to-face support with trusted digital and self-management resources can best meet survivors' diverse needs. Empowering patients with flexible, accessible options—while ensuring proactive, clinician-led engagement—can normalise sexual health discussions and improve overall care. Patient-led insights are crucial for designing inclusive, responsive survivorship support that aligns with individual preferences.

Establishing a Lived Experience Panel in Suicide and Mental Health Research

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Background: Lived Experience (LE) are the things that someone has experienced themselves, with experts-by-experience people providing special knowledge or understanding to those who have not experienced similar adverse events. It is important in research as they ensure the research conducted is meaningful, accessible and relevant with mutual benefits for researchers and contributors. LE input has become a key priority in mental health research and suicide prevention.

Methods: In 2024 the National Suicide Research Foundation established its first LE Panel to address the growing need for embedding LE into research. An internal Advisory Panel was convened to oversee the establishment and maintenance. The first steps involved a survey of the organisations upcoming LE needs. Followed by a period of targeted recruitment to reach those identified by the survey.

Outcomes: From 44 applicants with LE of suicide, self-harm and mental health issues, 12 were invited to join the LE Panel, age range 19-62 years from various backgrounds and locations and with diverse experiences. In year one the LE Representatives contributed 76 hours to 10 research projects. The projects varied from contributing to lay summaries of research grants, to active involvement in EU-funded research projects and development of tools and surveys nationally. LE Representatives were reimbursed for their input and working hours.

Conclusion: The LE Panel was successfully established to meet the growing need in suicide and mental health research. The Panel will continue to grow, develop and work towards inclusion of under-represented LE communities in the coming year and evaluate the impact and the experiences of our Representatives.

Patterns in admissions, after care and psychiatric assessment for hospital-presenting self-harm in the Republic of Ireland during 2012-2023- a Registry study

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Introduction: Over the past decade, the care provided to individuals presenting to hospital Emergency Departments (EDs) in Ireland with acute mental health conditions such as self-harm has undergone significant transformation.

Methods: This study aimed to examine whether in-hospital care and aftercare provided to individuals presenting with self-harm has changed over an 11-year period (2013–2023). It utilizes data from the National Self-Harm Registry Ireland from 2013-2023. . Descriptive statistics, including frequencies and proportions, are used to compare current patterns with data from a decade ago.

Results: From 2013-2023, the percentage of presentations admitted to general hospital wards increased from 23.0% to 25.3%. Psychiatric inpatient admissions declined from 8.7% to 5.6%. The number of presentations discharged from EDs decreased from 52.8% to 47.2% over the same period. Among those discharged, 29.7% were sent home in 2013 compared to 28.7% in 2023. Referrals to general practitioners (GPs) rose from 16.8% to 24.0%, and to addiction services from 1.0% to 5.5%. The proportion of presentations receiving a psychiatric assessment in the ED or later in the same hospital decreased from 69.5% in 2013 to 60.0% in 2023.

Conclusion: These findings highlight evolving practices in the acute management and follow-up care of self-harm presentations in Irish hospitals. The shift toward increased general ward admissions and GP or addiction service referrals suggests changing priorities and service availability, with potential implications for continuity and quality of mental health care.

Hospital presenting self-harm in the Republic of Ireland and Northern Ireland across 10 years: 2013-2022

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Introduction: Self-harm and suicide are global health issues. Prevention strategies in the Republic of Ireland and Northern Ireland have highlighted hospital-presenting self-harm as a target priority area. This study describes rates of self-harm in the Republic and the North during 2013-2022.

Methods: Data from the National Self-Harm Registry Ireland and the Northern Ireland Registry of Self-Harm were utilized in this study. Both registries record information on self-harm presentations to all hospital Emergency Departments across the Republic and the North. Self-harm rates were calculated based on the number of persons who presented to a hospital Emergency Department following self-harm in that calendar year. Crude and age-specific rates per 100,000 population were calculated.

Results: There was an average of 9023 people who presented with self-harm in the Republic and 5472 in the North annually. The national rate of self-harm in the Republic in 2013 (199 per 100,000) was almost identical to 2022 (197 per 100,000). In the North, the rate reduced from 322 per 100,000 in 2013 to 272 per 100,000 in 2022. A similar trend over the 10-year timeframe was observed for men in both countries with a decrease of 8% in the Republic and 22% in the North. The female rate increased by 5% in the Republic and decreased by 9% in the North. In both countries, younger age groups showed an increasing trend in self-harm rates with larger increases observed for girls.

Conclusion: The monitoring of trends in this study detected country-level differences in trends over a 10-year timeframe.

Hydrogel Microneedle Array with Integrated Electrochemical Biosensor Patch for Continuous Glucose Monitoring in Interstitial Fluid

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While ISF extraction and electrochemical biosensing using swellable microneedle arrays has demonstrated potential for chronic disease management, the technique faces challenges due to time-consuming and complicated integration processes that compromise sensitivity and efficiency, limiting its adoption in routine use for personalized healthcare. In this study, we describe a wearable, microneedle-based sensor system that combines biocompatible hydrogel MN arrays to extract ISF, with a PCB-mounted electrochemical glucose sensor for continuous monitoring. A patterned thin film is used as a passivation and adhesive layer on the front side of the hydrogel MN array, and a drop of hydrogel on the backside of the array is used to affix it to the electrochemical sensor. Once this hydrogel microneedle (MN) array painlessly penetrates the skin, ISF diffuses through the hydrophilic hydrogel and directed to a PCB-based electrochemical glucose biosensor enhanced with inkjet-printed platinum on screen-printed carbon electrodes. This biosensor is interfaced to a commercially available, miniaturized electrochemical analyser that wirelessly transmits data to a mobile device for continuous processing and display. In vitro tests demonstrate accurate glucose detection across concentrations from 0 mg/dL to 400 mg/dL. By removing the need for external pumps whilst ensuring high sensitivity, this MN-based platform paves the way for simple, wearable, minimally invasive self-testing devices, advancing personalized and decentralized healthcare.

Evaluating a Newly Established Advanced Nurse Practitioner-Led Service for Gynaecological Cancer Risk Reduction in Genetically Predisposed Women

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Background
Women with a genetic predisposition to gynaecological cancer require timely risk -reducing advice and intervention. To address this need, a new Advanced Nurse Practitioner (ANP) -led service was introduced to provide specialised consultations, risk -reduction strategies and coordination of care. This service evaluation aimed to assess the structure, reach and early outcomes of the initiative.

Aim
To evaluate the implementation and early impact of an ANP-led gynaecological cancer risk-reduction service for individuals with a known genetic predisposition.

Methods:
A retrospective chart review was conducted of all patients seen between April 2024 and July 2025. Data collected included patient demographics, referral indications, risk management strategies and follow-up plans. Descriptive statistics were used to summarise data. The evaluation was approved by local clinical governance.

Results:
A total of 161 consultations were completed during the review period, comprising 93 new patient visits and 68 return consultations. The majority of patients were referred following identification of BRCA 1/2 or Lynch syndrome pathogenic gene variants.
The ANP -led model facilitated timely risk counselling, offered discussions around prophylactic surgery, and provided streamlined coordination with genetics, oncology and surgical teams.

Conclusions
The ANP-led service effectively addressed a care gap for genetically at risk women, delivering personalised, coordinated and specialised consultations. Findings support the value of advanced practice roles in preventative oncology. Ongoing evaluation will focus on patient outcomes and satisfaction with the service. The model supports multidisciplinary collaboration and provides a scalable approach to meet the growing demand for gynaecological cancer risk management.

Assessing the extent of patient and public involvement in randomised trials of tailored implementation strategies: a secondary analysis nested within a systematic review

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Background: Patient and Public Involvement (PPI) is increasingly recognised as essential in health research, including trials of implementation strategies. However, the extent and quality of PPI reporting in trials of tailored implementation strategies remains unclear. This study aims to examine how PPI is used and reported in randomised controlled trials (RCTs) identified in a Cochrane systematic review.

Methods: We are conducting a secondary analysis nested within a Cochrane systematic review. This review included RCTs evaluating tailored implementation strategies published between 2019 and 2024. Twenty-nine trials were identified and we retrieved 70 associated publications (including protocols, intervention development papers and trial results). A screening tool was developed using the definition of PPI from the updated Guidance for Reporting Involvement of Patients and the Public (GRIPP2). For studies reporting PPI, data are being extracted using a standardised form informed by the GRIPP2 short-form reporting checklist. Descriptive statistics and content analysis will be used to synthesize findings.
Preliminary Results: To date, 19 of 70 publications have been screened. Six report some degree of PPI typically in protocol or intervention development phases. Full screening and analysis are ongoing.

Conclusions: Preliminary findings indicate inconsistent use and reporting of PPI in trials of tailored implementation strategies. This study will offer insight into current practices and inform efforts to enhance the integration and transparent reporting of PPI in implementation research with strong participatory components.

Prospective Evaluation of the Breast Microbiota and Tumour Microenvironment-related Biomarkers of Response to Neoadjuvant Systemic Therapy in Triple Negative Breast Cancer

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Background
Predictive biomarkers of response to chemotherapy and immune-checkpoint inhibitors are urgently needed to tailor treatment recommendations for patients with early-stage triple-negative breast cancer (eTNBC). Recent advancements have revealed that the breast harbours its own microbiota, with our group identifying tumour-associated bacteria as potential biomarkers in breast cancer. This study aims to characterise the breast microbiota and tumour microenvironment in eTNBC patients treated with neoadjuvant chemo-immunotherapy, and correlate findings with clinical outcomes.

Trial Design
This study is enrolling patients with eTNBC eligible for neoadjuvant systemic therapy followed by surgery. The primary objective is to evaluate changes in breast microbiota composition before and after treatment. Secondary objectives include correlation of microbiota profiles with pathological response, survival outcomes, tumour-infiltrating lymphocytes, and PDL-1 expression. Tumour tissue is collected at baseline and surgery for metataxonomic sequencing. Blood and stool samples are collected at multiple time points and analysed for secondary endpoints.

Statistical Methods
Microbiota data will be analysed using alpha and beta diversity metrics, hierarchical clustering, principal component analysis, and machine learning approaches such as Random Forest for data classification and clustering. Trial was activated in September 2024, with eight patients recruited to date. We aim to recruit 20–30 patients by September 2026.

Conclusion
This trial will provide deeper insights into the role of the breast microbiota as a predictive biomarker for response to neoadjuvant therapy in patients with eTNBC. Findings may support future development of immunomodulatory strategies and microbiota-targeted interventions in breast cancer treatment.

Funding: Breast Cancer Research Foundation & Health Research Board

Operational Determinants Influencing Implementation Success in Translational Observational Studies: A Multi-Site Comparative Analysis of Recruitment and Biospecimen Collection

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Background: Biospecimen collection from study participants is essential for translational research, but operational challenges in study setup and conduct often impede successful delivery. This study uses a comparative approach to identify key logistical and staffing determinants influencing setup duration, recruitment efficiency, sample acquisition, and data completeness across three investigator-led microbiome-wide association studies (MWAS) conducted at cancer centres in Ireland.

Methods: Three academic observational MWAS enrolling participants with cancers of the breast, gastrointestinal tract, lung, biliary system, kidney, and skin were compared. Data from three cancer centres were analysed. Key variables included study team composition, administrative infrastructure, and full-time equivalent (FTE) research staffing. Metrics assessed included setup duration, recruitment rates, sample acquisition, and data completeness. Descriptive statistics, correlation analyses, and regression models were used to evaluate relationships between staffing and study performance.

Results: Setup duration ranged from 30 days (Site B, with a pre-established trials unit) to 390 days (Site A, with no dedicated setup personnel). At Site C, the addition of an Academic Clinical Trials Coordinator reduced the remaining setup timeline from 274 to 185 days. Recruitment rates ranged from 1.1 to 1.3 participants/month, with the highest rates at sites with dedicated research nurses (RN+). Sample acquisition was 100% at RN+ sites and 70.5% at the RN− site. Site C achieved full data completeness, defined as comprehensive documentation of screening, exclusions, and follow-up outcomes. Statistical modelling indicated that dedicated staffing (both administrative and clinical) was strongly associated with improvements across all metrics, although sample size limited statistical significance.

Conclusions: Dedicated administrative and clinical trial personnel significantly enhance study efficiency, participant recruitment, and biospecimen collection in academic translational research. This study provides practical insights for improving study design and infrastructure planning in future observational studies. To our knowledge, this is the first multi-site comparative evaluation of operational determinants in academic MWAS, offering evidence-based recommendations for improving the feasibility and reliability of biospecimen-based research.

Improving the management of women with a low risk pregnancy of unknown location in the early pregnancy unit: A Quality Improvement Project

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Background
Pregnancy of unknown location (PUL) occurs when neither an intrauterine nor extrauterine pregnancy is seen on ultrasound in the setting of a positive pregnancy test1-3. Early pregnancy unit (EPU) management policies for PUL include multiple repeat appointments2. Serum progesterone may be used in PUL to identify those pregnancies that are no longer ongoing.

Objective
This aim of this quality improvement project was to introduce serum progesterone to triage women with a PUL in the EPU of CUMH at time of initial review.

Study design and method
From 15 April – 13 October 2024 serum progesterone was taken on all women with PUL but results were blinded and not used to inform care. Following EPU staff education, on 14 October 2024 progesterone was integrated as part of routine care to triage women with PUL as part of a single visit strategy. All cases from 14 October 2024 - 14 February 2025 were prospectively audited.

Results
Following implementation of progesterone of the 103 women with PUL 51% (n=53) had progesterone ≤2mmol/l and hence were eligible for immediate discharge. Since the implementation of progesterone for PUL in our unit there has been a reduction in the number return visits from 38% to 6% while the length of time for final discharge from EPU has reduced from 50 hours to 21 hours (Table 1).

Conclusion
Introduction of serum progesterone levels to triage women with PUL is an effective and safe strategy. A single visit strategy for low risk PUL's can feasibly be implemented into all EPU.

References
1. NICE (2012). Pain and bleeding in early pregnancy: Quality standard consultation | Ectopic pregnancy and miscarriage | Quality standards | NICE. [online] Available at: https://www.nice.org.uk/guidance/qs69/documents/pain-and-bleeding-in-early-pregnancy-quality-standard-consultation [Accessed 01 Feb. 2024].
2. NICE (2019). Overview | Ectopic Pregnancy and miscarriage: Diagnosis and Initial Management | Guidance | NICE. [online] Nice.org.uk. Available at: https://www.nice.org.uk/guidance/ng126.
3. Pregnancy & Infant Loss Ireland. (2024). Clinical practice guideline on the diagnosis and management of ectopic pregnancy - Pregnancy & Infant Loss Ireland. [online] Available at: https://pregnancyandinfantloss.ie/clinical-practice-guideline-on-the-diagnosis-and-management-of-ectopic-pregnancy/ [Accessed 01 Feb. 2024].

Prosthetic use in individuals with lower limb amputations who need help to walk: A qualitative study on perceived barriers and facilitators

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Background: Amputation is the loss or surgical removal of limbs, in part or full. Clinically, there is not always agreement on how patients who may not be able to use a prosthesis independently should be managed. This study explored the facilitators and barriers to walking in a prosthetic user's own environment, for those who need help to walk.

Methods: Lower limb amputees who needed assistance to use a prosthesis were recruited on discharge from a prosthetic rehabilitation service. Semi-structured telephone interviews were conducted 6-12 months post discharge from rehabilitation. Verbatim transcription of the recorded interviews was completed. Data was analysed in accordance with Braun and Clarke's approach to inductive Thematic Analysis.

Results: Five participants were recruited. Three of those were still using their prosthesis, two with assistance, while one had progressed to independent use. Two participants had abandoned prosthetic use. Five rich, coherent themes were identified in relation to barriers and facilitators, i.e., 'family and carer support', 'prosthetic issues', 'patient functioning and environmental factors', 'psychological resilience' and 'clinical factors'.

Conclusion: This study provides preliminary evidence that it is feasible for amputees to pursue prosthetic use when needing assistance to walk. Further research is needed with this population, with a larger sample size. Further research would also be useful to explore care givers experiences of supporting prosthetic use. The facilitators and barriers described give considerations for therapists to improve how they support patients who need help to use a prosthesis both during rehabilitation and in their own environment.

Competencies for Healthcare Professionals in Climate Change and Sustainability: a Group Concept Mapping Study (Research in Progress)

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Background:
Healthcare systems need to respond to the challenges of climate change and move towards more sustainable ways of delivering care. Healthcare students and professionals need knowledge and skills in climate change and sustainability to drive and deliver that response. Evidence is lacking about what needs to be learned and how it can be incorporated into health professions' education. This study aims to provide a set of competencies, identified by stakeholders, for healthcare professionals in climate change and sustainability.

Methods:
Group concept mapping is a mixed-methods consensus building methodology. Ideas are generated using qualitative techniques, sorted by participants into meaningful groups and rated according to their perceived value. Healthcare professionals, educators, students and other stakeholders were purposely sampled to participate in the study using an online platform. Participants responded to the prompt "What do healthcare professionals need to do in their daily practice regarding climate change and sustainability?". Participants will be invited to sort the responses according to similarity. Responses will undergo hierarchical cluster analysis and participants will rate competencies according to perceived importance. A visual representation of the conceptual framework will be generated.

Results:
Forty participants generated 116 responses. Participants comprised healthcare professionals (n=34, 85%), a healthcare student (n=1, 2.5%) and other stakeholders (n=5, 12.5%). The initial responses included knowledge, skills and attitudes relating to climate change and sustainability. The sorting and rating stages will provide detail on the relative importance of these competencies for health care professionals.

Discussion:
The final conceptual framework of competencies will help to inform priorities for health professions' education in climate change and sustainability.

CARDIOVASCULAR RISK CONTROL IN COMMUNITY-BASED IRISH ADULTS WITH HYPERTENSION

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Background:
Hypertension is a significant cardiovascular risk factor associated with premature mortality globally. Blood pressure (BP) control may be influenced by prescriber choice of medication. This study aims to assess blood pressure control and the prescribing pattern of antihypertensive medications among patients in a primary care setting.

Methods:
A follow-up of the Mitchelstown cohort study was conducted in 2015 with 1378 of the baseline participants being re-screened. Electronic health records were used to identify participants prescribed antihypertensive medications, with medications classified by their generic names and Anatomical Therapeutic Chemical codes. The number of people who achieved their target BP goal, as set out in the 2013 European Society of Hypertension/European Society of Cardiology guidelines for the management of arterial hypertension, was evaluated.

Results:
Among 1,074 participants with complete data available, antihypertensive medications were prescribed to 43.3% of participants. Of these, 54.0% were prescribed antihypertensive monotherapy with the most commonly prescribed antihypertensive class being angiotensin receptor blockers (40.9%). Just 29.0% were prescribed dual-therapy and 10.5% were prescribed triple therapy. Of those on combination therapy, 22.1% were on single-pill fixed-dose combination. Among people prescribed antihypertensive medications, 63.0% achieved their BP goals. Those who achieved their BP goals were older (66.7 ± 5.27 vs. 65.9 ± 5.13 years), had lower BMI (28.9 ± 4.6 vs. 30.4 ± 11.3 Kg/m2) and had lower percentages of females (46.1% vs. 36.1%) compared to those who didn’t achieve their goals.

Conclusion:
Early findings demonstrate potentially suboptimal BP control among over one-third of people treated with anti-hypertensives in this population.

Medication Adherence Post-Myocardial Infarction: Healthcare Professionals' Insights from a Qualitative Study.

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Background: Healthcare professionals (HCPs) play a critical role in optimising secondary prevention following myocardial infarction (MI), where ensuring long-term medication adherence remains a persistent challenge in routine practice (1). Despite strong guideline-based recommendations for post-MI pharmacotherapy, including antiplatelets, statins, beta-blockers, and ACE inhibitors, nonadherence is common and contributes significantly to avoidable morbidity and hospital readmissions (2,3). Understanding the behavioural drivers of nonadherence is increasingly recognised as essential for HCPs seeking to deliver effective, patient-centred care (4). Recent evidence highlights how factors such as patients' beliefs about treatment, social support, and environmental barriers influence adherence behaviours, underlining the need for HCPs to identify and address these determinants in clinical encounters (5).

This study aims to explore healthcare professionals' (HCPs) perspectives on medication adherence post-MI and to identify the key behavioural determinants influencing medication management in this patient group.

Methods: A qualitative descriptive study guided by the Theoretical Domains Framework (TDF), for behavioural change (6,7) was conducted via semi-structured interviews with HCPs in Ireland. HCPs were sampled using a combination of purposive, convenience, and snowball sampling to ensure representation from various disciplines. Participants were recruited from diverse healthcare settings and practice locations. Interviews were audio-recorded and transcribed verbatim. Data collection and analysis were conducted iteratively, with directed content analysis used to identify frequent, critical, and conflicting enablers and barriers to patient medication adherence post-MI.

Results: Of 12 HCPs interviewed from December 2024 to May 2025, there were four pharmacists, two general practitioners, three cardiologists and three nurses; the mean duration of interview was 41 minutes (range 30-50 minutes). Fourteen enablers and six barriers were identified within the 10 TDF domains. Medication adherence enablers included (i) HCP impact, (ii) patients' education about the medication prescribed, (iii) tailored approach, (iv) continuity of patient care and (v) patient access to HCPs. Barriers reported included (i) polypharmacy, (ii) limited resources, and (iii) health literacy, see Table. 1.

Conclusion: Based upon these findings, a range of novel enablers and barriers to medication adherence post-MI were identified. These findings, along with the findings of a parallel patient-focused qualitative study, will be mapped to the Capability, Opportunity, and Motivation-Behaviour (COM-B) model to inform the design of a targeted, tailored intervention aimed at improving patient medication adherence post-MI (8).

References:
1. NICE. Secondary prevention after a myocardial infarction. Clinical guideline [CG172].
2. Yusuf S, Hawken S, Ounpuu S, et al. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. The Lancet. 2004;364(9438):937–952.
3. Osterberg L, Blaschke T. Adherence to medication. New England Journal of Medicine. 2005;353(5):487–497.
4. Ho PM, Bryson CL, Rumsfeld JS. Medication adherence: its importance in cardiovascular outcomes. Circulation. 2009;119(23):3028–3035.
5. Conn VS, Ruppar TM, Chase JD. Interventions to improve medication adherence in people with multiple chronic conditions: a systematic review. Health Psychology. 2016;35(8):823–831.
6. Atkins L, Francis J, Islam R, O'Connor D, Patey A, Ivers N, et al. A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. Implement Sci [Internet]. 2017 Jun 21;12(1):77. Available from: https://doi.org/10.1186/s13012-017-0605-9
7. Michie S, Johnston M, Abraham C, Lawton R, Parker D, Walker A, et al. Making psychological theory useful for implementin

Medication Adherence Post-Myocardial Infarction: Preliminary Insights from a Qualitative Study of Patient Perspectives.

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Background: Medication adherence following myocardial infarction (MI) is essential to reduce the risk of recurrent cardiovascular events and improve long-term outcomes(1). Despite strong international guideline recommendations supporting the use of evidence-based medications post-MI, adherence to these therapies often declines over time (2). This non-adherence poses a substantial challenge to optimal and patient outcomes post-MI. This study aims to explore patients' perspectives on medication adherence post-MI and to identify the key behavioural determinants influencing medication management.

Methods: A qualitative descriptive study guided by the Theoretical Domains Framework (TDF) for behavioural change was conducted through semi-structured interviews in Ireland (3). The interview guide was developed based on the 14 TDF domains and reviewed by a Public and Patient Involvement contributor. Participants with self-confirmed history of MI were sampled using a combination of purposive, convenience, and snowball sampling to ensure representation. Data collection and directed content analysis were conducted iteratively to identify frequent, critical, and conflicting enablers and barriers to medication adherence post-MI.

Results: Since December 2024, six males aged 54-83 years have been interviewed, with data collection ongoing. The interviews ranged in duration from 30 to 50 minutes. Enablers that emerged from the preliminary data included (i) trust in healthcare professionals (HCPs); (ii) patients' knowledge of prescribed medication, and (iii) establishing a routine. Barriers reported included (i) health literacy concerns; (ii) cognitive behaviour, and (iii) polypharmacy.

Conclusion: Identifying behavioural influences presents an opportunity to design targeted strategies to address non-adherence. Study findings, along with a study of HCPs' perspectives, will inform an intervention designed using the Capability Opportunity and Motivation-Behaviour model to improve medication adherence post-MI (4). Ongoing recruitment aims to include female participants to ensure a more balanced representation and diverse perspectives.

References:
1.Huber CA, Meyer MR, Steffel J, Blozik E, Reich O, Rosemann T. Post-myocardial Infarction (MI) Care: Medication Adherence for Secondary Prevention After MI in a Large Real-world Population. Clin Ther. 2019 Jan;41(1):107–17.
2.Chowdhury R, Khan H, Heydon E, Shroufi A, Fahimi S, Moore C, et al. Adherence to cardiovascular therapy: a meta-analysis of prevalence and clinical consequences. Eur Heart J [Internet]. 2013 Aug;34(38):2940–8. Available from: https://doi.org/10.1093/eurheartj/eht295
3.Atkins L, Francis J, Islam R, O'Connor D, Patey A, Ivers N, et al. A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. Implement Sci [Internet]. 2017 Jun 21;12(1):77. Available from: https://doi.org/10.1186/s13012-017-0605-9

4. Michie S, van Stralen MM, West R. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. Implement Sci. 2011;6:42.

Maximising Efficiency and Cost-Effectiveness: Implementation of REDCap for National Clinical Audits in Perinatal Epidemiology

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Introduction: Perinatal audits are fundamental for enhancing maternal and neonatal outcomes, yet national data collection poses challenges. Despite efforts using different electronic platforms over the years, the National Perinatal Epidemiology Centre (NPEC) in Ireland faced persistent limitations, motivating the search for alternative solutions. REDCap (Research Electronic Data Capture) appeared as a viable option due to its cost-effectiveness and flexibility. This study describes the NPEC's challenges and how REDCap has helped to address these; the REDCap implementation strategy, and evaluates its impact on data quality.

Methods: Challenges and implementation strategies are described narratively in this study. To assess potential improvements in data quality after the implementation of REDCap, we focused on the Registered Home Births in Ireland Audit. Data quality was assessed using the Health Information and Quality Authority (HIQA) Data Quality Assessment tool.

Findings: REDCap mitigated several challenges, including cost constraints, disparate electronic health record systems, lack of standardisation, and data accuracy issues. Implementation involved familiarisation, standardisation, user training, and pilot testing. Preliminary data quality assessment revealed enhancements in data quality post-REDCap implementation.

Conclusion: These findings emphasise REDCap's potential in advancing perinatal epidemiology practices, offering insights applicable to multiple settings with different resources.

Stillbirth in singleton pregnancies in Ireland: 12 Years of Data - What have we learned and how can it inform prevention strategies?

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Aims: The objective of this study was to examine maternal and fetal characteristics, including causes of death and risk factors associated with stillbirths by gestational age group for singleton stillbirths.

Methods: The cohort study examined singleton stillbirths from 24 weeks gestation in Ireland between 2011 and 2022, excluding those with major congenital anomalies. Data on maternal and fetal characteristics, including medical history, risk factors, causes of death were collected from the Perinatal Mortality National Clinical Audit database in Ireland, one of the four countries with a national perinatal mortality audit providing good-quality, reliable data. Total births were collected from the National Perinatal Reporting System.

Results: The gestational-specific stillbirth risk between 24 and 41 weeks was J-shaped, increasing around 30 weeks. Risk factors associated with stillbirth were identified. 22.3% of mothers were obese and 34.1% of advanced maternal age. Term stillbirths had higher proportions of average-sized babies and lower incidence of smoking, non-White ethnicity, prior stillbirth, diabetes, and hypertension in mothers, but half of the mothers were nulliparous. Placental conditions and fetal growth restriction were leading causes of death, with the latter often undiagnosed antenatally.

Conclusion: Improved risk assessment, including fetal growth restriction detection, could aid stillbirth prevention efforts. Further research is required into late-onset fetal growth restriction and optimal birth timing for women with obesity or advanced maternal age. Data from this study can inform public health interventions and policies to prevent stillbirths, including educational campaigns to inform women of risks and encourage behavior modification to reduce risk.

Why do patients attend out-of-hours GP services in Ireland?

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Background:
The attendance at out-of-hours GP services in Ireland has increased over the last number of years. However, the reasons for the increased demand have not been explored to date.
Aims:
The aim of this study was to identify the factors contributing to the use of out-of-hours GP services from the patient's perspective.

Methods:
The survey was completed by patients attending an out-of-hours GP treatment centre in Ireland over a four-month period. Questions explored the reasons for attendance and experiences of patients with the out-of-hours service. Descriptive statistics were used to analyse the data on MS Excel.

Results:
80 people completed the survey. 75% (60/80) of participants stated that they had not attempted to contact their GP prior to contacting the out-of-hours centre. 49% (39/80) contacted the out-of-hours service as they felt that their issue was urgent. 36% (29/80) stated that they were unable to obtain an appointment with their GP and 15% (12/80) stated that the out-of-hours service was more convenient than regular GP hours. 29% (23/80) had symptoms for more than 4 days prior to contacting out-of-hours.

Conclusions:
This study provides insight into the factors driving patient attendance at the out-of-hours GP service in Ireland. These factors include perceived urgency of symptoms, an inability to obtain an appointment with their own GP and in some cases, the convenience of out-of-hours services. There is a demand for targeted patient educational campaigns and increased resourcing for GP services during the daytime to reduce reliance on out-of-hours GP services.

Investigating Potential Prescribing Cascades resulting in Prochlorperazine prescription: An Exploratory Analysis of Antihypertensives and NSAIDs

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Introduction:
A prescribing cascade occurs when medication is used to treat an adverse drug reaction (ADR) of another medication. Previous research has investigated prescribing cascades that result in prochlorperazine prescription after initiation of antihypertensives or NSAIDs, which has not been replicated.

Aim:
To explore potential prescribing cascades resulting in prochlorperazine prescription after antihypertensive medication or NSAID initiation, in community-dwelling older Irish adults.
Methods:
Prescription sequence symmetry analysis was conducted on anonymized, means-tested prescriptions (n=514,056) dispensed in Ireland (2017-2020). Medication classes included antihypertensives (alpha blockers, beta blockers, calcium channel blockers, diuretics, angiotensin receptor blockers, angiotensin-converting enzyme inhibitors) and NSAIDs. Incident users (aged ≥65 years) of both the exposure medication and prochlorperazine were included. The primary observation window was 365 days. Crude and adjusted sequence ratios with 95% confidence intervals (CI) were calculated. Stratified analyses explored shorter observation windows and potential effect modification by individual medication and sex.

Results:
Significant positive associations were identified for all examined medication classes. Adjusted sequence ratios ranged from 1.27 (95%CI, 1.16-1.40) for diuretics to 1.81 (95%CI, 1.49-2.19) for urological alpha adrenoreceptor blockers. The prevalence of each medication dyad ranged from 1.04% to 1.38%. Adjusted sequence ratios varied by sex and individual medication.

Conclusions:
NSAIDs and anti-hypertensives may contribute to subsequent prochlorperazine initiation among older adults. Further research examining data that includes clinical indications for prescribing is needed to confirm whether these signals represent true prescribing cascades or prescribing for another reason. ADRs should be included in the differential diagnosis for patients presenting with new symptoms.

Pregnancy loss under 24 weeks: Workplace supports, leave access, and the need for policy reform

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Background: As most women of reproductive age are in paid employment, pregnancy loss is an important workplace issue with significant physical and psychological health impacts. However, currently in Ireland there is no statutory entitlement to leave after pregnancy loss occurring before 24 weeks.

Aims: To examine and compare workplace experiences of individuals following pregnancy loss under 24 weeks, focusing on workplace and pregnancy loss characteristics.
Methods: A national cross-sectional survey was conducted in 2023 targeting individuals who experienced pregnancy loss under 24 weeks within the preceding five years while in paid employment In Ireland. Chi-square analyses examined associations between participant characteristics and workplace supports.

Results: Among 913 participants, 86.2% experienced a first-trimester miscarriage. Most (90.5%) were in full-time employment. 68.6% took leave, primarily as paid sick leave (77.5%), with only 1.1% stating that they took pregnancy loss-specific leave. The main reason for not taking leave was reluctance to disclose the loss (33%). Income levels and managerial roles were significantly associated with whether individuals took leave ($p < 0.05$). While 79.5% of participants felt supported by supervisors/managers, this was lower among lower-income earners ($p = <0.01$). Employees in healthcare and education sectors found returning to work most difficult ($p = <0.01$). 95.3% indicated they would take dedicated pregnancy loss leave if available.

Conclusions: Our results demonstrate that significant workplace challenges exist following pregnancy loss <24 weeks, and there is a need for improved support systems. Statutory leave entitlements and compassionate workplace policies are needed to better support affected employees.

Competencies and Learning Outcomes for Healthcare Professionals in Climate Change and Sustainability: a Scoping Review

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Background
The planetary crisis is a serious threat to human health. Competencies and learning outcomes in climate change and sustainability (CC&S) have been proposed for healthcare professionals to equip them to adapt to and mitigate against this crisis. We aimed to synthesise the evidence on competencies and learning outcomes for healthcare professionals in CC&S.

Methods
We conducted a scoping review in line with the Joanna Briggs Institute guidance for scoping reviews. We searched eleven electronic databases and grey literature. Two reviewers independently screened the titles and abstracts and full texts for eligibility. Extracted competencies and learning outcomes were categorised into knowledge, skills and attitudes.

Results
Forty sources were included in the review. Most sources were from the United States of America (n=15, 37.5%) and published from 2020 onwards (n=30, 75%). Sources primarily related to medical (n=20, 50%) and nursing (n=9, 22.5%) professions. The most prevalent knowledge domains were 1) knowledge of the health impacts of the planetary crisis (n=32, 80%), 2) knowledge of professional role in relation to the planetary crisis (n=25, 62.5%) and 3) knowledge of health inequalities in relation to the planetary crisis (n = 24, 60%). The most commonly-mentioned skills were 1) patient counselling skills (n=21, 52.5%), 2) collaboration skills (n=20, 50%) and 3) an ability to manage climate-related conditions (n=20, 50%). Attitudes relating to CC&S were described in 22 sources (55%).

Discussion
The knowledge, skills and attitudes identified in this review largely align with existing healthcare professional competencies, indicating potential for these to be readily incorporated into existing health professions' curricula.

From idea generation to service change: Developing an evidence-informed model of care for recurrent miscarriage in partnership with knowledge users

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People who experience miscarriage often report poor healthcare experiences. Less is known about recurrent miscarriage (RM) care and there is debate about how to organise and provide care for people who experience RM. Research is needed to explore potential improvement targets, in addition to factors that support or hinder service improvement efforts and the implementation of desired models of care. Through the Health Research Board-funded RE:CURRENT project, we conducted a series of studies to evaluate RM services in Ireland. At the project outset, there was no national standard or clinical guideline regarding RM services and supports. The project was conducted in partnership with a 22-person research advisory group comprising key knowledge users. Studies included: a systematic review of clinical guidelines; interviews with people with lived experience and health professionals to examine perspectives on RM services; the generation of care quality indicators; a service evaluation; a national care experience survey; a health economic analysis. Our integrated findings support the need for a standardised, dedicated and adequately resourced and supported service. A service in which people with RM are offered appropriate, individualised, timely and accessible care and support—beginning following the first miscarriage and following a graded approach. Implementation of this model of care requires several multilevel actions, including prioritising RM care, adequately funding and resourcing services, enhancing health professional education and support, care coordination within and between hospitals and primary care and improving public awareness of miscarriage and addressing stigma. To-date, findings have informed a national clinical guideline and information resources.

Psychosocial supports for maternity staff following adverse events: A mapping study conducted in Ireland

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Maternity staff commonly experience adverse events within their roles, with a range of psychological impacts reported. Many, however, report receiving inadequate support. The aim of this study is to establish the extent and nature of the provision of psychosocial supports for staff following adverse events in maternity units in Ireland.

We administered a purposefully designed survey electronically to each of the 19 maternity units from December 2023 to February 2024. The survey comprised primarily open-ended questions. Participants were asked whether they provided any of 13 pre-listed supports and they could add up to three additional supports. For each support provided, they were asked to detail its format, eligibility and access criteria, costs, evaluation, perceived uptake and impact, and any adaptations made. We analysed data descriptively, coding open-ended responses into explicit categories generated from the data and reporting frequencies, as per responses to closed questions.

We received completed responses from 18 of the 19 units. All but one unit (n=17) reported the provision of at least one form of psychosocial support (range: 2-10). The most frequently reported supports offered were Employee Assistance Programme (n=16; Occupational Health (n=15); Clinical Supervision (n=10); After Action Review (n=9). Varied information was provided about each of the supports within and across units.

This study maps the provision of psychological supports for staff in maternity units in Ireland following adverse events. Further research is needed to better understand what the optimal staff supports are, and what factors influence their implementation, to enhance uptake and impacts.

Evaluating stone dust clearance from the lower pole calyx using 3D printed collecting system models and simulated physical movement. The role of exercise post kidney stone treatment.

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Introduction: Patients with residual fragments or dust after lithotripsy have higher stone recurrence rates than those who are stone-free. The role of adjunct physiotherapy or exercise is unknown. This study used anatomically accurate 3D-printed renal collecting system models to evaluate the effectiveness of various physical manoeuvres in promoting stone dust clearance from the lower pole.

Methods: To allow direct visualisation, six renal collecting systems were segmented from CT scans and 3D-printed using transparent resin. A standardised amount of mock stone dust was placed into the lower pole calyx of each model. Each model was then subjected to a different intervention for five minutes: control (no movement), walking, jogging, jumping, twisting, and yoga pose. The percentage of stone dust cleared from the calyx was recorded visually and quantified post-intervention.

Results: No clearance was observed in the control or walking groups (0%). Jogging achieved a mean clearance of 33.3% (range: 30–36.6%), twisting resulted in 38.9% (range: 36.6–40%), and yoga poses averaged 24% (range: 23–26%). Jumping was the most effective intervention, with a mean clearance of 65.3% (60–70%). These findings indicate that dynamic, high-impact activity, especially vertical movement like jumping, significantly improves stone dust clearance from the lower pole calyx. Moderate success with twisting suggests rotational motion may also help, while gentle or static interventions such as yoga are less effective.

Concusion: 3D-printed renal models provide a reproducible and realistic platform for testing interventions to enhance stone dust clearance. Five minutes of jumping demonstrated the greatest effectiveness among the physical manoeuvres tested. These findings may inform post-procedural recommendations to minimise residual stone burden and reduce recurrence rates.

Aspirin administration within 6 hours post Coronary Artery Bypass Graft (CABG) surgery; Improving outcomes through a single-cycled audit

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Introduction:
As electronic patient record systems (ERS) become more prevalent, there is a risk that automation may perpetuate poor clinical practices. However, once appropriately modified, ERS has the potential to facilitate lasting improvements in clinical practice. There is a Level 1a recommendation by the American Heart Association 2021 Guidelines in favour of aspirin administration within six hours to patients post CABG. Previous studies have shown low compliance with these recommendations.

Objective:
To assess pre- and post-intervention compliance with international guidelines for aspirin administration within six hours post-CABG surgery.

Methods:
A retrospective sample of the most recent 20 patients who underwent isolated CABG surgery at Cork University Hospital was analyzed. Data from the ERS was analysed to determine time of aspirin administration post-operative. Patient demographic, clinical, and operative factors were also collected. Following the initial audit, an intervention took place, which included educational sessions for healthcare staff and modifications to the ERS post-operative order set and schedule. A post-intervention audit was conducted in December 2024.

Results:
The initial audit revealed that no patients received aspirin within the recommended six-hour window post-operatively. All patients received aspirin according to the existing order-set, which was 06:00 the following morning. Post-intervention, 65% of patients received aspirin within 6 hours post-CABG.

Conclusions:
This audit highlights how ERS can obscure suboptimal clinical practices if not properly configured. Nevertheless, the post-intervention improvements demonstrate that with appropriate modifications, ERS can be a powerful tool for initiating and sustaining clinical improvements.

Accuracy of AI in Estimating Dietary Nutrients from Meal Images for Kidney Stone Management

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Introduction: Dietary tracking of nutritional intake is important for patients with recurrent kidney stone disease, yet remains difficult in everyday life. This study evaluated whether Artificial Intelligence (AI) could estimate the nutritional content of meals from images, focusing on nutrients relevant to kidney stone prevention.

Methods: Twelve meal images were analysed for nutritional content, including calories, fat, sugar, sodium, protein, oxalate, calcium, phosphorus, magnesium, and potassium from nutritional databases. These were compared with OpenAI GPT-4o-generated estimates using Pearson's correlation and mean percentage difference. The agreement was further assessed with Bland-Altman analysis.

Results: Strong correlations were found between AI and measured values for protein (r = 0.92), with a percentage difference of 47%. Moderate agreement was observed for calories, fat, sugar, sodium, calcium, phosphorus, and potassium (r = 0.44-0.55; differences 31.4-79.1%). Oxalate and magnesium showed weaker agreement, with percentage differences of 84.5 and 35.6%, respectively. There was a very weak positive correlation between the number of ingredients per meal and AI prediction error (r = 0.18), but this relationship was not significant (R2 = 0.03). Bland-Altman plots showed no proportional error across nutrients, with most AI predictions falling within the limits of agreement, though systematic underestimation was observed for protein, phosphorus, magnesium, and potassium. Overall, AI performed better on macronutrients than micronutrients.

Conclusion: AI-based image analysis can reasonably estimate key nutrients, particularly protein and other macronutrients. However, estimation of oxalate, potassium, and other kidney stone–related micronutrients requires improvement. With refinement, AI could support dietary monitoring in kidney stone prevention based on images of patients' meals.

“Let’s talk testicles”: exploring the impact of a school-based educational intervention on knowledge, attitudes and intention to undertake testicular self-examination in young men in Cork.

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Introduction: This study examined the impact of a 1-session testicular cancer (TC) and testicular self-examination (TSE) educational intervention on TC/TSE awareness, attitudes and intention to undertake TSE on young men in Cork.

Methods: A within-subjects, pre-post intervention study was undertaken. After gaining parental consent and participant assent a total of 126 young men (mean age 17 years, range 15-18 years) completed brief questionnaires about TC and TSE pre and post an educational talk developed by a Urology department. Data related to symptoms, risk factors, current TSE practice, perceived personal risk of TC and intention to undertake TSE were collected pre- and post-intervention.

Results: Pre-intervention, 78% reported being unknowledgeable about TC and 70% had never undertaken TSE. Knowledge of signs and risk factors varied: 80% endorsed a painless lump as a sign of TC, with 29% endorsing sexual contact, 26% undescended testicles and 26% carrying a phone in the pocket as risk factors. Post educational intervention, there were statistically significant improvements in knowledge about TC/TSE ($z=-9.26$, $p<0.001$), level of confidence in undertaking TSE ($z=-8.74$, $p<0.001$), and perceived importance of TSE ($z=-7.50$, $p<0.001$). Perception of risk of TC was not impacted by the intervention. Over 80% of participants said they intended to undertake TSE in the month after the intervention.
Results: Simple interventions delivered in a school setting offer the opportunity to improve knowledge and confidence in TSE. Whether the impact of this educational intervention results in a change to the actual practice of TSE remains to be evaluated.

Area-level deprivation as a risk factor for stillbirth in upper-middle to high-income countries: a scoping review

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Background: Socioeconomic deprivation has been associated with poor perinatal outcomes. Deprivation indicators (e.g. area-based) are developed internationally to study population health. This scoping review aims to examine the literature available on the relationship between area-level deprivation, based on composite measures, and stillbirth in upper-middle to high-income countries.

Methods: The Joanna Briggs Institute methodology for scoping reviews was utilised, with the research question based on the Population Concept Context framework. Six scientific databases were searched to identify all relevant publications. Search results were screened (title, n=13,720; abstract, n=2,123; and full text, n=165) and reference lists searched. Data extraction on study characteristics and evidence provided was carried out and a narrative summary was completed with main findings.

Results: 29 studies were identified for inclusion, from 9 countries (majority UK-based, n=20; followed by the Netherlands, n=2; and Brazil, n=2). A range of deprivation indices were utilised internationally, the UK's Index of Multiple Deprivation (IMD) was the most used (n=8), followed by the Townsend and Jarman indices (n=6 and n=3, respectively). Income, employment, education and access to services were some of the most common factors included in the indices. Results show an association between stillbirth and areas identified as more deprived, with 22 of the 29 studies (75.9%) showing positive correlations.

Conclusions: Understanding the impact of deprivation on risk of stillbirth can highlight inequalities in healthcare services. Focused initiatives to reduce stillbirth among those at higher deprivation related risk are required for improvement of care and services, ultimately improving maternal and perinatal outcomes.

Socioeconomic deprivation as a risk factor for stillbirth: a case-control study

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Background: Stillbirth is a devastating outcome for families. Identifying and addressing risk factors is of crucial importance. Level of deprivation has been linked to adverse perinatal outcomes.

Methods: An observational case-control study was conducted, matching cases of stillbirth (n=127) with a control cohort of live births (n=266, ratio 2:1). Retrospective data over four years (2018-2021) was collected from a tertiary university maternity unit in the Republic of Ireland. The Pobal HP Deprivation Index was used to categorise small areas into levels of deprivation. Maternal age, parity, BMI, booking visit gestation were identified as confounding factors. Statistical analysis using SPSS, included: frequency tables, Chi-squared tests, T-tests. Logistic regression for crude and multivariate analysis, including odds ratio calculations, was used to identify differences in the risk of stillbirth across the deprivation levels and categories of confounding factors.

Results: The results demonstrated no statistically significant correlation between level of deprivation and risk of experiencing stillbirth (p-value 0.288) in this sample. When readjusted into quintiles of deprivation, a slightly higher representation of stillbirth was noted in the more deprived levels, though not significant. When examined by cause of death, there was a significant association between deprivation and placental causes of death (p-value 0.045). BMI was consistently associated with stillbirth, while booking visit gestation and maternal age also showed associations.

Conclusions: These findings highlight the need for further national research to understand the relationship between deprivation and adverse perinatal outcome, in the Irish context, in order to guide local policy and tackle healthcare inequalities.

Pilot study to develop a pre-operative "Cardiothoracic Clinical Handover Tool" and its effect on handover quality

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Background: Clinical handover is an essential step in the surgical patient's hospital journey, but one that is not without risk. Within cardiothoracic surgery, endeavours to protocolise post-operative handover from cardiac theatre to cardiac intensive care units have resulted in enhanced patient safety, but little to no effort has focused on the pre-operative setting and the dissemination of information throughout the surgical team.

Methods: We designed a pre-post study examining the quality of pre-operative cardiothoracic patient handovers before and after the introduction of an intra-departmentally designed "Cardiothoracic Clinical Handover Tool" based on the Royal College of Surgeons of England's guidelines for "Safe Handover".

Results: 40 clinical handovers were assessed in each arm of the study. Handover quality improved from a score of 63.75% to 88.57% (p=<0.001). This prolonged handover duration from a mean of 72.1 to 102.4 seconds per case (p=0.003). Interruptions occurred in 27.5% of pre- and 25% of post-intervention handovers. Interruptions resulted in increased handover duration in both pre- and post-intervention groups (114.6 vs 77.7 seconds, p=0.012) and poorer quality handovers in the pre-intervention group (51.28% vs 68.42%, p=0.03) but failed to impact handover quality in the post-intervention group (88.57% vs 88.57%, p=1).

Conclusions: Clinical handover tools have the potential to enhance the quality of pre-operative handover and protect against poor handover practices such as interruptions, safe-guarding patient welfare. We provide the first cardiothoracic specific pre-operative handover tool based on the RCSE guidelines.

A scoping review protocol of menopause education for healthcare professionals

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There are currently 25 million women experiencing menopause annually. By 2030, the world population of menopausal and postmenopausal women is projected to be 1.2 billion. Menopause is more than a biological transition; it's a life stage where many women feel profoundly underserved by healthcare systems. Despite growing public dialogue about menopause, gaps persist in how healthcare professionals (HCPs) are trained to support individuals through this phase. While HRT remains a safe, long-term option for symptom management, in women without contra-indications, only around 15% of women aged 45–64 in the UK currently use it, underscoring systemic barriers to care. Recognising this gap, the European Menopause and Andropause Society updated guidelines in 2022 to urge universal menopause education for all HCPs.

This review seeks to map the landscape of menopause education for HCPs globally examining what is taught, when, and how effectively, identifying opportunities for improving training in menopause for HCPs.

Guided by the JBI Manual for Evidence Synthesis and the PRISMA-ScR framework, this review will identify and appraise menopause education for undergraduate and postgraduate HCPs. Database searches of CINAHL, MEDLINE, Embase, APA PsycINFO, ERIC, and Academic Search Complete, along with grey literature, will be conducted to capture published and unpublished data on HCP menopause education.

By cohering the existing menopause educational offerings and identifying gaps, this review will lay the groundwork for evidence-driven training frameworks, empowering HCPs to better support menopausal individuals. The findings aim to inspire policy changes, curriculum updates, and targeted research to bridge the divide between patient needs and provider preparedness.

Patient adherence to cognitive behavioural therapy in comorbid physical and mental health conditions: a scoping review

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Background: Presence of long-standing physical conditions and comorbid mental health conditions can exacerbate health symptoms and impede recovery due to inconsistent engagement with treatment or therapy. Research into patient treatment adherence has mostly focused on the pharmacological treatment or is single condition specific and does not address comorbid mental health conditions with physical health illness. Individuals who primarily seek healthcare services for physical conditions often neglect their mental health, focusing solely on one aspect of their well-being, which can present unique challenges when engaging in psychotherapeutic treatments like CBT.

Inclusion Criteria: Using the Population (comorbid conditions), Concept (CBT), and Context (Adherence) (PCC) criteria

Methods: The scoping review followed the JBI guidelines for scoping review. PubMed, CINAHL Plus, Scopus, Cochrane library, EMBASE, Google Scholar, and UCC library's one search platform were searched. A narrative synthesis was conducted using content analysis.

Results: In total, 2675 were identified, 105 studies were included. Majority were feasibility/pilot studies and reported on various physical illness. Insomnia, depression, and anxiety were commonly co-occurring mental health conditions. CBT was delivered often facilitated by a therapist, face-to-face, web-based, telephone. No standard framework of adherence was observed, but some aspects of treatment fidelity were discussed. Good study retention was reported with varied level of adherence to the intervention from moderate to gradual decrease as the modules progressed. Most studies reported favourable conclusions in the physical and mental health outcomes using CBT model.

Discussion: This review highlights aspects of how people engage with CBT when they face the dual challenge of comorbidities. The results indicate the need for targeted CBT interventions and approaches to improve adherence rates among this population.

Enhancing pregnancy loss and fertility awareness in young people through co-development of educational resources

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Background: Despite their prevalence and impacts, there is a lack of public awareness and understanding of fertility and pregnancy loss. While school is an important setting for educating young people about sexual and reproductive health issues, related topics such as pregnancy loss and fertility are omitted.

Approach: Over an academic year (September 2024 to May 2025), the Pregnancy Loss Research Group collaborated with transition year students and staff in an all-girls secondary school to co-create educational resources to enhance pregnancy loss and fertility awareness. Members of the research team – including obstetricians, midwives, a pathologist, a medical scientist and researchers – co-facilitated two-hour sessions over the year, 16 sessions in total. Educational sessions on pregnancy loss, fertility and healthy pregnancy were held during the first term. The students attended a study day on pregnancy loss hosted at the hospital. Over subsequent terms, students engaged in participatory group activities to generate key messages, content and communication formats. We collaborated with an illustrator, who facilitated a one-day workshop to co-create visuals for the work.

Outcomes: Through the SPRING (Supporting Pregnancy & Reproductive health INformation for teenaGers) Project, we have co-created various educational resources to increase awareness around pregnancy loss and fertility. Content centres on 12 'facts', priority information identified by the students.

Discussion: It is feasible to embed education around pregnancy loss and fertility within schools and it is valued by young people. Further work is needed to determine the effectiveness of the resources generated and to support their integration within curricula.

Economic and Environmental Impact of Increased breastfeeding rates in Ireland

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In response to the Sustainable Development Goals to improve nutrition (SDG2: Zero Hunger) and reduce child mortality (SDG3: Good Health and Wellbeing), there is a need to recognise breastfeeding as a healthy and sustainable first food. Breastfeeding results in positive health and well-being outcomes for society, and breastfeeding rates in Ireland have been increasing during the timeframe of the National Breastfeeding Strategy. However, they remain among the lowest in Europe. To date, there is no economic assessment of the value of breastfeeding in the Irish context.

The aim of this study is to assess the economic and environmental impact of supporting breastfeeding within society and healthcare systems. Secondary data analysis of breastfeeding data from: the HSE; Growing Up in Ireland and UCC COMBINE will be used to estimate breastfeeding rates to input into the Mothers' Milk and Green Feeding tools. The Mothers' Milk tool was developed and validated in Australia to make more visible the economic value contributed to society by women through breastfeeding infants and young children. It calculates quantities of milk produced by breastfeeding women for children aged 0 – 3 years and assigns an economic value to that milk. In addition, the Green Feeding Tool developed and validated also in Australia, assesses the environmental impact of commercial milk formula use.

Findings from this study will estimate the value of 'lost milk' and the potential contribution breastfeeding could make to Ireland's Gross Domestic Product (GDP) and emissions savings targets. This will enable policymakers to improve breastfeeding support in Ireland.

SGLT2 Inhibitors for HFpEF and HFmrEF: A Systematic Review and Meta-Analysis of Cardiovascular Outcomes

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Introduction:
Heart failure with preserved (HFpEF: ≥50%) and mildly reduced ejection fraction (HFmrEF: 41–49%) remains a clinical challenge. Sodium-glucose cotransporter-2 inhibitors (SGLT2i) have proven benefits in heart failure with reduced ejection fraction (HFrEF), but their role in HFpEF and HFmrEF is less clear. We conducted a systematic review and meta-analysis to evaluate their effects on heart failure hospitalisation (HHF) and cardiovascular death (CVD) in these populations.

Methods:
MEDLINE, Embase, and Cochrane CENTRAL were searched up to March 10, 2025. We included randomised controlled trials (RCTs) and prespecified or post hoc subgroup analyses of RCTs assessing SGLT2i in HFpEF and HFmrEF. The primary outcome was a composite of HHF and CVD. Hazard ratios (HRs) or mean differences (MDs) with 95% confidence intervals (CIs) were pooled using a random-effects model. Subgroup analyses were performed by SGLT2i type, diabetes status, sex, HHF history, and left ventricular ejection fraction (LVEF). Risk of bias was assessed using RoB 2.

Results:
Eight RCTs (N=18,491) met inclusion criteria. SGLT2i significantly reduced the composite of HHF and CVD (HR 0.80 [0.75–0.87], p<0.00001, I^2=0%) and HHF alone (HR 0.74 [0.67–0.81], p<0.00001). There was no significant reduction in CVD alone (HR 0.96, p=0.65) or all-cause mortality. SGLT2i reduced all-cause hospitalisation (HR 0.91 [0.85–0.96], p=0.001) and slowed eGFR decline (MD 0.94 ml/min/1.73m^2/year [0.09–1.80], p=0.03).

Conclusion:
SGLT2i reduce HHF in HFpEF and HFmrEF, with potential benefits for broader clinical use and further investigation across LVEF subgroups.

Knowledge Translation Towards Compassionate Care Models

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The Pregnancy Loss Research Group (PLRG) at Cork University Maternity Hospital, University College Cork, is dedicated to advancing research and developing accessible, evidence-based resources for pregnancy and infant loss. Our multidisciplinary team of clinicians and researchers addresses the complex health challenges associated with miscarriage, recurrent miscarriage, ectopic pregnancy, and termination of pregnancy for fetal anomaly, among others.

Recognising the profound impact of pregnancy loss on individuals and families, and the significant variability in care experiences, PLRG has prioritised the creation of policy briefs, informational booklets, and educational videos, among other resources. These are developed in collaboration with people with lived experience, healthcare professionals, and policy-makers, ensuring their relevance and usefulness in clinical practice. Our recent suite of resources—distributed nationally and freely accessible online—aims to prepare individuals for what to expect during and after pregnancy loss, support informed decision-making, and reduce stigma.

This work exemplifies the mission of an Academic Health Sciences System (AHSS): integrating research, innovation, and education with clinical care to improve health outcomes and patient experiences. By disseminating high-quality, patient-centered information, we contribute to a healthcare model that supports evidence-based practice, fosters clinical innovation, and strengthens partnerships between academia and healthcare providers in the South West region and nationally.

Ultimately, these resources not only address immediate informational needs but also underpin broader structural changes in care, aligning with UCC Futures and the AHSS vision to deliver world-class, compassionate healthcare and train the next generation of health professionals.

General Practitioners' and women's experiences of perimenopause consultations: a qualitative evidence synthesis protocol

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Introduction
Perimenopause precedes menopause and can cause a myriad of symptoms for women. General practitioners (GPs) are often the first contact for women with symptoms. Some women report dissatisfaction with the consultations they have with GPs for perimenopausal symptoms. GPs may find these consultations challenging due to diagnostic difficulties. Perimenopause consultations may involve complex decisions where shared decision-making is advised. Research suggests widespread adoption of shared decision-making is suboptimal, with limited knowledge about shared decision-making in perimenopausal care. This qualitative evidence synthesis aims to understand how GPs and women experience perimenopause consultations and shared decision-making within consultations.

Methods
A meta-ethnography as described by Noblit and Hare (1988) will be conducted following Sattar's (2021) guidelines. Seven databases will be systematically searched from 2014 to capture current evidence. Studies must report experiences of GPs treating perimenopausal women and/or perimenopausal women seeking care. Quality assessment will be assessed using CASP (Critical Appraisal Skills Programme) tools. A GRADE-CERqual assessment will assess confidence of the findings.

Conclusion
This qualitative evidence synthesis is the first study in a project to improve shared decision-making between GPs and women in perimenopausal care. Findings will reveal how GPs and women perceive perimenopause consultations. Examining dual perspectives helps identify effective consultation practices and areas for improvement. To increase the adoption of shared decision-making, it is first essential to understand how it looks in practice. Findings will contribute to developing an implementation intervention to increase shared decision-making in perimenopausal consultations.

Facilitator Insights on Patient and Public Involvement in Interprofessional Education: A Focus Group Study

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Introduction:
Interprofessional education (IPE) occurs when students from two or more professions learn about, from, and with each other. IPE represents an ideal area for Public and Patient Involvement (PPI) working with educators to create and develop IPE workshops. Exploring the attitudes and perceptions of facilitators towards such sessions is important.

Methods:
Following CREC ethical approval, three IPE workshops, involving 64 students, occurred between May and Nov 2024, developed following Kerns framework and delivered with a constructivist pedagogical approach, with PPIs integral to workshop design, delivery and evaluation. Students from Schools of Physiotherapy in University of Limerick and University College Cork (UCC), UCC Schools of Medicine, Pharmacy and Clinical Therapies, School of Nursing & Midwifery took part. Semi-structured focus groups exploring the facilitator experience occurred within one week of workshop completion. Audio recordings were transcribed verbatim and anonymised prior to analysis.

Results:
Braun & Clarke's six phase process of reflexive thematic analysis resulted in five overarching themes. All facilitators noted the value of the PPIs in stimulating communication and interaction between students and with the PPI. While time consuming, the necessity of careful planning and running was noted, acknowledging potential layers of complexity associated with the PPI presence. With learning opportunities manifold, a clear stated objective is necessary to maintain focus throughout the planning and execution phases.

Discussion and Conclusion:
Insights gained from the IPE workshops with patient representatives at their core, can help inform future engagement with PPI representatives, encouraging conversations and debates to inform and shape future education.

Implementation of surface-guided radiotherapy for motion management in liver stereotactic body radiotherapy patients treated in end-expiration breath-hold

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Purpose/Objectives
Stereotactic ablative body radiotherapy (SABR) to the liver requires accurate management of respiratory motion (1). Treatment of patients in end-expiration breath-hold (EEBH) has been shown as a reproducible method of minimising liver motion (2). Surface guided radiotherapy (SGRT) in this setting is under-reported. The aim of this study is to demonstrate how our department implemented liver SABR using SGRT alone as a motion management solution when treating patients in EEBH.

Materials/Methods
Current departmental protocols were adapted and new processes developed to achieve an EEBH liver SABR pathway using SGRT. This included the development of; motion assessment procedures using a 2D kV cine protocol, CT simulation procedures, EEBH workflows within SGRT, machine and plan QA procedures and staff training packages.

Results
In our experience, consistency of EEBH coaching is key to patient compliance. Specific in-house training for radiation therapists (RTs) was developed.
A motion assessment procedure was created to quantify intra-fractional motion of the liver during EEBH, using SGRT, prior to CT-simulation. SGRT surfaces are captured in free-breathing (FB) and EEBH to track patient motion. Five kV cine images are acquired for a duration of 15 seconds while the patient is in EEBH. SGRT is used to ensure EEBH is achieved to the same depth and maintained during each image. Treatment margins can be adjusted if residual motion of the liver is detected during motion assessment.
Multiphase IV contrast CT-simulation in EEBH is performed, using SGRT for monitoring. Arterial and venous phase IV contrast scan protocols were developed for optimum enhancement of the lesion.
SGRT protocols were created with tolerances of 1mm and 1 degree in each direction and beam hold trigger after 1 second of misalignment. Regions of interest (ROI) were defined and tested for camera block during gantry rotation and imaging.
Five liver SABR patients have been successfully treated in EEBH using SGRT at our centre.

Conclusions
SGRT can be successfully implemented as a motion management tool for EEBH liver SABR patients. SGRT provides a patient centred solution for motion management and was well tolerated in all patients treated to date.

Surface-Guided Radiotherapy: A Reliable Motion Management Solution for End-Expiration Breath-hold in Stereotactic Body Radiotherapy to the Liver

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Purpose
Stereotactic body radiotherapy (SBRT) for liver tumours presents challenges due to significant tumour motion caused by respiratory movement, which must be accounted for when determining treatment margins1. Surface-guided radiotherapy (SGRT) is a non-invasive, patient-centred technique that has proven effective in maintaining breath-hold (BH) for treatment sites like the breast. However, evidence supporting its use in abdominal SBRT remains limited2-4. The aim of this study is to demonstrate the intrafraction accuracy of SGRT in reproducing end-expiration breath-hold (EEBH) in liver SBRT patients.

Methods
57 Megavoltage (MV) cone beam CT (CBCT) from 19 treatment fractions of four patients receiving SBRT to the liver were analysed. CBCT scans were performed before treatment, after corrections and post-treatment. Throughout image acquisition, EEBH was monitored via the SGRT terminal, with a motion tolerance of 1 mm and 1 degree. A "bone" registration was performed to the vertebral bodies to assess the superior-inferior (S/I) discrepancy in diaphragm between CBCT and CT simulation. The S/I diaphragm displacement was compared across CBCT scans obtained on the same treatment fraction to evaluate the intrafraction reproducibility of EEBH amplitude.

Results
The maximum S/I intrafraction variation in diaphragm position between CBCT scans taken within the same treatment fraction was 0.6cm. The mean maximum intrafraction difference was 0.27cm. In 89% of patients, the intrafraction diaphragm displacement was less than 0.5cm, with a range of 0.1cm to 0.6cm.

Conclusions
SGRT has proven to be a reliable method for reproducing EEBH amplitude in liver SABR patients, maintaining displacements below 0.5cm in 89% of cases.

References
1. Sharma M, Nano TF, Akkati M, Milano MT, Morin O, Feng M. A systematic review and meta-analysis of liver tumor position variability during SBRT using various motion management and IGRT Strategies. Radiotherapy and Oncology. 2022;166:195-202. doi:10.1016/j.radonc.2021.11.022
2. Penninkhof J, Fremeijer K, Offereins-van Harten K, et al. Evaluation of image-guided and surface-guided radiotherapy for breast cancer patients treated in deep inspiration breath-hold: A single institution experience. Technical Innovations & Patient Support in Radiation Oncology. 2022;21:51-57. doi:10.1016/j.tipsro.2022.02.001
3. Laaksomaa M, Aula A, Sarudis S, et al. Surface-guided radiotherapy systems in locoregional deep inspiration breath hold radiotherapy for breast cancer — a multicenter study on the setup accuracy. Reports of Practical Oncology and Radiotherapy. Published online March 8, 2024. doi:10.5603/rpor.99673

4. Rudat V, Shi Y, Zhao R, Yu W. Setup margins based on the inter- and intrafractional setup error of left-sided breast cancer radiotherapy using Deep Inspiration breath-hold technique (DIBH) and surface guided radiotherapy (SGRT). Journal of Applied Clinical Medical Physics. 2024;25(6). doi:10.1002/acm2.14271

Development & Introduction of a Frailty Trigger at triage in Cork City emergency departments

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Background: Emergency Department (ED) Triage identifies patients with urgent needs. Frailty is not routinely identified and older patients presenting atypically may inappropriately be triaged as low priority. The introduction of a frailty modifier at triage is recommended in international guidelines, but is not yet widely-adopted.

Methods: A Frailty Trigger was developed following a systematic review and two-round eDelphi. To investigate diagnostic test accuracy for frailty, we recruited consecutive adults aged ≥70 attending a university hospital ED between December 2021 and February 2022, comparing the Trigger to the Clinical frailty Scale (CFS), Variable indicative of Placement (VIP) and PRISMA-7. An independent comprehensive geriatric assessment (CGA) determined frailty status.

Results: In total, 313 adults aged ≥70 years were available, median age 78±9 years;46% were female. Half (51%) were frail based on CGA. The Frailty Trigger had excellent accuracy for frailty, Area Under the Curve (AUC) 0.822 (95% CI:0.780-0.865), similar to the VIP (AUC 0.820, p=0.937), although significantly lower than the PRISMA-7 (AUC 0.896) and CFS (AUC 0.946). Mean administrative time was 25.5 seconds (SD ±10.9s). It was associated with increased length of stay (LOS), median 6.4 versus 2.3 days (p<0.001). After adjustment for age, sex and co-morbidity, a positive score was associated with reduced survival at one-year (Hazard Ratio 2.2; 95% CI 1.15-4.33, p=0.017)

Conclusion: The Frailty Trigger showed excellent diagnostic accuracy for frailty when compared to validated screens and was quick to use. It predicted LOS and mortality. Studies are required to examine feasibility and effect on frailty pathways from triage.

Tracking Parkinson’s Disease symptoms and medications across the menstrual cycle

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Parkinson's disease affects ~1-2% of the population aged over 60, yet sex-specific differences in symptoms and treatment response are underexplored. This study investigated the impact of hormonal fluctuations across the menstrual cycle on symptoms and medication efficacy in women with PD, using both the 'My Moves Matter' app and REDCap-based surveys for data collection. Participants were recruited through 'My Moves Matter' app and Parkinson's support groups. The 'My Moves Matter' app enabled real-time collection of patient-entered data, enhancing patient engagement. Participants logged symptoms, medication intake and menstruation status daily, providing a detailed, longitudinal dataset for the analysis of correlations and patterns. Participants began by completing an initial survey, followed by a 4-month period of tracking using the 'My Moves Matter’ app. At the end of this timeframe, participants completed a follow-up survey. The data collected across these three phases were analysed correlations between app-reported data and changes observed from the initial to the follow-up survey.

490 women with Parkinson's took the initial survey, 148 of whom logged onto the ‘My Moves Matter‘ app. Preliminary findings indicated that menstruating and postmenopausal women reported different frequencies of individual motor and non-motor symptoms. There were no significant differences in the types of Parkinson's medications prescribed for menstruating and postmenopausal groups. This is notable given the distinct symptom profiles. Further analyses are exploring differences in symptom patterns longitudinally, in menstruating and postmenopausal groups.

These preliminary findings suggest that menstrual status should be considered in the treatment and management of Parkinson's in women.

Enabling Early Detection of Ovarian Cancer Using a Novel Electrochemical Sensing Platform

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Ovarian cancer (OC) is the deadliest gynecological cancer, affecting 300,000 women annually. Cancer Antigen 125(CA125), the current screening marker, lacks reliability for early detection, missing 20% of cases, and is also known to result in both positive and negative assays. Despite a 90% chance of survival within five years if detected at stage I, only 25% of cases are detected due to inadequate screening methods and initials symptoms.

Human Epididymis Protein 4 (HE4) is an emerging biomarker that complements CA125 in serum-based assays. HE4 is elevated in two-thirds of Stage I and II OC patients, has very high specificity and is present in one-third of non-CA125 producing tumors. However, currently available enzyme-linked immunosorbent assay (ELISA) tests have inadequate detection limit for HE4 (5.2pg/ml). The sensitivity limits of these markers need to be increased by up to three orders of magnitude to detect stage I and II of OC.

Our research involves the development of a multiplex electrochemical immunosensor that aims to overcome the above-mentioned limitations. This is achieved by integrating a sensor surface with nano structures and applying chemistries with specific antibodies, anti-HE4 and anti-CA125 to reduce the LOD for OC detection to <1pM range. Preliminary results indicate that the sensor has a lower detection limit of 0.1 fg/mL for HE4 and 10 fg/mL for CA125.

This diagnostic device shows a novel disruptive immunosensor-based screening technology for stage I and II detection of ovarian cancer that can identify potential ovarian cancer patients and refer them for confirmatory image screening.

The Role of Coroners in perinatal death investigation in high-income countries: A Scoping Review

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A scoping review was conducted to explore the role of Coroners in investigating perinatal deaths in high-income countries. The study aimed to map out existing literature on this topic, with the goal of understanding the specific roles of Coroners in perinatal death inquiries in these high-income countries. Using the Joanna Briggs Institute (JBI) framework and Comparative Law methodology, the review employed a dual-source approach, integrating primary and secondary sources into its analysis.

Primary sources included national legislation obtained through an exhaustive search of government websites across all high-income countries. Secondary sources included peer-reviewed articles and non-peer-reviewed literature published in English, between 2000 and 2024, obtained from 12 electronic database searches. The study examined 83 high-income countries and found 24 countries with Coronial or equivalent systems and legislation available in English. Of these, 12 countries had Coroners investigating perinatal deaths, and only one country required reporting of all perinatal death cases to Coroner.

The findings show that the role of Coroners in investigating perinatal deaths is varied and remains understudied and poorly documented. There is also a notable inconsistency across literature on the Coroner's involvement in perinatal death cases, highlighting a need for further investigation and standardisation in this area.

The mental health of adults with newly diagnosed cancer: a prospective cohort study

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Background: Suicide risk is significantly elevated among individuals with cancer, with rates of 21.6 per 100,000 compared to 9.5 per 100,000 in matched controls (Nafilyan et al., 2021), and the highest risk occurs shortly after diagnosis (Liu et al., 2022; Chung & Lin, 2010). While depression is a known factor, hopelessness has shown an even stronger association with suicidal ideation (OR = 8.78, $p \leq .001$) (Díaz-Frutos et al., 2014), warranting further investigation in newly diagnosed cancer patients.

Objective: This prospective cohort study aims to examine whether trait hopelessness contributes to the development and persistence of suicidal ideation in adults with a recent cancer diagnosis.

Methods: A total of 264 adults (≥18 years) with a recent cancer diagnosis (<3 months) will be recruited from Cork University Hospital acute cancer services. The researcher will collect data from eligible participants at baseline and at the 3-month follow-up. Data items include trait and state hopelessness, suicidality, measured by the Mini International Neuro-psychiatric Interview (MINI), pain, distress, and mental health comorbidities. Data will be securely captured via Castor.

Analysis: Generalised Estimating Equations (GEE) or mixed-effects logistic regression will be used to assess the relationship between trait hopelessness and suicidality across timepoints. Additional logistic regression models will control for baseline suicidality and covariates such as pain, distress, and mental illness.
Conclusion: Findings will inform risk stratification and tailored interventions for suicide prevention in oncology settings.

Challenges Encountered Navigating the Academic Health Sciences System (AHSS) in the Southwest of Ireland

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Conducting research within Academic Health Sciences Systems requires coordination across clinical, academic, ethical, and legal domains. While findings are shared to advance knowledge, valuable lessons also arise from the challenges faced during study planning. This reflection outlines the challenges encountered during the planning phase of a larger ongoing prospective cohort study on mental health in newly diagnosed cancer patients, developed in collaboration between University College Cork (UCC) and Cork University Hospital (CUH). In this case, planning-phase obstacles led to delays in the study launch and the discontinuation of one component, which aimed to collect and analyse three-month prescription records from patients' pharmacies.

There was a degree of naivety in the early-stage planning regarding the multitude of relevant stakeholders, hospital-specific requirements (including clinical study agreements), GDPR compliance, and differing terminology across sites. Confusion also arose regarding governance, data storage, and data sharing among stakeholders, ultimately leading to the discontinuation of the prescription-analysis component.

These challenges highlight the value of a dedicated academic coordinator (available in some departments) to support novice researchers in navigating complex systems of governance, contracts, and clinical requirements. They also underscore the importance of early awareness of additional time needed to comply with additional requirements for research taking place in HSE settings, improved postgraduate training on hospital governance frameworks, and the importance of the new guidance and support available via UCC SharePoint.

Implementation strategies for the National Undergraduate Curriculum for **Chronic Disease Prevention and Management in Higher Education Institutes in Ireland.**

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Introduction
To prepare healthcare staff for the rapid increase in chronic diseases, a national undergraduate curriculum was collaboratively developed by Higher Education Institutions (HEIs) and the Health Service Executive (HSE). The curriculum includes two modules: Make Every Contact Count (MECC) and Self-Management Support (SMS). This study explored HEI academics' experiences of adopting the curriculum and the implementation strategies used, aiming to identify best practice and inform evidence-based curriculum design and policy.

Methods
A mixed-methods approach recruited academics from Irish HEIs in health professional programmes. Data was collected through an online survey and individual interviews.

Results
Fifty-six academics completed the survey and 20 participated in interviews. MECC had high adoption (98.2%), while SMS was lower (43.6%). Majority of participants integrated both modules into existing courses rather than delivering them as standalone modules (MECC 85.2%, SMS 100%). MECC was commonly included in health promotion, public health and communication modules, while SMS was implemented in chronic disease, health psychology, and neurology modules. MECC was mainly delivered in Years One (50.9%) and Two (52.7%), and SMS in Years Three (45.8%) and Four (50.0%). Key facilitators for implementation included access to educational resources and train-the-trainer workshops. Time constraints were the primary barrier. Interviewees highlighted the need to prioritise the curriculum and embed it into professional standards and assessments. Recommendations included stronger institutional support, more trained facilitators, SMS-specific training, and the development of an SMS certificate similar to that of MECC.

Conclusion
Sustaining integration of this curriculum requires greater awareness, inclusion in professional standards, and enhanced collaboration between the HSE and HEIs to support long-term implementation.

Barriers, Facilitators and Design of a Health Communication Passport for Stroke: Perspectives of Healthcare Professionals

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Introduction: The Irish National Stroke Strategy (2022-2027) (HSE, 2022) has recommended the introduction of a Stroke Passport. The proposed Stroke Passport aims to streamline the transition from acute care to community care for stroke patients and their family/caregivers. The aim of this study was to explore perspectives of Healthcare Professionals (HCPs), on the purpose, design, format, and content of a Stroke Passport.

Methods: Focus groups were conducted with HCPs who worked in an acute stroke ward and/or Early Supported Discharge (ESD) team for Stroke. Interview data were analysed using Braun & Clark's (2022) six-step Thematic Analysis framework.

Results: Twenty-two HCPs took part in one of the four focus groups (acute stroke ward n=19, ESD n=3). Participants included: Health and Social Care Professionals (n=10), Nursing staff (n=6), Medical doctors (n=3), Pharmacist (n=1), Clinical Neuropsychologist-in-training (n=1) and a Medical Social Worker (n=1). Four themes and 12 subthemes were generated from the data namely (1) Information provision: Patient Factors (Theme 1), Information provision: External Factors (Theme 2), Benefits and usability of a Stroke Passport (Theme 3) and Logistics of Implementation (Theme 4). Key factors were identified that pose potential obstacles to implementation including limited digital infrastructure and the ability of Healthcare Information Systems to communicate across systems (interoperability).

Conclusion: The provision of a Stroke Passport was considered an important asset to patient care. However, greater attention to addressing current gaps in the Irish healthcare system is required. Learnings may be found internationally in the interim to address the aims of the Stroke Passport.

Exploring Methodological Discrepancies between Protocols and Published Scoping Reviews

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Background: Scoping reviews are common across disciplines to map literature and identify research gaps. Discrepancies are common between systematic reviews and their preregistered protocols, but it is unclear to what extent such discrepancies exist for scoping reviews. Their more flexible and iterative methodology may lead to more deviations from pre-planned approaches, compared with other review designs, potentially compromising the trustworthiness of findings.

Aim: This study examines the prevalence, extent, nature and justifications of discrepancies between scoping reviews and their protocols. The field of implementation science is used as an exemplar due to the high prevalence of scoping reviews within this relatively new discipline.

Methods: A meta-scientific study of scoping reviews is in progress. Reviews were gathered from five key implementation science journals: Implementation Science, Implementation Research and Practice, Implementation Science Communications, JBI Evidence Implementation, and BMJ Quality and Safety. Those with available protocols were assessed for discrepancies between their protocol and final review. Methodological details were extracted using a data extraction tool informed by scoping review guidelines. Data were coded to ascertain the number and extent of changes (e.g. major vs. minor), the nature of the discrepancy (omission/addition/modification), and any acknowledgement or justifications reported for these changes.

Discussion: Findings from this study will clarify the extent, nature, and reasons for discrepancies in scoping reviews, and how these changes are currently reported. Findings can inform methodological and reporting guidance, including guidance for planning and writing scoping review protocols, and on tracking and reporting protocol-review discrepancies.

CUH/UCC Cancer Centre; Advancing the Academic Health Science System through OECI Accreditation

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The CUH/UCC Cancer Centre was established in 2022 to formalise the alliance and commitment to cancer care that has long existed between Cork University Hospital, University College Cork and HSE South West Group. Our vision is to develop the centre to the level of an internationally recognised Cancer Institute, integrating all aspects of cancer prevention and clinical care with innovative research, education and training. As an initial step to achieving this goal, we became members of The Organisation of European Cancer Institutes (OECI) and applied for accreditation as an EU-Designated Cancer Centre.

The framework provided by OECI promotes the Academic Health Science System in multiple ways that help bridge the gap between the clinical cancer care and academia. A shared governance structure has been developed to facilitate open and close collaboration between the university and hospital along with a joint strategy and implementation plan. The governance model includes an Academic Committee to inform and guide the cancer centre and ensure the well-defined clinical trial and research objectives are achieved. Working towards compliance with OECI standards will ensure that the Cancer Centre incorporates research into best practice to improve care and attract highly talented professionals back to Ireland. Patient representation in our governance model is being established along with more rigorous metrics that truly reflect the patient experience and the quality of care we provide.

OECI accreditation has required the development of structures and processes aimed at bringing research, innovation and education closer to clinical practice with the ultimate goal of improving patient care. In this context, the CUH/UCC Cancer Centre represents a cornerstone in the development an Academic Health Science System

Evaluation of the Community Food Initiative Programme 2022-2024

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Food poverty affects 9% of households in Ireland and 6% of households in Northern Ireland, disproportionately affecting families on a low income. Food poverty is associated with an increased risk of food-related ill-health such as obesity and type 2 diabetes. At a local level Community Food Initiatives support people in accessing a healthy diet. Safefood funded a programme of thirteen Community Food Initiatives on the island of Ireland from January 2022 to December 2024. The programme aimed to positively influence the eating habits of families living in low-income communities using a community development approach. This aim of this research was to evaluate the 2022 to 2024 programme.

Method: The programme was evaluated using a qualitative and quantitative approach. Information was gathered from several sources including reports completed by the Community Food Initiatives and interviews with key stakeholders.

Results: Over 14,500 families took part in a Community Food Initiative activity including small projects and community events. The programme benefited those taking part by improving their knowledge and skills about food and healthy eating and boosting their confidence in cooking and food skills. Participants were supported by linking them to helpful programmes and services outside the CFI programme. Emotional and social benefits were seen, participants could meet new people and learn new skills as part of a group, fostering a sense of community.

Discussion: This initiative was successful in supporting food initiatives locally. Evaluation of the programme highlighted several learnings that will inform future programmes.

‘Mental Health Experiences and Help-Seeking Behaviour of South Asian Migrant Women Working in Ireland: A Qualitative Study’

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Background: The mental health needs of migrant working women in high-income nations remain underexplored.. International research highlights South Asian migrant women as especially vulnerable to a range of cultural and migration-related stressors that impact their mental wellbeing. Qualitative data on the mental health experiences of South Asian working migrant women in Ireland is limited .

Objective: The study explores the mental health experiences of South Asian migrant women working in Ireland, identifying barriers to help-seeking and facilitators to improve access to mental health services.

Methods: Seventeen South Asian migrant women from India and Pakistan, with up to 10 years of residence in Ireland and working in a variety of sectors, participated in the study. They were recruited through purposive and snowball sampling to take part in-depth, semi-structured interviews conducted between April and July 2023. Thematic analysis was applied to the transcribed data, using NVivo 12 Plus for coding and organization.

Results: Participants described a range of psychological and somatic symptoms including stress, anxiety, low mood, insomnia, and palpitations. Barriers to accessing mental health support included financial constraints, stigma, lack of culturally responsive health care, limited awareness, , and language difficulties. Suggested facilitators included, culturally competent services, workplace support , public awareness campaigns and accessible, subsidized support services.

Conclusion: The findings highlight a critical gap in accessible and culturally appropriate mental health services for South Asian migrant working women in Ireland. Addressing these challenges through targeted, inclusive, and sustainable interventions is essential to improving their mental health well-being in a workplace setting.

A feasibility study of a patient leaflet on respiratory infections for use in GP consultations in Ireland

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Background
Interactive use of patient leaflets during General Practitioner (GP) consultations have been shown to reduce unnecessary antibiotic prescribing, which is important to limit antimicrobial resistance and patient harm.

Aims
To assess the feasibility and acceptability of introducing a 'Treat Your RTI' leaflet in GP consultations in Ireland.

Method
A feasibility study was conducted, recruiting 6 GPs in daytime practice and 3 GPs in out-of-hours services who used a 'Treat Your RTI' leaflet with patients presenting with RTI symptoms where an immediate antibiotic was not necessary. GPs completed a data collection form for each consultation recording the diagnosis and feedback on the leaflet. Patients/parents views were captured by survey. Ethical approval was obtained.

Results and Discussion
The leaflet was used in 201 GP-patient consultations and 84 (41.8%) patients/parents completed the survey. The main presenting conditions leaflet was used for were: common cold; bronchitis, tonsilitis, sinusitis and otitis media. Overall, for more than 90% consultations, GPs reported the leaflet was useful and supported communication of decision not to prescribe an immediate antibiotic, that it did not increase consultation time and that they would use it in the future. The majority of patients (over 80%) reported that the leaflet gave them confidence to self-manage RTIs without antibiotics and that they would keep it for future reference. Paper and digital formats were both recommended.

Conclusion
This study demonstrates the feasibility of use, and value of the 'Treat your RTI' leaflet for GPs and patients, supporting its wider implementation in Ireland.

Qualitative Evaluation following EHR Changes for Newborn Feeding in a National EHR

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Background
A single EHR is in use in 4 tertiary neonatal units in Ireland with detailed newborn feeding documentation and review functionality. With clinician involvement, changes were made to the data entry format of the EHR.

Objective
To qualitatively evaluate EHR changes

Methods
A focus group interview with a purposive sample (n=5). NVivo 14 Software was used to assist data analysis based on the Braun and Clarke's reflexive thematic analysis. Double independent coding was conducted. The final list of codes was developed, and the codes were then refined into themes.

Results
Four themes were identified. 1) Benefits to EHR Recording were highlighted particularly by NICU users where data were easier to input and readily available to review. 2) Resistance to Digital Change was a key finding from post-natal ward users where there was a perceived lack of prioritization of data entry in the EHR. 3) Accurate Data, Reliable Results; Neonatal staff reported the beneficial use of accurate data in the EHR, leading to reliable results for reviewing the current state of nutrition for the newborn. 4) Complex Case Prioritization whereby only certain babies need detailed feeding data entry in the NICU in particular.

Conclusion
Qualitative methods and the focus group have revealed four important themes following these changes in the EHR. NICU users found the changes positive and beneficial. The complexity and detailed data capture, however, was perceived not necessary for newborns on post-natal wards identifying resistance to digital change due to a perceived lack of prioritization of data entry.

Industry Impact on Food Environments in Ireland

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The Business Impact Assessment for Obesity and Population-Level Nutrition (BIA-Obesity) was developed by the International Network for Food and Obesity / Non-communicable Diseases Research, Monitoring and Action Support (INFORMAS). BIA-Obesity documents the commitments and practices of food companies in relation to population nutrition. As part of the EU-funded Food Systems that Support Transitions to Healthy and Sustainable Diets (FEAST) project, the Food Policy Research Team at UCC School of Public Health used BIA-Obesity to map and evaluate the public commitments and practices of a range of national and international food companies operating in Ireland. We selected a total of 35 companies in the industries of packaged food and non-alcoholic beverage manufacturers, quick service restaurants, and supermarkets. We gathered publicy available information on companies commitments in the domains of corporate nutrition strategy, reformulation, nutrition labelling, product and brand promotion, product accessibility and relationships with other organisations. We then invited the companies to review what we had found and provide evidence of any additional commitments. In Ireland, no company participated in the process, so our findings were based solely on publicly available information. Across policy domains and industry sectors, most companies fall far short of best practice as defined by current best evidence. To create a level playing field for all companies, and to protect consumers, we recommend strengthening government policies in all BIA-obesity domains.

Sensitivity and specificity of percutaneous renal tumour core biopsy; systematic review and meta-analysis.

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Introduction: Concerns remain regarding the diagnostic accuracy of renal tumour core biopsy, including its sensitivity, specificity, and rates of non-diagnostic or misleading results. This systematic review and meta-analysis aims to evaluate the diagnostic accuracy of core biopsy for detecting malignancy in adults with localised renal masses, using surgical histology as the reference standard.

Methods: A search of Cochrane, Embase, Medline and grey literature to September 2024 was performed using pre-published methods. Eligible studies were published in English, reported all true and false positive and negative results for localised renal tumour core biopsies in unique adult cohorts and used surgical histology as the reference standard. Studies were excluded if they exclusively reported patients with malignant biopsy or malignant surgical histology. Primary outcomes were renal tumour core biopsy weighted pooled mean sensitivity and specificity for detecting malignancy.

Results: Twenty-one non-randomised case series were identified, totaling 1,735 unique patients. In detecting malignancy, renal tumour core biopsy had weighted pooled mean sensitivity of 98% and specificity of 94%. Secondary outcomes were determined, including weighted pooled mean false positive rate (6%), false negative rate (2%), positive predictive value (100%), negative predictive value (75%), non-diagnostic rate on first (8%) and second biopsy attempt (9%), concordance of tumour sub-type (92%) and Fuhrmann grade, both exact grade (60%) and simplified low/high (79%). Risk of bias was moderate to high for most studies.

Conclusions: Core biopsy for renal masses in adults has high specificity and sensitivity. Routine renal tumour biopsy may reduce the rate of surgery for ultimately benign tumours and optimise operating theatre utilisation.

Evaluating the Presence and Clarity of Recycling Information on Medical Packaging

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Introduction: Environmental sustainability is a growing global concern, yet some medical device packaging fails to provide proper disposal instructions. As a result, potentially recyclable materials often end up in landfills or clinical waste for incineration. This study evaluates how effectively medical device packaging informs healthcare workers about waste disposal.

Methods: Medical products were randomly selected from an endoscopy suite and an operating theatre. Both primary (direct contact) and secondary (external) packaging were assessed. The study recorded the presence of recycling and waste disposal information and any additional environmental guidance. Data were analysed by calculating proportions and frequencies.

Results: A review of 150 products from over 35 manufacturers identified 10 clinical supply categories, with endourological supplies (22%) and procedural instruments (16%) comprising the largest proportions. Other categories included PPE (12%), lubricants/antiseptics (10%), general medical consumables (10%), wound care (8%), cleaning and hygiene products (8%), surgical packs (6%), and smaller shares for diagnostic/testing and sutures/wound closure (each 2%). Despite this wide range, 84% of packaging lacked recycling information. Less than 8% of items without recycling labels offered environmental or disposal guidance. Only a minority displayed recycling symbols, often inconsistently and without explanation. Over 50% of materials, mainly paper and plastic, were potentially recyclable.

Conclusion: The majority of medical device packaging lacks clear instructions on how to properly dispose of materials. Improved labelling, including consistent recycling symbols and clear disposal guidelines, could help healthcare workers recycle more effectively and reduce environmental impact. This study underscores the need for manufacturers to prioritise transparent and standardised environmental guidance on packaging.

Results of Feasibility and Acceptability Questionnaires From A Study Of Acupuncture For Vasomotor Symptoms In Men With Prostate Cancer

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Background & Purpose:
Men undergoing androgen deprivation therapy for prostate cancer frequently experience vasomotor symptoms, such as hot flashes and night sweats, which can profoundly impact their quality of life. The VASA-PRO study (Vasomotor Symptom Alleviation through Acupuncture in patients with PROstate cancer) was developed to assess the feasibility, usability, and patient satisfaction of a structured 6-week acupuncture intervention aimed at alleviating these distressing symptoms. The objective was to evaluate whether this approach could be successfully implemented and whether patients perceived meaningful benefits.

Methods
Twelve participants receiving androgen deprivation therapy were enrolled in the VASA-PRO program. Each participant completed a 6-week course of acupuncture, with follow-up evaluations conducted at 6 and 12 weeks using standardized questionnaires. These instruments assessed overall satisfaction, perceived benefit from acupuncture and support, ease of procedures, research thoroughness, impact on coping, and willingness to participate in future studies. Adverse events and the appropriateness of intervention duration were also recorded.

Results
Participants consistently reported high levels of satisfaction and perceived benefit. Mean satisfaction scores remained above 4 on a 5-point scale at both follow-up points, with strong agreement that the intervention was beneficial, easy to undergo, and not overly intrusive. Most participants found the 6-week duration “just right” and indicated they would recommend the program to others. Adverse events were rare and minor. The intervention was also deemed applicable to men from diverse educational and cultural backgrounds, with participants feeling well-supported and adequately informed throughout the study.

Conclusion
The VASA-PRO acupuncture intervention was feasible, well-received, and associated with high patient satisfaction and perceived benefit. These findings support the integration of acupuncture into supportive care strategies for prostate cancer patients.

Investigating the Role of Pharmacists in Outpatient Psychiatry Settings: A Systematic Review

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5. St Patrick's Mental Health Services, Dublin, Ireland.

Background:
Pharmacists are increasingly recognised as valuable members of multidisciplinary teams in mental health care. While their role is well-established in inpatient psychiatric settings, their contribution in outpatient psychiatry remains largely under studied. This systematic review aims to synthesise existing evidence on the roles and interventions of pharmacists in outpatient mental health settings globally.

Methods:
This review followed PRISMA 2020 guidelines. A systematic search of five databases was conducted, alongside citation searching and a grey literature search. Studies were included if they involved adults (≥18 years) diagnosed with a mental disorder classified under ICD-11 (excluding dementia), who had accessed pharmacist services as part of their outpatient mental health care. Study screening, data extraction, and quality appraisal were performed independently by two reviewers.

Preliminary Results:
A total of 24 studies were included, spanning 10 countries and a variety of healthcare systems. Initial findings suggest pharmacists in outpatient psychiatry settings fulfil diverse roles, including but not limited to: medication counselling, adherence support, medication review and reconciliation, side effect monitoring, and in some cases, direct medication administration. Models of care vary significantly, reflecting both system-level differences and the evolving nature of pharmacist involvement in mental health services.

Conclusion:
Although analysis is ongoing, early findings indicate that pharmacists can play a multifaceted role in outpatient psychiatry, potentially improving medication optimisation and patient engagement. This review will provide a comprehensive overview of existing models, informing the development of pharmacist roles within outpatient mental health teams in Ireland.

'The ORB Technique' - A Novel Enhanced Radial Artery Palpation Technique

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Manual pulse palpation remains essential for detecting cardiac arrhythmias and other pathologies in clinical practice. This study examined healthcare practitioners' and medical students' perspectives on the "ORB Technique," a novel enhanced radial artery palpation method involving occluding the radial artery, releasing it, and reapplying pressure to the maximum amplitude point for more accurate pulse assessment.

Objectives:
To explore healthcare practitioners' perspectives on the ORB Technique as an advanced manual pulse palpation method for clinical use by healthcare providers and patient self-assessment for cardiac arrhythmias.

Methods:
A survey examining medical students' opinions on the novel ORB Technique was distributed in paper and digital formats, accompanied by an explanatory video, to medical students at University College Cork and University of Toronto.

Results:
Among 149 participants, the majority (n=94, 63.1%) described the novel technique as "better" than traditional pulse palpation, with a 7.61% margin of error and 95% confidence interval. Most participants (n=83, 57.8%) indicated likelihood of future use, while 22 participants (14.8%) expressed very high likelihood of adoption.

Conclusion:
Study findings suggest this novel pulse palpation technique has significant potential to improve cardiac arrhythmia detection both by healthcare providers in clinical settings and by patients performing self-palpation, representing a valuable enhancement to current clinical examination practices.

Who Benefits from Reablement Services for Older Adults Post Hospital Discharge?

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Background:
Reablement is a time-limited, person-centred intervention designed to support older adults in regaining independence following hospital discharge. Although it has been widely implemented across healthcare systems, it remains unclear which individuals benefit most from these services.

Objective:
This scoping review aims to identify and map the characteristics of older adults who benefit most from reablement services after acute hospital discharge, and to explore how benefit is defined and measured across studies.

Methods:
This review follows the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) framework. A systematic search was conducted across the following databases: PubMed/MEDLINE, CINAHL, PsychINFO, EMBASE, Cochrane Library and Google Scholar. Studies were included if they involved adults aged 65 and over who received reablement following discharge from hospital and published between the years 2015 and 2025. Both qualitative and quantitative study designs were considered. Data extraction is currently underway and will include information on participant demographics, reablement models, outcome measures used, and indicators of benefit.

Status:
At the time of submission, the review is at the data extraction stage. A full summary of study characteristics and mapped outcomes will be completed in advance of the conference.

Conclusion:
This scoping review will inform a deeper understanding of who benefits from reablement and under what circumstances. It aims to support evidence-based development and refinement of reablement services within academic health sciences systems, promoting person-centred care and optimal resource use.

Poster Numbers and Room Locations

Room Number	Poster Number	Presenting Author(s)	Abstract Title
WGB G08	**1**	Maria Giovanna Caruso	Tryptophan-metabolizing gut microbes are associated with anxiolytic and neurogenic effects of voluntary exercise in rats
WGB G08	**2**	Angela Hagai Elipokea	Public perception of food policies for transitioning to healthy and sustainable food systems in Europe.
WGB G08	**3**	Silvia Melgar	The dietary emulsifier polysorbate-80 induces lipid accumulation and cell death via ferroptosis in intestinal epithelial cells
WGB G08	**4**	Doireann Ni Dhalaigh	The Lived Experience of Suicidal Thoughts and Behaviours in Adults with Cancer
WGB G08	**5**	Anna O'Driscoll	Early experience with Laparoscopic Capsule Monarch feeding tubes, as a long-term jejunostomy, in patients with Oesophago-Gastric Cancer compared with conventional methods
WGB G08	**6**	Kristen M. Peralta-Herrera	Barriers and Facilitators to Support Healthier and Sustainable Food Environments in Cork City
WGB G08	**7**	Andrea Pignatelli Espejo	Must Be Love: Microbial Modulation Of Oxytocin By The Gut Microbiota In Hypothalamic Cells
WGB G08	**8**	Ketki Prashant Mulay	Sex-specific effects of gut microbial depletion on adult hippocampal neurogenesis and spatial and contextual memory
WGB G08	**9**	José Ángel Salas-Millán	Brown seaweed supplementation to patients with prediabetes modulates inflammatory responses in intestinal epithelial cells
WGB G08	**10**	Carla Viñola Renart	Regional and sex-specific characterisation of the oxytocinergic system in the mouse gastrointestinal tract
WGB G08	**11**	Sherdya Worthy Tio	Gut Microbiome and Metabolome as Predictors of Therapeutic Response in Rheumatoid Arthritis and Psoriatic Arthritis
WGB G08	**12**	Leanne Ahern	'I Knew Nothing About Parkinson's': Insights into Receiving a Diagnosis of Parkinson's Disease and the Impact of Self-Management, Self-Care, and Exercise Engagement, from People with Parkinson's and Family Members' Perspectives: Qualitative Study
WGB G08	**13**	Austeja Baleviciute	$IGF1^+$ Microglia Drive Diffuse Midline Glioma Proliferation: Identifying Therapeutic Vulnerabilities in the Developing Brainstem

Room Number	Poster Number	Presenting Author(s)	Abstract Title
WGB G08	**14**	Sophie Boyd	Retrospective review of community early medical abortion complications requiring review in secondary care.
WGB G08	**15**	Maria Carey	Restoration of Drug Sensitivity and Apoptosis to Drug-Resistant Oesophageal Cancer Cells by USP18 Knockdown in the Presence of IFN-α
WGB G08	**16**	Wesley Chorney	Machine Learning as an Adjunctive Tool for Risk Stratification in Cardiovascular Surgery
WGB G08	**17**	Méabh Finucane	The short chain fatty acid butyrate inhibits the pro-tumorigenic functions of IL-36 in colorectal cancer
WGB G08	**18**	Fara Hassan	Evaluating the Impact of Pre-Clinical and Post-Clinical Attachment Surveys on Learning Outcomes for 3rd-Year Medical Students at Cork University Hospital
WGB G08	**19**	Sophia Hoffmann	Simulating Crohn's Disease Conditions: In Vitro Evaluation of Budesonide Release from Marketed Formulations
WGB G08	**20**	John David Kehoe	Sternal plating for traumatic sternal non-union: a case series and review
WGB G08	**21**	Zara Khwaja	Patient and Public Involvement in Randomised Controlled Trials to improve outcomes for adults with multimorbidity in primary care and community settings: A Systematic Review Protocol
WGB G08	**22**	Maria Leahy	Evaluating the impact of Trauma-Informed Care educational input for Radiation Therapy Students
WGB G08	**23**	Klara Martinović Mušić	Impact of Adrenomedullin on Human Intestinal Microvascular Endothelial Cell model
WGB G08	**24**	Nora McCarthy	Interprofessional Medication Safety Session - Promoting Safe Prescribing and interprofessional collaboration through Interprofessional Education Workshops
WGB G08	**25**	Karen Molan	Understanding Barriers to Patient Participation in Radiotherapy Clinical Trials: A Real-World Institutional Analysis
WGB G08	**26**	Vitaliy Mykytiv	Discontinuation of maintenance therapy for the patients diagnosed with multiple myeloma in Minimal Residual disease (MRD) negative remission without high risk features
WGB G08	**28**	Theresa O'Donovan	Does Retinoic Acid-induced growth-response influence the outcome of irradiation in Glioblastoma cells?
WGB G08	**29**	Karla O'Shea	Characterisation of γδ T cell functional capacity and inhibitory receptors within Colorectal Cancer tumours
WGB G08	**30**	Miguel Ramôa	Development of Polymeric Nanoparticles for Intestinal Delivery of RNA as a Treatment for Ileal Crohn's Disease
WGB G08	**31**	Aman Saifi	Targeted delivery of RNA-based therapeutics to the gut to modulate the JAK-STAT pathway in Crohn's Disease

Room Number	Poster Number	Presenting Author(s)	Abstract Title
WGB G08	**32**	Francisca Soares	Cyclodextrin-based nanoparticles for oral delivery of RNA-therapies in ileal Crohn's disease
WGB G08	**33**	Amy Walsh	Characterisation of Cell Surface Activation and Inhibitory Receptors on Expanded γδ T-cells.
WGB G08	**34**	Kornelija Bajoraityte	A Novel Adjunct Technique in Dealing with Penetrating Cardiac Injuries
WGB G14	**35**	Moira Duffy	What aspects of outcome measurement instruments are important to parents/caregivers in child health trials: A mixed-methods study
WGB G14	**36**	Dimity Dutch	Embedding child health behaviour screening within Australian primary health care to support growth, health, and development
WGB G14	**37**	Dimity Dutch	Developing a Core Outcome Measurement Set for Infant Feeding
WGB G14	**38**	Asit Kumar Mishra	Children's Thermal Sensitivity in Educational Settings: Evidence for Age-Specific Comfort Standards in Climate-Adaptive School Design
WGB G14	**39**	Jill Mitchell	Development and Characterisation of a Microneedle Sensor for Intrapartum Fetal Monitoring
WGB G14	**40**	Nancy Moore	Assessing the Stability of Dopamine in Neonatal Infusions: A Two-Day Simulated Neonatal Intensive Care Unit (NICU) Study
WGB G14	**41**	Lauren Barrett	Investigating SKOR1 as a novel therapeutic target to prevent α-Synuclein-Induced degeneration in cellular models of Parkinson's Disease.
WGB G14	**42**	Amiee Cronin	The impact of maternal prebiotic supplementation on anxiety and depressive-like behaviors and adult hippocampal neurogenesis following postpartum stress in female mice.
WGB G14	**43**	Ciara Hanrahan	Behaviour change interventions for physical activity in people with chronic respiratory disease in Ireland: a survey of patients and providers perspectives
WGB G14	**44**	Lorna Kenny	Experiences Of People With Parkinson's Disease Of Video-Based Motor Symptom Assessment
WGB G14	**45**	Lauren O'Mahony	An Evaluation of The Alzheimer's Association of Ireland's 'TeamUp for Dementia Research' service
WGB G14	**46**	Joan Omosefe Osayande	Antibiotic-induced gut microbiota depletion protect nigrostriatal integrity in a 6-OHDA rat model of Parkinson's disease.
WGB G14	**47**	Emma O'Shea	Peer Support for Lewy-body Dementia: A Scoping Review
WGB G14	**48**	Emma O'Shea	The Prevalence and Incidence of Parkinson's Disease in Europe: A systematic review and meta-analysis.
WGB G14	**49**	Rachel Roberts	Exploring the impact of LRRK2 genetic mutations on cellular susceptibility to pesticides as a risk factor for Parkinson's disease
WGB G14	**50**	Cristina Rosell Cardona	UNDEPRESSME. Towards an understanding of the gut-brain axis in depression: focus on microbial metabolites
WGB G14	**51**	Kseniya Simbirtseva	Linking gut microbiome taxa and their metabolites to cognitive decline in neurocognitive disorders

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WGB G14	**52**	Megan Walsh	Pre- and Post-Evaluation of an Occupational Therapy-Led Reablement Service Post-Acute Hospital Discharge
WGB G14	**53**	Mathieu Wong	The Development of a Palliative Care Curriculum for GP Trainees: An eDelphi Study
WGB G14	**54**	Cristine Marie Yde Ohki	Elucidating the effects of gut microbiota-derived metabolites in iPSC-derived co-cultures from ADHD patients
WGB G13	**55**	Syed Abbas Tayyab	Assessment of Laboratory Turnaround Time for Hematology and Biochemistry Results at Cork University Hospital Emergency Department, Ireland
WGB G13	**56**	Syed Abbas Tayyab	Ultrasound-Guided IV Access for Difficult Intravenous Access (DiVA) in the Emergency Department
WGB G13	**57**	Ahmed Al-Janaba	Enhancing Health Literacy in Urology: Can Surgical Videos Improve Patient Understanding of Kidney Stone Removal?
WGB G13	**58**	Daniel Andrews	Personalised Surgical Consent Using Artificial Intelligence: A Feasibility Study
WGB G13	**59**	Hannah Ashe	Histopathology LEAN project for improvement of skin turn-around-times
WGB G13	**60**	Zhuming Bao	Adaptation of the Registered Nursing Forecasting (RN4CAST) Nurse Survey for Use in the Systemic Anti-Cancer Therapy (SACT) day unit: A mixed-methods study
WGB G13	**61**	Teresa M. Barbosa	A qualitative study exploring the experiences, views and scope of practice of pharmacists working in infectious disease services in Irish hospitals
WGB G13	**62**	Madhav Bhargav	Unmet Needs in Self-Harm Risk Assessment in the Emergency Department: A Mixed-Methods Evaluation
WGB G13	**63**	Elizabeth Bodunde	I am still repairing: Long-term Mental Health Impact of Pregnancy and Birth Complications - A Qualitative Descriptive Study.
WGB G13	**64**	Elizabeth Bodunde	Association Between Maternal Pregnancy Complications and Long-term Depressive and Anxiety Disorders: Findings from UK Millennium Cohort Study
WGB G13	**65**	Sophie Broderick	Sexual Health Matters: Understanding the information needs of female cancer survivors
WGB G13	**67**	Aileen Callanan	Establishing a Lived Experience Panel in Suicide and Mental Health Research
WGB G13	**68**	James Camien McGuiggan	Patterns in admissions, after care and psychiatric assessment for hospital-presenting self-harm in the Republic of Ireland during 2012-2023- a Registry study
WGB G13	**69**	Shelly Chakraborty	Hospital presenting self-harm in the Republic of Ireland and Northern Ireland across 10 years: 2013-2022
WGB G13	**70**	MV Chinnamani	Hydrogel Microneedle Array with Integrated Electrochemical Biosensor Patch for Continuous Glucose Monitoring in Interstitial Fluid

Room Number	Poster Number	Presenting Author(s)	Abstract Title
WGB G13	**71**	Vicki Cleary	Evaluating a Newly Established Advanced Nurse Practitioner-Led Service for Gynaecological Cancer Risk Reduction in Genetically Predisposed Women
WGB G13	**72**	Ana Contreras Navarro	Assessing the extent of patient and public involvement in randomised trials of tailored implementation strategies: a secondary analysis nested within a systematic review
WGB G13	**74**	Emilene da Silva Morais	Prospective Evaluation of the Breast Microbiota and Tumour Microenvironment-related Biomarkers of Response to Neoadjuvant Systemic Therapy in Triple Negative Breast Cancer
WGB G13	**75**	Ciarán Devoy	Operational Determinants Influencing Implementation Success in Translational Observational Studies: A Multi-Site Comparative Analysis of Recruitment and Biospecimen Collection
WGB G13	**76**	Louise Dooley	Improving the management of women with a low risk pregnancy of unknown location in the early pregnancy unit: A Quality Improvement Project
WGB G13	**77**	Lorraine Dunne	Prosthetic use in individuals with lower limb amputations who need help to walk: A qualitative study on perceived barriers and facilitators
WGB G13	**78**	Marah Elfghi	Competencies for Healthcare Professionals in Climate Change and Sustainability: a Group Concept Mapping Study (Research in Progress)
WGB G13	**79**	Rehab Elhiny	CARDIOVASCULAR RISK CONTROL IN COMMUNITY-BASED IRISH ADULTS WITH HYPERTENSION
WGB G13	**80**	Fatma El-Komy	Medication Adherence Post-Myocardial Infarction: Healthcare Professionals' Insights from a Qualitative Study.
WGB G13	**81**	Fatma El-Komy	Medication Adherence Post-Myocardial Infarction: Preliminary Insights from a Qualitative Study of Patient Perspectives.
WGB G13	**82**	Tamara Escañuela Sánchez	Maximising Efficiency and Cost-Effectiveness: Implementation of REDCap for National Clinical Audits in Perinatal Epidemiology
WGB G13	**83**	Anne-Marie Farrell	Stillbirth in singleton pregnancies in Ireland: 12 Years of Data - What have we learned and how can it inform prevention strategies?
WGB G13	**84**	Aisling Farrell	Why do patients attend out-of-hours GP services in Ireland?
WGB G13	**86**	Steven Gilmore	Investigating Potential Prescribing Cascades resulting in Prochlorperazine prescription: An Exploratory Analysis of Antihypertensives and NSAIDs
WGB G13	**87**	Tommy Harty	Pregnancy loss under 24 weeks: Workplace supports, leave access, and the need for policy reform
WGB G13	**88**	Deborah Heaphy	Competencies and Learning Outcomes for Healthcare Professionals in Climate Change and Sustainability: a Scoping Review

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WGB G13	**90**	Marita Hennessy	Psychosocial supports for maternity staff following adverse events: A mapping study conducted in Ireland
WGB G13	**91**	Muireann Hickey	Evaluating stone dust clearance from the lower pole calyx using 3D printed collecting system models and simulated physical movement. The role of exercise post kidney stone treatment.
WGB G13	**92**	Martin Ho	Aspirin administration within 6 hours post Coronary Artery Bypass Graft (CABG) surgery; Improving outcomes through a single-cycled audit
WGB G13	**93**	Karina Hui Wang	Accuracy of AI in Estimating Dietary Nutrients from Meal Images for Kidney Stone Management
WGB G15	**97**	Kashaf Junaid Qureshi	"Let's talk testicles": exploring the impact of a school-based educational intervention on knowledge, attitudes and intention to undertake testicular self-examination in young men in Cork.
WGB G15	**98**	Jessica Keane	Area-level deprivation as a risk factor for stillbirth in upper-middle to high-income countries: a scoping review
WGB G15	**99**	Jessica Keane	Socioeconomic deprivation as a risk factor for stillbirth: a case-control study
WGB G15	**100**	John David Kehoe	Pilot study to develop a pre-operative "Cardiothoracic Clinical Handover Tool" and its effect on handover quality
WGB G15	**101**	Catriona Keye	A scoping review protocol of menopause education for healthcare professionals
WGB G15	**102**	Almas Khan	Patient adherence to cognitive behavioural therapy in comorbid physical and mental health conditions: a scoping review
WGB G15	**104**	Laura Linehan	Enhancing pregnancy loss and fertility awareness in young people through co-development of educational resources
WGB G15	**105**	Aoife Long	Economic and Environmental Impact of Increased breastfeeding rates in Ireland
WGB G15	**106**	Ríal Magan	SGLT2 Inhibitors for HFpEF and HFmrEF: A Systematic Review and Meta-Analysis of Cardiovascular Outcomes
WGB G15	**107**	Oana Marian	Knowledge Translation Towards Compassionate Care Models
WGB G15	**108**	Laura-Jane McCarthy	General Practitioners' and women's experiences of perimenopause consultations: a qualitative evidence synthesis protocol
WGB G15	**109**	Nora McCarthy	Facilitator Insights on Patient and Public Involvement in Interprofessional Education: A Focus Group Study

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WGB G15	**111**	Orla McKivitt	Surface-Guided Radiotherapy: A Reliable Motion Management Solution for End-Expiration Breath-hold in Stereotactic Body Radiotherapy to the Liver
WGB G15	**112**	Elizabeth Moloney	Development & Introduction of a Frailty Trigger at triage in Cork City emergency departments
WGB G15	**113**	Sarah Moore	Tracking Parkinson's Disease symptoms and medications across the menstrual cycle
WGB G15	**114**	Atieh Mousavi	Enabling Early Detection of Ovarian Cancer Using a Novel Electrochemical Sensing Platform
WGB G15	**115**	Varsha N. Shetty	The Role of Coroners in perinatal death investigation in high-income countries: A Scoping Review
WGB G15	**116**	Doireann Ni Dhalaigh	The mental health of adults with newly diagnosed cancer: a prospective cohort study
WGB G15	**117**	Doireann Ni Dhalaigh	Challenges Encountered Navigating the Academic Health Sciences System (AHSS) in the Southwest of Ireland
WGB G15	**118**	Anna M. O'Leary	Implementation strategies for the National Undergraduate Curriculum for Chronic Disease Prevention and Management in Higher Education Institutes in Ireland.
WGB G15	**119**	Norma O'Leary	Barriers, Facilitators and Design of a Health Communication Passport for Stroke: Perspectives of Healthcare Professionals
WGB G15	**120**	Aoife O'Mahony	Exploring Methodological Discrepancies between Protocols and Published Scoping Reviews
WGB G15	**121**	Claire O'Regan	CUH/UCC Cancer Centre; Advancing the Academic Health Science System through OECI Accreditation
WGB G15	**122**	Anne Parle	Evaluation of the Community Food Initiative Programme 2022-2024
WGB G15	**123**	Rincy Rajan	'Mental Health Experiences and Help-Seeking Behaviour of South Asian Migrant Women Working in Ireland: A Qualitative Study'
WGB G15	**124**	Mala Shah	A feasibility study of a patient leaflet on respiratory infections for use in GP consultations in Ireland
WGB G15	**125**	Orla Sheehan	Qualitative Evaluation following EHR Changes for Newborn Feeding in a National EHR
WGB G15	**126**	Margaret Steele	Industry Impact on Food Environments in Ireland
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WGB G15	**128**	Ashwini Tittawella	Evaluating the Presence and Clarity of Recycling Information on Medical Packaging
WGB G15	**129**	Zain Ul Abedin	Results of Feasibility and Acceptability Questionnaires From A Study Of Acupuncture For Vasomotor Symptoms In Men With Prostate Cancer
WGB G15	**130**	Muireann Vaughan	Investigating the Role of Pharmacists in Outpatient Psychiatry Settings: A Systematic Review
WGB G15	**131**	Illann Wall	'The ORB Technique' - A Novel Enhanced Radial Artery Palpation Technique

Room Number	Poster Number	Presenting Author(s)	Abstract Title
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