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Abstracts

Building a Future in Medical Research: Opportunities and Insights

NIMDTA
Northern Ireland
Medical & Dental Training Agency

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Every reasonable effort has been made to ensure the accuracy of all information at time of publication. However, information contained within this booklet is subject to change.

ORAL PRESENTATIONS

The Digital Revolution in Histopathology: Integrating Whole-Slide Imaging, Artificial Intelligence and Liquid Biopsy for the Future of Cancer Diagnosis

Mahrukh Khan

Introduction and Aims: Histopathology remains the gold standard in cancer diagnosis, but conventional approaches are increasingly limited by issues of reproducibility, efficiency, and adaptability to growing clinical demand. This study aimed to evaluate recent innovations—whole-slide imaging (WSI), artificial intelligence (AI), and liquid biopsy—and assess their potential to transform diagnostic accuracy, workflow efficiency, and personalised oncology care.

Methods: A narrative literature review was conducted, evaluating recent peer-reviewed literature on WSI, AI algorithms in diagnostic pathology, and circulating tumour DNA (ctDNA)-based liquid biopsies. Studies were critically appraised for diagnostic performance, clinical applicability, and integration potential.

Results: WSI has enabled remote diagnostics, digital workflows, and global collaboration. AI-driven tools demonstrated enhanced detection of subtle histological patterns, reduced interobserver variability, and prognostic capabilities, particularly in lung cancer. Liquid biopsies provided minimally invasive access to tumour genomics, aiding in early detection, monitoring, and treatment stratification. Multimodal approaches integrating WSI, AI, and ctDNA analysis showed promise in improving diagnostic precision and personalising care. However, barriers included high costs, regulatory challenges, data security, and clinician adoption.

Discussion: Emerging evidence suggests that digital histopathology, augmented by AI and liquid biopsy, could revolutionise cancer diagnostics, bridging morphological and molecular insights. While transformative, successful implementation requires investment in infrastructure, validation studies, and clinician training. Integration of these technologies represents a critical step toward precision medicine in oncology.

Chronic Hypervitaminosis D

Muhammad Ilyas, Siraj Bellaba,
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Background: Chronic misuse of high-dose vitamin D is increasingly reported, but cases causing irreversible multisystem calcification are rare. We describe a patient with refractory hypercalcaemia and widespread tissue deposition following two decades of excessive vitamin D_3 intake (40,000–60,000 IU/day).

Case Presentation A 49-year-old man presented in June 2024 with fatigue. Initial laboratory results showed serum calcium 4.23 mmol/L, parathyroid hormone (PTH) <1.2 pmol/L, 25-hydroxyvitamin D >375 nmol/L and 1,25-dihydroxyvitamin D 252 pmol/L. Bronchial biopsy excluded malignancy and granulomatous disease. Computed tomography (CT) of the thorax–abdomen–pelvis demonstrated dense calcifications in the myocardium, dura mater, tracheobronchial tree (maximal thickness 15 mm) and iliopsoas/hip region. Renal biopsy confirmed nephrocalcinosis with chronic tubular atrophy. Despite aggressive therapy—including intravenous fluids, loop diuretics, pamidronate, denosumab, high-dose corticosteroids and haemodialysis sessions—serum calcium remained >3.5 mmol/L at eight-month follow-up.

Conclusion Established calcifications from chronic hypervitaminosis D are resistant antiresorptive treatments and dialysis. Clinicians should obtain detailed supplement histories, monitor vitamin D metabolites and educate patients on safe upper intake levels to prevent irreversible organ damage.

Key Learning Points Chronic high-dose vitamin D can cause refractory hypercalcaemia and irreversible multisystem calcification.

Standard therapies may fail to normalise calcium or reverse calcifications.

Early recognition and patient education are critical preventive strategies.

Co-designing Patient Safety Investigations with Patients and Relatives

Maryam Borumand, Alexia Watson-Yarngo, Flo Montague Temi Olawore, Dr. Anna Costello, Anna O'Neill

Problem: Traditional approaches to patient safety investigations have been perceived as cold, confusing, and impersonal, causing emotional distress to patients and families. A lack of meaningful involvement can lead to dissatisfaction and reduced trust in the healthcare system's ability to learn from incidents.

Strategy for Change: In line with the NHS Patient Safety Incident Response Framework (PSIRF), Patient Safety Partners (PSPs) redesigned the communication processes for Patient Safety Incident Investigation. Two focus groups were held with patients and relatives to understand how prior investigations had been experienced. Feedback was used to co-design more inclusive Duty of Candour letters and national information leaflets.

Measurement of Improvement: Qualitative feedback was collected before and after the implementation of new materials, focusing on clarity, compassion, and perceived inclusion. The pilot's effectiveness was measured through follow-up conversations with participants and staff, assessing changes in emotional response and understanding of the process.

Effects of Change: The co-designed materials were found to be significantly clearer, kinder, and more patient centred. Participants reported reduced emotional distress, increased trust, and greater willingness to engage with the investigative process. Staff also reported improved confidence in communication.

Discussion: Embedding lived experience in the design of patient safety investigations fosters compassion, transparency, and shared learning. This initiative highlights the value of collaborative quality improvement, where patients are not only recipients of care but active partners in creating safer healthcare systems.

POSTER PRESENTATIONS – BASIC SCIENCE & CLINICAL RESEARCH

Why HMPV Won't Be the Next COVID-19: A Scientific and Public Health Analysis

Amit Nayak, Aditya Gaur, Muhtasim Fuad

Introduction: Human metapneumovirus (HMPV) is a respiratory pathogen affecting children, the elderly, and immunocompromised individuals. Seasonal surges have raised concerns about its potential to trigger a global health crisis. Unlike SARS-CoV-2, HMPV shows distinct virological and epidemiological traits that strongly limit its pandemic potential.

Aims: This review examines why HMPV is unlikely to cause a COVID-19- like pandemic and highlights lessons from COVID-19 for HMPV preparedness.

Methods: A structured literature review was conducted using PubMed, Embase, Scopus, Web of Science, and Google Scholar, covering studies from 2001 to 2025. Eligible sources included original research, systematic reviews, meta-analyses, clinical guidelines, and global health reports on transmission, clinical outcomes, vaccines, treatments, and preparedness strategies.

Results: HMPV is characterized by localized, seasonal outbreaks and limited asymptomatic spread. Its stable genome, absence of animal reservoirs, and modest reproduction number restrict widespread transmission. By contrast, SARS-CoV-2's high transmissibility, zoonotic reservoirs, and rapid evolution enabled global spread. Although no vaccines or antivirals exist for HMPV, COVID-19 demonstrated the value of rapid vaccine development, genomic surveillance, effective communication, and coordinated responses—strategies applicable to HMPV preparedness.

Discussion: HMPV lacks the transmission dynamics of SARS-CoV-2, making a global pandemic trajectory improbable. Still, it remains a seasonal threat to high-risk groups. Applying COVID-19 lessons—enhanced surveillance, vaccine research, and improved treatments—will strengthen preparedness. A balanced approach that avoids both alarmism and neglect is essential to protect vulnerable populations and improve resilience against respiratory viruses.

Optimisation of iron deficiency anaemia in pregnant women with bleeding disorders

Caitlin Rice

Background: Pregnant women with bleeding disorders have an increased risk of post-partum haemorrhage (PPH). All pregnant women should be assessed for iron deficiency and anaemia with optimization prior to labour.

Aim: Document treatment of iron deficiency in pregnant patients with bleeding disorders.

Methods: Single-centre audit of pregnant women with bleeding disorders who delivered at a tertiary hospital, over 12-months (2024). Haemoglobin, ferritin, and interventions were documented at 28 weeks gestation (28/40), re-assessment (4/52 later), and term. Iron deficiency was defined as ferritin<30 and anaemia haemoglobin<110g/L. Optimization and PPH outcomes were measured.

Results: 38 post-partum women with thrombocytopenia (68%), Von Willebrand disease (24%), and factor deficiencies (8%) were identified. 89% had FBP and ferritin testing at 28/40. Of these, 62% had ferritin<30 (19% anaemic), with 81% appropriately managed as per guidelines. Response assessment revealed, 19% were optimized with adequate iron replacement (ferritin >30). Concerningly, 67% remained iron deficient, without change in therapy.

At term, 16% had PPH, of which 67% were optimized, 33% not optimized. Additionally, 27% did not have PPH but had ≥500ml bleed. Average fall in Hb 17g/l, none had ferritin re-

checked, none were transfused.

Conclusion: Optimisation of iron deficiency and anaemia in patients with increased bleeding risk is standard of care. Testing must comply with obstetric guidelines, with assessment of response to therapy. PPH can confer morbidity and mortality, therefore optimization of iron deficiency and anaemia is a critical intervention to reduce this risk.

Audit of DNACPR Documentation: Transitioning from Paper to Electronic Health Records

Christian Ward-Bradley, Dr Lauren Ferguson, Dr Shannon Murtagh, Dr Daniel Napier, Dr Erin Fitzsimons

Background: Do Not Attempt Cardiopulmonary Resuscitation (DNACPR) decisions must be documented clearly to ensure patient safety and effective multidisciplinary communication. Daisy Hill Hospital transitioned from paper-based red forms to the EPIC electronic health record in 2024–25, offering an opportunity to compare documentation standards across both systems.

Methods: A retrospective audit was performed in September 2024 (paper) and June 2025 (EPIC). Data collected included patient demographics, presence and completeness of DNACPR forms, staff grade completing forms, duration without senior review, and accuracy of nursing handover sheets. Completion of seven key form sections was analysed.

Results: DNACPR documentation was present in 33.6% of patients in the paper cohort (44/131) versus 42.4% in the EPIC cohort (59/139). Median patient age increased (80.5 → 84 years). Nursing handover sheet errors improved (25.7% → 10.1%). However, completion of key sections declined: senior countersignature (65.5% → 33.9%), family discussion (58.6% → 57.6%), and MDT input (62.1% → 59.3%). Communication with patients (79.3% → 74.6%) and summaries (82.8% → 79.7%) also decreased. Twenty percent of patients recorded on EPIC handover as DNACPR had no form available.

Conclusions: Transition to EPIC improved handover accuracy and the proportion of patients with DNACPR documentation. However, reductions in senior countersignature and completion of key sections highlight the risk of incomplete records. Recommendations include introduction of electronic "hard stops" to prompt timely senior review, mandatory linkage of DNACPR orders to forms, and standardisation of ward handover templates and terminology.

Audit of Pleural Procedures and Early Outcomes Following Introduction of an Indwelling Pleural Catheter Service at a District General Hospital

Hateem Rafeeque

Introduction: Pleural procedures are essential for managing effusions and pneumothorax. Variation in practice and limited local outcome data highlighted the need for service evaluation and improvement.

Aims: To review pleural procedures performed at Causeway Hospital with respect to indications, clinician, complications, and outcomes, and to assess the early impact of an indwelling pleural catheter (IPC) service.

Methods: A retrospective review of 34 pleural procedures undertaken between 2022 and 2025 was performed. Data collected included demographics, indications, comorbidities, and complications. Outcomes for 10 patients who received IPCs after service introduction in 2025 were compared with prior practice.

Results: Respiratory physicians performed 85.3% of procedures, with the remainder mainly by emergency department (ED) clinicians. Coding inconsistencies limited accurate ED case tracking. Repeat attempts were required in 24.2% of cases. Six complications were reported: two by respiratory physicians, three by ED, and one by acute medicine. 23.3% of patients had a malignancy. Thirty-day readmission occurred in 30%, almost half in patients with cancer. Following IPC service introduction, 10 patients with malignant effusions received catheters. No complications were reported. Two required readmission, none within 30 days.

Discussion: This audit identified gaps in ED coding and a modest but clinically relevant complication rate, particularly for ED procedures. Readmission burden was notable, especially among cancer patients. Early IPC outcomes were encouraging, with reduced readmissions and no complications, supporting broader adoption in line with BTS guidance.

A Cross-Sectional Study of Fatigue in Inflammatory Bowel Disease

James Crosfield, Ahmed Tawfik, John McGoran

Introduction: Fatigue is a common, but underreported, symptom of chronic disease, including inflammatory bowel disease (IBD). Clinicians often prioritise tangible symptoms like bowel habit, bleeding and pain. Meanwhile, the debilitating effects of fatigue can go unrecognised.

Aims: This study aimed to compare the burden of fatigue in a cohort of patients with IBD to documented population norms. It also assessed the relationship of fatigue to age, sex, IBD subtype, and physician-assessed disease activity.

Methods: Forty-two patients who recently engaged with IBD services at Altnagelvin Area Hospital were identified. Of these, thirty consented to complete the FACIT-fatigue questionnaire. Scores were normally distributed (W= 0.93, p= 0.06) and were compared to population data using a one-sample t-test. Differences in fatigue scores by sex, age, IBD type and disease activity were analysed using Welch's t-test, linear regression and one-way ANOVA accordingly. Multivariable linear regression was also performed.

Results: The IBD cohort (n=30) demonstrated significantly higher levels of fatigue compared to the general population (P<0.001). The effect size was large (Cohen's d=1.97). No

significant association between fatigue and sex (p=0.48), age (p=0.43), IBD subtype (p=0.83) or disease activity (p=0.92) was identified. Multivariable analysis did not account for the variance in scores. The absence of association should be interpreted with caution due to low statistical power.

Discussion: These findings highlight fatigue as a significant and distinct problem in IBD in keeping with existing reports. Further research, including a larger longitudinal study, is required to characterise the predictors and mechanisms of fatigue in IBD.

Metabolic Bone Disease in Fontan Patients: A systematic review and metanalysis

Kerri Munn-Bookless, Scott Kendall, Prof Frank Casey

Introduction: Patients born with single ventricle physiology typically undergo staged surgical palliation, with the Fontan procedure representing the mainstay of treatment. Advances in surgical techniques and medical management have led to significantly improved survival. However, with increased longevity the long-term sequelae of the Fontan circulation are becoming more apparent. Amongst these complications metabolic bone disease (MBD) is emerging as an important concern.

Aims: This review aims to assess the prevalence of/propensity for MBD in patients of all ages who have undergone Fontan palliation surgery.

Methods: Online databases were searched to identify all studies relating to MBD in Fontan patients. Articles were screened by two independent reviewers, based on title, abstract and full text where indicated. Rayyan was used to allow the reviewers to independently include/exclude articles in accordance with criteria.

Results: Eight articles were included in the review. Bone mineral density (BMD) data was obtained by either DEXA or peripheral quantitative computed tomography (pQCT). A metanalysis of the DEXA data demonstrated significant reduction in BMD in Fontan patients when compared to their healthy age/sex matched peers (z score -0.34 to -1).

Discussion: Patients with Fontan circulation are at risk of reduced BMD when compared to their age/sex matched healthy peers. This is thought to be secondary to the unique haemodynamics of the Fontan circulation. Appropriate surveillance of these patients should be implemented to allow early detection and intervention, thereby preventing progression to osteoporosis.

High Concentration (8%) Capsaicin Patch for Postoperative Neuropathic Pain: A Systematic Review of Randomised Controlled Trials

Megan Niven, Patrice Forget, Morgan Inwood

Background: Postoperative neuropathic pain is a common and sometimes disabling problem. Mainstay pharmacological management involves gabapentinoids, tricyclic anti-depressants and serotonin and norepinephrine reuptake inhibitors. Past this, guidance is limited. There is good evidence for the use of high concentration capsaicin patch in non- operative causes of neuropathic pain. This systematic review aimed to evaluate the evidence base for the high concentration (8%) capsaicin patch for postoperative neuropathic pain.

Methods: We carried out a systematic search of 4 databases (Ovid MEDLINE, Embase, Cochrane Library and ClinicalTrials.gov) from inception to 3rd July 2025 to identify randomised controlled trials investigating the effectiveness of high concentration capsaicin patch for postoperative neuropathic pain. The primary outcome was pain improvement, with adverse events being the secondary outcome. Study selection was performed independently by two reviewers using the Rayyan platform.

Results: 487 studies were identified. After screening, only one randomised controlled trial on 46 participants met inclusion criteria. The high concentration capsaicin patch did not significantly improve postoperative neuropathic pain compared to an inactive placebo patch. However, the trial was deemed to be of low quality, with several limitations and a high risk of bias. We also found 2 ongoing trials without published results.

Conclusion: This review identified a gap in literature. We found very low certainty evidence regarding the use of the high concentration capsaicin patch for chronic postoperative neuropathic pain. Pragmatic trials are required to expand the existing, and specific, evidence base.

Uterine Transplantation: Investigating the Advantages and Disadvantages of Live Donation vs Deceased Donation

Niamh Herron, Clare Foy

Uterine transplantation is a modern surgical technique that allows those with uterine factor infertility to carry and birth a child. This is a relatively new and innovative treatment approach, and surgeries have been completed in many centres across the world. A number of the first cases completed used live donor organs, and after a few successful attempts, deceased donor transplants were attempted. Both options have various clinical, surgical, and ethical advantages and disadvantages. The primary aim of this review is to compare the advantages and disadvantages of the two donor types, using data from articles that look at live and deceased donor uterus transplant cases.

A systematic search of the literature was completed using Medline, Embase, and Web of Science. Four articles were included in this review, describing 30 cases in total. 10 cases were from the Czech trial, and the remaining 20 were from the Dallas Uterus Study. Between the two studies, seven cases involved a deceased donor, and 23 cases involved a live donor. The data showed that a higher proportion of recipients of live donor organs had a successful uterine transplant, and live birth, compared to recipients of deceased donor organs. Recipients of both donor types experienced a number of

complications and some graft loss. However, the decision of whether to use a live or deceased donor becomes more complicated once the ethical issues concerning donation, the risk to live donors, and the limitations on access to certain organ types are addressed.

The Malnourished Heart Failure Patient – What are the Risks?

Nicola Melarkey, Orla Graham, Rebecca Kennedy, Shiama Zuhairy, Patricia Campbell

Introduction: Heart Failure (HF) patients are regularly advised on weight control and salt intake, but full nutritional assessment is rarely completed. It's suggested that nutritional status is an independent prognostic factor in HF. The Prognostic Nutritional Index (PNI) may be used for initial screening, with low PNI associated with poorer prognosis.

Aims

To analyse the relationship between PNI, mortality, and HF hospitalisation (HFH).

Methods: This was a retrospective study of HF admissions in Southern Health and Social Care Trust during September 2022-2023. PNI on admission was calculated by [albumin(g/L) + (0.005xlymphocytes/mm3)] whereby normal PNI≥50, mild malnutrition<50, moderate<45 and severe<40. Electronic health records were reviewed for mortality and HFH outcomes.

Results: 194 patients were included, with average BMI of 30. No patients had a PNI≥50.

PNI<40 group (n=123); 10 (8%) died during index admission, 53 (43%) died within one year of discharge and 28 (23%) had further HFH within one year of discharge.

PNI 40-44 group (n=63); 7 (11%) died during admission, 16 (25%) died within one year and 17 (27%) had HFH within one year.

PNI 45-49 group (n=8); no patients died during admission, 3 (38%) died within one year and 2 (25%) had HFH within one year.

Discussion: Nutritional status is often overlooked during hospitalisation. Within this cohort all patients had a degree of malnutrition, the majority severely malnourished, despite an elevated BMI. While there was no significant difference between groups, considerable mortality and morbidity was associated. Therefore, it's an important variable that should be screened for and addressed.

Clinical Research/Basic Science

Does neuronavigation lead to better placed shunts than using freehand techniques?

Sarah McCandless, Theodore Hirst, Eva Sweeney

Background: Ventricular shunting is a common neurosurgical procedure essential for managing increased intracranial pressure. This study aimed to determine whether neuronavigation improved ventricular shunt placement compared to anatomical landmarks alone. A secondary objective was to assess whether neuronavigation affected shunt survival outcomes.

Methods: In this retrospective study, all patients undergoing ventricular shunt placement, leading to a complete intrinsic system from June 2020 to June 2022, were included. Patients were followed until June 2023, ensuring a minimum follow-up of one year and a median follow-up of 652.09 days. The neuronavigation technology remained unchanged throughout the study. Patients were divided into two groups: one receiving neuronavigation-assisted placement and the other using a freehand technique. Postoperative computed tomography scans assessed proximal catheter positioning, graded using a three-point scale: Grade 1—free-floating in cerebrospinal fluid on the ipsilateral side; Grade 2—in contact with the choroid plexus, ventricular wall, or contralateral side; and Grade 3—within parenchyma or failing to reach the intraventricular space.

Results: Among 131 cases from 124 patients, 41.22% utilized image guidance. Grade 1 shunt placement was observed in 59 non-image-guided and 46 image-guided cases. The shunt revision rate was 30.53%, with 50% due to blockage. Poorer catheter positioning correlated with increased revisions and reduced shunt survival.

Conclusion: Smaller ventricles were associated with higher image guidance use and revision rates. While neuronavigation may aid placement in smaller ventricles, a log-rank test indicated no significant survival advantage over the freehand approach (X2=6.292, df=2, p=0.012).

Beta-Blocker prescription adherence of children and young people with Long QT Syndrome a retrospective cohort study

Scott Kendall, Brandon Cooke, Adeline Jose, Solomon Nasir, Martin Dempster, Terence Prendiville, Pascal McKeown, Frank Casey

Introduction: Beta blocker non-adherence is a key factor in precipitating cardiac events in patients affected by congenital long QT syndrome (LQTS).

Aims: Examine beta blocker adherence in a paediatric group of patients with LQTs.

Method: Patients with congenital long QT syndrome type 1 and 2 were identified using a database curated by the Inherited Cardiac Conditions team in Northern Ireland. Medication adherence was reviewed by contacting the patient's GP. A medication possession ratio was then calculated for the year. Adequate adherence was defined as a ratio of >/=0.8, ideal adherence was defined as a ratio of >/= 1.0. Risk factor analysis for poor adherence was performed using multivariable binary logistic regression.

Results: 99 patients' data was suitable for analysis, 71 had LQT1 and 28 had LQT2. The median age of the children involved was ten years old. Over 36,135 days the median

medication possession ratio of this patient group was 0.92. 56 patients had at least adequate adherence, of these 44 patients had ideal adherence. In contrast 43 patients had less than adequate adherence and of these six patients were completely non-adherent. Increased deprivation was significantly associated with "less than" ideal adherence.

Conclusion: Adherence in the paediatric cohort was mostly in the "adequate range." Increased deprivation is a risk factor for "less than" ideal adherence. A small minority of patients can be identified as completely non-adherent by checking prescription records. Future studies should focus on elucidating barriers and enablers to ideal adherence in this population.

Clinical Research/Basic Science

Thermographic Assessment of Arteriovenous Fistula Patency for Haemodialysis Patients with Fistula Dysfunction

Ufuk Parildar, Ali Başçı, Mustafa Parildar

Introduction: Arteriovenous fistulas provide reliable vascular access for haemodialysis. Fistula dysfunction can interrupt dialysis and warrants prompt assessment. In this study, we propose infrared thermography as an accessible point-of-care screening tool to assess arteriovenous fistula patency in patients with fistula dysfunction. We evaluate the diagnostic accuracy of thermography in identifying superficial peripheral stenoses.

Methods: 30 adult haemodialysis patients were recruited who had been referred to interventional radiology due to new dysfunction of their arteriovenous fistulas. Assessments of fistulas were first carried out by infrared thermography, then compared with CT angiography for validation.

Results: Infrared thermography demonstrated all instances of stenoses and occlusions in the arteriovenous fistulas and their superficial drainage veins, confirmed with CT angiography. In one case, while thermography findings suggested superficial stenosis, this could not be demonstrated on CT angiography. Thus, for the assessment of patency in arteriovenous fistulas and their superficial drainage veins, infrared thermography showed sensitivity of 100%, specificity of 94%, positive predictive value of 92%, negative predictive value of 100%, and an accuracy rate of 97%. Thermography was also able to show aneurysmal dilatations of the fistulas and their superficial drainage veins. In six cases, fistula dysfunction was secondary to central venous stenoses, and thermography demonstrated consequent superficial venous distensions and collateralizations.

Discussion: Infrared thermography shows potential to offer an accessible, portable, inexpensive, non-invasive, and radiation-free point-of-care screening tool for the assessment of arteriovenous fistula patency with high accuracy.

Poster Presentations – Case Report/Case Series

A Case of New Bipolar Disorder after Anti-Glycine Receptor Encephalitis

Aneirin Potter, Emma Vaccari

Introduction: We describe the case of a patient who developed a case of bipolar alongside anti-glycine receptor encephalitis and his subsequent treatment with immunotherapy. Anti-Glycine Receptor Antibodies (Anti-GlyRs) are antibodies associated with some cases of stiff-person syndrome and some cases of autoimmune encephalitis.

Description of Case: A 70-year-old man presented to A&E after α six-week period with episodes of agitation, irritability, grandiosity, abnormal talkativeness and risky behaviour. Initial investigations including CT and MRI Brain showed no abnormalities. He was started on olanzapine, sodium valproate and promethazine, but required transfer to a Psychiatric Intensive Care Unit, nonetheless. A blood test showed positive anti-Glycine receptor antibodies that were later confirmed in CSF. An EEG also showed encephalopathy. His neurological exam through this period was normal. He went on to be treated with steroids, plasma exchange (PLEX) and rituximab, after which he was noted to be a lot calmer, such that his section 3 was rescinded. However, the aggressive and agitated episodes returned within weeks. These eventually responded positively to intravenous immunoglobulin (IVIG) therapy for which he started having monthly infusions. He was able to return home without a package of care and with only minimal residual executive dysfunction and emotional lability, but with ongoing risk of relapse.

Discussion: This highlights the importance of considering autoimmune encephalitis in unusual acute psychiatric presentations in over 65-year-olds. For cases like this, closer working between neurology and psychiatric services and neuropsychiatry training will become essential.

Incidental IgG4-Related Retroperitoneal Fibrosis with Autoimmune Pancreatitis: A Diagnostic Challenge.

Aparnna Unnikrishnan Nair

Introduction: Retroperitoneal Fibrosis (RPF) is a rare fibro-inflammatory disorder that can cause ureteric obstruction and renal compromise. While often idiopathic, a subset of RPF cases is associated with IgG4-related disease (IgG4-RD). Diagnosis can be challenging when biopsy is high risk or serum IgG4 levels are borderline.

Description of Case: A 62-year-old female presents with five days of diffuse abdominal pain and vomiting. She has no history of gallstones, alcohol use or hypertriglyceridemia. Laboratory evaluation showed elevated transaminases, Acute kidney injury, leukocytosis and raised lipase. Imaging demonstrated acute interstitial pancreatitis, bilateral hydroureteronephrosis and an incidental finding of soft tissue encasing the distal aorta and iliac arteries consistent with Retroperitoneal fibrosis. Serum work up showed elevated CRP and high normal IgG4(1470mg/dl), with elevated complement levels. Due to anatomical risk, biopsy was not performed. She was treated with corticosteroids followed by Rituximab as a steroid sparing agent. Symptoms

and inflammatory markers improved, but follow up imaging showed fibrosis with bilateral nephrostomy dependence.

Discussion: This case illustrates the diagnostic complexity of RPF overlapping with autoimmune pancreatitis and suspected IgG4-RD. Elevated complements are atypical in IgG4-RD, yet the clinical and radiological features supported this association. The case highlights the difficulty of diagnosis without tissue confirmation, requiring reliance on imaging, laboratory markers and therapeutic response. For primary care and hospital physicians' awareness of IgG4-realted RPF is vital, as timely recognition and immunosuppressive therapy can improve outcomes and prevent irreversible renal damage

Creutz-Jakob Disease: A case series

Callum Stephen Blair, Stella Hughes

Introduction: Creutz-Jakob Disease, a neurodegenerative disorder caused by abnormal prion proteins. Whilst CJD can be inherited, the majority of cases are sporadic, affecting 1-2 persons per million per year. The condition is often rapidly progressive in nature, leading to death within 6-12 months of onset.

Description of series: We present the cases of 3 individuals with sporadic CJD over a 6 month period, highlighting various hurdles to diagnosis. Individuals, with an average age of 68.7 years, presented to hospitals across Northern Ireland with symptomatology including confusion, unsteadiness or tremor. Initial differentials that were considered included ischaemic events (ruled out with imaging) or delirium with unknown cause. In the absence of an identifiable trigger for symptoms, 2 of the 3 patients were discharged; both subsequently re-attended Emergency Departments with progressive symptoms on further occasions prior to their eventual admission and diagnosis.

Discussion: In all instances, prion disease related changes were present on initial imaging. This, however, was only commented on in one case (reviewed by neuroradiologist) with the others being highlighted in retrospect. Following confirmation of diagnosis, all 3 patients were managed via palliative pathways. This series highlights the importance of increased index of suspicion in patients with rapidly progressive dementia, with no other attributable cause. Emphasising role of specialist input from neurology and neuroradiology colleagues, allowing for early diagnosis.

A Rare Case of Intragastric Retention of a Fractured Nasogastric Tube in a Stroke Patient with Hemiballismus

Conal Logan, Jacob Mulholland, Leoni Argyrou, Rachel Grainger

Nasogastric (NG) tubes are widely used in patients with impaired swallow, particularly following stroke. Mechanical complications such as breakage or tube fragmentation are exceedingly rare but can carry clinical risk. We present the case of a 90-year-old man with post-stroke hemiballismus and dysphagia who experienced a fractured NG tube, with the distal segment remaining unnoticed in the stomach. This was later incidentally identified on imaging following reinsertion of a new NG tube. The case highlights the importance of tube inspection, equipment vigilance, and the role of imaging in uncovering unexpected complications.

Case Presentation: A 90-year-old man was admitted with a right MCA infarct, resulting in dense left hemiplegia, hemianopia, and dysphagia.

After several episodes of NG tube dislodgement, a new feeding tube was placed. Days later, nursing staff noted resistance while flushing medications. The patient scored a NEWS of 5 overnight and reported a single episode of abdominal pain that self-resolved. Multiple attempts were made to unblock the tube, including flushing and administration of "Clog Zapper," without success. The NG tube was subsequently replaced.

At the time of removal, the distal end of the tube was not inspected, and it was discarded into clinical waste. No aspirate was taken to confirm new tube placement, but a routine chest radiograph ordered for position confirmation revealed an unexpected linear radiopaque object within the gastric bubble, consistent with a retained NG tube fragment. A PEG was inserted, during the procedure, the retained NG tube segment was safely retrieved endoscopically without complication.

Capsular Warning Syndrome in a Middle-Aged Patient: Recognizing a Rare Precursor of Complete Stroke

Joel Thomas, Thoufeer Ali, Mohammed Iqbal, Jaziya Jabeen, Richard Cowell, Imalda Sebastian

Introduction: Capsular warning syndrome (CWS) is an uncommon condition characterized by recurrent, stereotypical lacunar transient ischemic attacks (TIAs), often preceding a complete stroke. It is thought to result from intermittent perfusion failure in small penetrating arteries, most frequently affecting the internal capsule, thalamus, or pons.

Case Presentation: A 52-year-old man with hypertension and hypercholesterolaemia presented with two episodes of transient neurological deficits within 6 hours. The first episode involved right-sided weakness, facial droop, numbness, and dysarthria lasting <5 minutes; the second, lasting 30 minutes, resolved before hospital arrival. On examination, no deficits were evident. CT head suggested a left MCA infarct, and aspirin was commenced. The stroke team diagnosed typical CWS. He was treated with dual antiplatelet therapy and atorvastatin. Carotid Doppler was normal. MRI on day 6 confirmed a small focal left MCA infarct. CT angiography, ECG, thrombophilia screen, and autoimmune panel were unremarkable. The patient was discharged with follow-up arranged.

Discussion: CWS manifests as recurrent motor or sensory deficits without cortical involvement. Its pathophysiology

is linked to hemodynamic instability of penetrating arteries such as the lenticulostriate. Although no standard treatment exists, dual antiplatelet therapy, statins, and aggressive vascular risk factor control are commonly employed. MRI with diffusion-weighted imaging is superior to CT in detecting small infarcts, while angiography helps exclude other causes. Despite accounting for <2% of TIAs, CWS carries a high risk of progression to completed stroke (up to 70%), making early recognition and intervention crucial.

Presentation of right ventricular pacing lead perforation manifesting as haemopericardium and cardiac tamponade – a case report

Katie Dougan, Amos Sum-Wo Ng

Background: Delayed lead perforation is a rare but potentially life-threatening complication of cardiac device implantation. Presenting features are often subtle, and delayed recognition may lead to life threatening outcomes such as Cardiac Tamponade.

Case Summary: A 76-year-old male with a dual-chamber pacemaker (implanted for 2:1 atrioventricular block) presented with progressive chest pain and dyspnoea. On arrival to the ED, he was hypotensive and tachycardic. Imaging revealed a moderate pericardial effusion. Transthoracic echocardiography indicated early tamponade. Ultrasound guided pericardiocentesis was performed with immediate clinical improvement. A 12 lead ECG demonstrated failure of RV capture and subsequent device interrogation confirmed reduced impedance; ventricular (RV) lead dislodgement was suspected. After a multidisciplinary meeting the patient underwent successful percutaneous lead extraction and re-implantation.

Discussion: This case illustrates the diagnostic challenges of late presentation pacemaker lead dislodgement and perforation, particularly in patients with non-specific symptoms. Timely echocardiography and Computed Tomography (CT) imaging were instrumental in identifying and managing Cardiac Tamponade. Detailed review of the ECG led to a pacemaker check; Chest X-Ray and hence confirmation of lead dislodgement. A multidisciplinary approach facilitated safe extraction and management.

This case highlights the importance of vigilance for this rare complication, especially in patients presenting with hemodynamic instability years after device implantation.

Learning points:

- Late pacemaker lead perforation can present with non-specific symptoms.
- Cardiac Tamponade should be considered in any post-device patient presenting with hypotension and pericardial effusion.
- Early multimodal imaging and collaboration with Electrophysiology and Cardiothoracic teams are key to effective diagnosis and management.

Genetic diagnoses in those with hearing loss, how have we fared over the last 15 years?

Mairead Hegarty, Tabib Dabir

Introduction: There are now >120 genes known to cause hearing loss. A previous case study in 2014 showed our pick up rate to be low at 13%. Since then, genetic testing has expanded, and other European centres have recently reported much higher pick up rates in their cohorts. We therefore did a further case series, to assess our improvement since then, and compare our results with other centres.

Description of case/case series: We looked at all patients who were tested for hearing loss In Northern Ireland, over a 10year period, up until 2024. Our pick up improved to 29%, which still remains somewhat off what is being reported elsewhere. That information, combined with our initial case series, gave us 15 years' worth of cumulative data from 336 patients.

Discussion: This data shows the changing trends in our testing methods, which align with an increased return of positive results, and the genetic conditions diagnosed. A large increased yield in the final year of data suggests the potential heights we could reach, if the correct tests were chosen both by ourselves in genetics, but also by colleagues in ENT and paediatrics. Importantly, we have identified a number of patients, with features suggestive of a genetic condition, who have not had adequate testing at this time. Novel gene therapies, together with advanced reproductive options, makes the finding of a genetic diagnosis all the more important

Clostridium perfringens bacteraemia following uterine artery embolisation: A case report.

Megan Duncan, Emma Dow, Shaun McGowan

Introduction: Severe uterine infection following uterine artery embolization (UAE) is a rare and serious complication. Clostridium perfringens bacteraemia post UAE has not been reported in the literature previously as a complication. This case report describes the diagnosis and management of this complication.

Description of Case: A 39-year-old female presented with fevers, abdominal pain and foul-smelling vaginal discharge 33 days following a uterine artery embolisation for a large fibroid uterus. Her background included obesity (Body Mass Index = 43). Computed tomography scan showed the uterus appeared abnormal with progressive locules of gas present within the fibroid extending to the endocervix and endometrial canal. Blood cultures were positive for clostridium perfringens. The patient was septic and immediate management included intravenous fluids and broad-spectrum antibiotics. The patient underwent emergency laparotomy, total abdominal hysterectomy and bilateral salpingectomy. Histological findings were consistent with infection and an infarcted fibroid was confirmed.

Discussion: Clostridium perfringens bacteraemia secondary

to uterine infection post UAE is extremely rare. There have been no reported cases in the literature following UAE however, few cases have been reported in post-natal or gynae-oncological conditions. The presence of intrauterine gas on imaging following UAE can be a normal finding only in the absence of signs of infection therefore clinical correlation is necessary. For patients presenting post UAE with signs of infection, prompt assessment, diagnosis and management is essential to avoid serious complications which include uterine rupture, peritonitis, endocarditis or even death.

Unexpected Recovery: Spontaneous Regression of Traumatic Tricuspid Regurgitation after Blunt Chest Trauma

Sarah Connon, Tiarna O'Malley, Amos Ng, Catherine Stewart

Introduction: Traumatic tricuspid regurgitation (TR) is a rare complication of blunt chest trauma. We present a case of severe traumatic TR in a young patient that unexpectedly resolved without surgical intervention.

Case Presentation: A 29-year-old woman suffered blunt chest and abdominal trauma when kicked by a horse. Initial evaluation revealed a liver laceration and pulmonary contusion. Transthoracic echocardiography (TTE) and Trans-esophageal Echocardiography (TOE) showed severe TR due to rupture of the anterior tricuspid papillary muscle with a flail anterior leaflet. Definitive surgical repair was deferred because of the hepatic injury and further delayed due to a dental infection. Over the next two months of conservative management, repeat TTE and preoperative TOE imaging demonstrated improvement in the TR. Specifically, the flail leaflet improved, TR severity decreased from severe to mild-moderate, and right ventricular (RV) size and function returned to normal. The patient remained hemodynamically stable and asymptomatic, and surgery was ultimately not required.

Discussion: This case illustrates an exceptionally rare instance of spontaneous resolution of severe TR following trauma. Traumatic papillary muscle rupture typically warrants prompt surgical correction. However, our patient's course highlights that conservative management with vigilant imaging follow-up may be an appropriate interim strategy in select cases when surgery is contraindicated or deferred. The rarity of this outcome underscores the importance of tailoring management to the patient's overall condition and utilizing serial echocardiography to inform decision-making. This case suggests that further research is warranted to define the natural history of traumatic TR better and guide individualized management strategies.

Milk Alkali syndrome and the 'Sippy Regimen'

Sarah Hignett

Introduction: Milk alkali syndrome (MAS) is a rare disorder characterised by a triad of alkalosis, hypercalcaemia and renal failure. The term was developed in the early 20th century following complications of Dr Bertram Sippy's 'regime' for treating peptic ulcer disease. This case demonstrates a rare recurrence of this historical syndrome.

Description: A female in her seventies presented to the emergency department in fast atrial fibrillation with a two-week history of abdominal pain, nausea and anorexia. She had past medical history of severe gastritis and reported taking Alka-seltzers and milk to try and ease her symptoms. Bloodwork demonstrated metabolic alkalosis and acute kidney injury. She was treated with intravenous fluids and advised against drinking milk or taking Alka-seltzers. She recovered well and her kidney function returned to baseline.

Discussion: Sippy's 'cure' for peptic ulcers similarly centred around ingestion of milk and antacid agents. Complications included vomiting, flank pain and confusion with a reported mortality rate of 4.4%.

It is hypothesized that, in MAS, excess calcium impairs the kidneys' ability to excrete bicarbonate, leading to alkalosis, which in turn increases tubular reabsorption of calcium, perpetuating the cycle of hypercalcaemia and alkalosis.

Although the incidence of MAS declined after the invention of proton pump inhibitors, it is once again becoming a common cause of hypercalcaemia, owing to the increasing use of calcium supplements in the treatment of osteoporosis.

In conclusion, this report shows the importance of studying medical history and recognising when pathology resurfaces in modern medicine.

"A Small Gum Defect, a Big Infection: Oral Actinomycosis"

Shairashree Kumaran, Bhavya Reddy

Introduction: Actinomycosis is an uncommon chronic granulomatous infection caused by Actinomyces species. Actinomyces is a part of the endogenous flora of the mouth, the gastrointestinal tract and the female genital tract. As these microorganisms are usually commensals; disruption of mucosal integrity and devitalization of tissue are necessary for invasion of subcutaneous planes. It usually spreads contiguously to adjacent soft tissues, ignoring tissue planes and lymphatic drainage. It frequently affects the cervicofacial region and can mimic neoplastic or granulomatous diseases. Although the disease in this location represents the commonest manifestation, isolated intra-oral lesions are uncommon. Its indolent course and nonspecific clinical features often lead to delayed diagnosis and inappropriate initial management.

Case Description: A 61-year-old female presented with a 4 mm punctured wound over the right lower alveolus near a previous dental extraction site done 4 months ago, associated with mild pain and occasional blood-stained saliva. Contrast-enhanced MRI showed a lobulated elliptical shaped enhancing soft tissue lesion in right retromandibular trigone and close to right anterior faucial pillar, which was likely neoplastic. Given the radiological suspicion of malignancy, a biopsy

was performed, which revealed actinomycosis. The patient was lost to follow-up for three months and re-presented with worsening pain. She underwent intraoral surgical excision under general anaesthesia followed by oral co-amoxiclav for six weeks, with marked clinical improvement.

Discussion: This case highlights the importance of including actinomycosis in the differential diagnosis of chronic oral lesions post-extraction. Early recognition, histopathological confirmation, and combined surgical and antibiotic therapy are key to favourable outcomes.

From Cough to Collapse: Rib fracture-induced Traumatic Diaphragmatic and abdominal wall hernia with secondary lung collapse

Shannon Murtagh, Liam Polley, Cathal Donaghy

Background: Traumatic diaphragmatic and abdominal wall hernias are rare entities that typically result from high-energy blunt trauma. Their diagnosis may be delayed, especially in the absence of overt initial symptoms or a clear traumatic history.

Case Presentation: We present a case of a 60-year-old patient with no prior significant trauma history who presented with a one-week history of flu-like symptoms and new-onset oxygen requirement. Initially managed as an asthma exacerbation, further evaluation revealed a left-sided subcutaneous haematoma and flank tenderness. A computed tomography pulmonary angiogram (CTPA) excluded pulmonary embolism but identified a displaced left 10th rib fracture and soft tissue haematoma. Investigations for pathological causes of the rib fracture were negative.

Despite initial conservative management, the patient deteriorated two days later with escalating oxygen needs and severe left-sided abdominal pain. Repeat CT imaging revealed a traumatic left diaphragmatic hernia with large bowel loops herniated into the thoracic cavity, causing left lower lobe collapse, and a concomitant left abdominal wall hernia at the site of the 10th rib fracture with bowel entrapment and gross caecal distension.

The patient was transferred to a cardiothoracic unit, where surgical exploration via anterolateral thoracotomy revealed large defects in both the diaphragm and abdominal wall with herniated bowel loops. Successful repair was performed, and the patient was discharged in stable condition one week post-operatively with outpatient follow-up arranged.

This case highlights the potential severity and diagnostic challenge of rib fracture complications, and why Clinicians should maintain a high index of suspicion in rib fracture patients.

Title: Bone Deep Unravelling Sarcoidosis

William McGalliard, M McHenry, C Tan,
D Pollock, N Chapman

Osseous Sarcoidosis(OS) occurs in approximately 5 percent of patients with sarcoidosis although the literature suggests this is likely underestimated. OS is often picked up incidentally on imaging modalities of Magnetic Resonance Imaging(MRI) or Positron Emission Tomography Computed Tomography(PET-CT), typically undertaken for investigation of fever of unknown origin or concerns over metastatic cancer. OS is more commonly detected during initial evaluation of systemic sarcoidosis. The presence of bone lesions generally implies more advanced, chronic or severe disease. The literature on extrapulmonary sarcoidosis is limited and recommends treatment of bony sarcoid when there are symptoms of pain or evidence of synovitis.

A Caucasian male in his late 30s had been considered to have 'well controlled' disease and had been weaned from his systemic treatments, he later was diagnosed with bony sarcoidosis. This is important as the patient underwent two MRI scans at intervals which show he developed bony lesions between 2022 and 2024.

This case report highlights several important avenues for further research and development in this field. Firstly, this case would suggest that bony sarcoidosis may represent chronic progression of sarcoidosis and that further evaluation is required to identify the incidence of bony sarcoid. Secondly, we suggest that further studies are required to better define the incidence of OS in relation to overall sarcoid disease burden. Thirdly, this report highlights the lack of understanding of OS and prompts consideration how frequently these patients should be followed up.

POSTER PRESENTATIONS – MEDICAL EDUCATION

Adrenaline pen training for Paediatric Patients - 'Nothing to sneeze at'

Andrew O'Neill

Introduction: Patients/guardians were encouraged to complete an online quiz prior to allergy clinics - to establish a baseline of their understanding of anaphylaxis and EpiPen's. Following the appointment, they completed a similar quiz to review if understanding improved.

Aims:

- Establish a baseline understanding of allergies via a scoring system.
- Completing a second quiz to establish if any improvement. This would also provide a resource for clinic feedback.
- Target poorly understood topics for future clinics.

Methods: A Microsoft forms was built to allow testing of knowledge. During their appointment, education involved the Allergy MDT – A paediatric doctor, allergy nurses and dieticians. Videos and simulation training was used for EpiPen training.

Results: One PDSA cycle completed - The Pre-education quiz had 33 responses and Post education quiz had 26 responses.

Overall average score for quiz 1 – 5.5/8 (68.75%)

Overall average score for quiz 2 – 6.8/8 (85%)

Discussion;

- Positives -Testers found the quiz fun, interactive and a great tool to test knowledge. Results would suggest that the clinics are effective and a good resource for updating knowledge.

Faculty Perceptions on the Use of Potted Anatomical Specimens in Fostering Critical Thinking Skills and their Impact on Pedagogical Approaches: A Mixed Methods Study

Blathnaid French, Samantha Taylor

Introduction: Anatomy is central to medical education, yet cadaveric dissection faces logistical challenges. Potted anatomical specimens have emerged as a promising pedagogical strategy, offering durability and accessibility for study beyond cadaveric dissection. This study explores faculty perceptions of their value in anatomy education.

Aims: To evaluate faculty views of potted specimens regarding learning outcomes, engagement, and their integration into pedagogy.

Methods: A cross-sectional questionnaire was distributed to anatomy educators across the UK/Ireland using snowball sampling. Questions included Likert scales, binary and free-text responses. Quantitative data were analysed in Excel; qualitative responses underwent thematic analysis using Braun and Clarke's framework. Ethical principles of anonymity and voluntary participation were upheld.

Results: Eleven educators responded, with teaching experience ranging from 5–38 years (mean 15). Most used potted specimens in undergraduate (90.9%) and postgraduate (63.6%) teaching, particularly for the thorax (81%). Four themes emerged: (1) enhancing pathological understanding, (2) promoting active learning, (3) complementing cadaver-based teaching and (4) opportunities for improving their use. Faculty agreed potted specimens foster engagement and critical thinking, though issues of maintenance and limited accessibility were reported.

Discussion: Potted specimens are valuable for reinforcing anatomy and pathology, stimulating active learning, and complementing dissection. However, their effective use requires supporting materials to aid understanding and promote critical thinking. Ethical handling of historical specimens remains essential. Despite limitations of small sample size and potential bias, findings highlight their ongoing pedagogical relevance. Further research should expand on these insights to optimise their integration into anatomy education.

Beyond the Sim Suite: A Qualitative Study of the Longitudinal Impact of Interprofessional Simulation on Health Professions Students

Catherine Murphy, Linda Ni Chianain, Peter Mallett, Doris Corkin, Professor Gerard Gormley

Introduction: Healthcare demands multidisciplinary collaboration and teamworking. Simulation-based education(SBE) offers the opportunity to develop these skills through interprofessional education (IPE). Yet existing simulation-based research focuses on individual professions and on the immediate impact on learners.

Aims: To explore the impact of simulation-based IPE on undergraduate students beyond the simulation as they returned to clinical practice.

Methods: A longitudinal qualitative design was used. Purposeful sampling selected six medical and six nursing students who undertook semi-structured interviews immediately after a paediatric simulation and again, three months later during clinical placement. Data was analysed thematically and guided by the lens of Mezirow's transformative learning theory (TLT). (1)

Results: Analysis yielded six inter-related themes, that align with Mezirow's ten phases of TLT: (1) a safe space for interprofessional discovery, (2) a mirror to critically question the assumed professional, (3) I'm not on my own, (4) gearing up to be a better collaborator, (5) implementing change outside the 'simulation bubble,' and (6) a renewed collaborative professional self.

Discussion: Findings provide an insight into what happens after the simulation and the impact this has on students as they return to clinical practice. That simulation provides an environment for students to develop an understanding of their own professional identify and the roles of others, allowing them to work together more effectively in the clinical practice. These insights can guide the development of future IPE simulations.

Knee aspiration course – increasing confidence and technical ability in knee aspiration amongst Internal Medicine Stage 1 (IMS 1) Trainees in Northern Ireland.

Katarzyna Nowak, Claire Benson

Problem: Knee aspiration was previously an essential skill on the Core Trainee Curriculum. Currently it is not on the list of procedures required to complete IMS1. Only a small proportion of IM1-2 trainees rotate through rheumatology. This has resulted in lack of teaching of the procedure and lack of confidence in performing it.

Strategy for change: An audit of inpatient rheumatology referrals - to establish current number of knee aspiration referrals.

Pre-course survey - to establish current competence level amongst IMS1 trainees in Northern Ireland. Two courses took place and a post-course survey was completed by attendees.

Measurement of improvement: Pre and post course surveys.

Effects of change: Following the success of the first course

a second session was organised.

Discussion: Audit of inpatient rheumatology referrals revealed that 45% of monoarthritic referrals were in relation to a knee joint.

Pre-course survey showed that > ½ of respondents had no previous teaching on the procedure, 90% felt not confident in performing it. The majority (92%) felt that knee aspiration course would be beneficial.

Post-course survey results: 100% of respondents found the course beneficial; almost 90% felt competent to perform the procedure independently.

Our work highlighted the lack of confidence and technical ability amongst IMS1 trainees in performing knee aspiration independently and the need for development of a knee aspiration course. The attendees found the session very relevant to their clinical practice. They reported overall improvement in knowledge, technique and confidence.

Mock OSCEs- Boosting confidence among 3rd and 4th year medical student

Mekha Saji, Victoria Brown

Background: Objective Structured Clinical Examinations (OSCEs) are used in medical schools to assess clinical competence but are associated with significant stress and reduced student confidence compared with written examinations. Evidence suggests that mock OSCEs can improve performance, particularly when delivered in a supportive, peer-led environment.

Aims: This project aimed to deliver a structured, well-organised mock OSCE for third- and fourth-year medical students on placement at Antrim Area Hospital. We evaluated whether participation improved confidence, readiness for summative OSCEs, and satisfaction with feedback and organisation.

Methods: Mock OSCEs were held in April 2025, with 27 third-year and 36 fourth-year students participating. Circuits consisted of seven active stations and two rest stations, each six minutes in length with one-minute reading time. Stations and marking schemes were designed by final-year students. Written and verbal feedback was provided. Following the OSCEs, students completed surveys rating station relevance, difficulty, timing, organisation, feedback quality, and confidence levels before and after the exercise.

Results: Survey response rates were 77.8% (Year 3) and 86.1% (Year 4). Across both cohorts, stations were rated highly for relevance (5.00), difficulty (4.90–4.97), timing (4.86–4.94), organisation (4.86–5.00), and feedback (4.86–4.97). Confidence improved markedly: from 3.1 to 6.67 among Year 3 students and from 3.65 to 6.26 among Year 4 students. Feedback praised realistic scenarios, supportive examiners, and structured feedback, with suggestions including more stations and longer timings.

Conclusion: Peer-led mock OSCEs were well received and improved student confidence. Incorporating student feedback into future iterations will enhance their educational impact.

Altmetric vs bibliometric trends in Cardiac Surgery: Analysing the evolving role of social media in key publications

Rickesh Bharat Karsan, Alana Atkinson, James Caldridge, Rachel Roberts, Susan Durkan, Gwyn William Beattie

Introduction & Aims: Citations provide an indication of a publications influence. The advent of social media appears to provide an alternative means to disseminate published information with a wider audience. We aim to evaluate the relationship between bibliometric and alternative metrics (altmetrics) in the field of cardiac surgery and determine whether altmetrics offer complementary insights into research impact.

Methods: The top 100 cited English-language full-text cardiac surgery articles were identified using the Web of Science database. Citation counts, journal impact factors, altmetric scores (AS), and Oxford levels of evidence were recorded and analysed. Relationships between citations and altmetrics were assessed using regression analyses. Citation burst analysis and future trend forecasting were conducted using CiteSpace and IBM SPSS.

Results: Citation counts ranged from 508 to 5061 (mean 623.1 ± 617.3), while AS ranged from 0 to 428 (mean 21.8 ± 49.9). A positive correlation was observed between AS and citation count ($r=0.224$, $p < 0.03$), and between altmetric and citation rates ($r=0.302$, $p < 0.01$). Articles published after 2000 demonstrated significantly higher altmetric activity ($p=0.02$). Forecast modelling predicted a disproportionate increase in altmetric scores compared to citation growth over the next five years ($p=0.03$).

Discussion & Conclusions: Altmetric and bibliometric indicators provide distinct but complementary assessments of research influence in cardiac surgery. The increasing relevance of digital platforms post-2000 suggests altmetrics may become integral to future evaluations of academic and public engagement. Incorporating both metrics may offer a more comprehensive framework for assessing research dissemination, educational impact, and future funding priorities.

Beyond the Sim: digital micro-learning infographics shared post-simulation enhance memory, understanding and educational parity

Warren McCue, Peter Mallett

Introduction: Simulation research focusses on prebriefing, scenario execution and debriefing. The literature neglects the consolidation period “beyond the Sim”, crucial for memory retention. Digital post-event resources using micro-learning principles were an attractive option for bridging this gap.

Aim: Evaluate engagement, efficacy and design of digital micro-learning infographics shared post-simulation.

Methods: Following proportionate ethical review, visually engaging, concise infographics highlighting key simulation learning points were distributed after interprofessional

simulations in Belfast's Regional Neonatal ICU. Feedback was sought via anonymous online questionnaire incorporating multiple-choice, Likert-scale and free-text responses. Thematic analysis of qualitative data provided insights into learner perspectives.

Results: 36 learners provided feedback - 64% medical, 36% nursing/midwifery. Thematic analysis highlighted significant barriers to workplace learning without asynchronous alternatives, and learners found identifying high-quality resources for self-directed learning difficult.

Infographics were well received with 100% engagement. Their concise, aesthetic design was praised, with reports of increased engagement, better understanding and enhanced memory. Accessibility was highly valued with many referencing potential future use for "refresher" in "time of need".

They were valued for post-event consolidation, but unexpectedly their ease of digital distribution also garnered additional enthusiasm by those unable to attend synchronous teaching. Therefore, infographics enhanced educational parity, ensuring improved access to learning regardless of shift work or workload. Calls emerged for regional distribution across the Northern Irish Neonatal Network.

Discussion: This study is the first to evaluate micro-learning resources for post-simulation consolidation. By addressing barriers to workplace learning, these infographics promoted engagement, enhanced memory and educational parity, and benefitted both simulation attendees and wider teams through shareable learning.

POSTER PRESENTATIONS – QUALITY IMPROVEMENT

Closing the Gap: Ensuring Blood Cultures Before Antibiotic Administration

Anu Avinash Kaushik, Ilthija Ammedkutty , Luke Trueman

Problem: Blood cultures are essential in sepsis management, enabling pathogen identification and targeted antibiotic therapy. NICE recommends taking blood cultures before initiation of intravenous (IV) antibiotics to maximise diagnostic yield and enable targeted treatment but compliance is often suboptimal, potentially affecting antimicrobial stewardship and patient outcomes. Evidence shows a 50% positivity rate before antibiotics, compared with 28% during or after antibiotics, highlighting the critical importance of timely sampling for accurate diagnosis and effective therapy — NHS England & FABLED Study

Strategy for Change: A quality improvement initiative was implemented in Daisy Hill Hospital, including targeted staff education on guideline importance and visual reminders in clinical areas to reinforce best practices.

Measurement of Improvement: Two retrospective audit cycles reviewed 50 adult patient records each, evaluating whether blood cultures were collected prior to or during antibiotic administration.

Results: Baseline compliance (Cycle 1) was 32% (16/50). Following the interventions, compliance improved to 70% (35/50) (Cycle 2), a 38% increase, showing substantial progress toward guideline adherence, though the 100% target was not yet achieved.

Discussion: Barriers included clinical urgency, lack of guideline awareness, and workload pressures. The improvement demonstrates the effectiveness of targeted education and visual cues. Sustaining gains will require ongoing training, regular feedback, and continuous audits. Integrating these strategies into routine practice is essential for consistent adherence and optimized patient outcomes.

To Reduce Dermatology Outpatient DNA Rates To 5% By March 2025

Cáelainn Rose McQuaid, Laura Surgenor, Donal O'Kane, Collette McCourt

The Belfast Health and Social Care Trust (BHSCT) introduced EPIC, an electronic-based healthcare system, on 06/06/2024. Appointment text reminders ceased on 05/06/2024, and partial booking stopped on 01/05/2024. Outpatient dermatology Did Not Attend (DNA) rates increased by 5% from 9% on 30/4/2023 to 14% on 2/6/2024 within the first week of reminder cessation, costing £116,000. Over 1/4 of patients who DNA post-text reminder reintroduction had their contact number in the wrong field and failed to receive a reminder, correcting this could have saved £5748.96.

3 PDSA (plan, do, study, act) cycles took place. Text reminders were reintroduced on 03/09/2024 and partial booking letters were reintroduced on 23/10/24. Education regarding correct mobile fields and raising awareness of the MyChart App took place on 14/02/25 at a local audit meeting.

The % of DNA in dermatology outpatient appointments was measured. DNA rates decreased by 3% from 10% on 1/9/2024 to 7% on 15/9/2024 after the reintroduction of text messages (PDSA 1). A further decreasing trend was projected after the local audit meeting (PDSA 3). PDSA cycles 1 and 3 appeared most effective at reducing DNA rates by 8% post Go-Live.

DNA rates increased with the launch of EPIC, and although the 5% target was not achieved, DNA rates declined close to baseline data. The importance of text message reminders and the need for mobile numbers to be in the correct field on EPIC to successfully send these reminders were highlighted.

N2NI SIM Induction: Enhancing Preparedness for New-to-NHS Doctors through Inter-Professional Simulation

Charlotte Irwin, Sally-Anne Phillips, Nicola Weatherup

Problem In: August 2025, 24% of incoming NIMDTA trainees were International Medical Graduates (IMGs), 29% New-to-Northern Ireland (N2NI) and 10% New-to-NHS practice. Procedural skills, while standard in UK clinical practice, are not consistently assessed in overseas medical curricula, or explicitly reflected in the Certificate of

Readiness to Enter Specialty Training (CREST) form.

Strategy for Change: To better understand the needs of New-to-NHS trainees, a 'Procedural Skills Questionnaire' was introduced within NIMDTA's New Start Survey. A SIM Induction was piloted with an inter-professional faculty of doctors, nurses and pharmacists. Five procedural skills stations (Venepuncture, Cannulation, IV Fluids, IV Medication, and Catheterisation) and three simulated scenarios were carefully constructed to address areas where differences in training or culture could impact on confidence and performance.

Measurement of Improvement: Confidence and preparedness were measured using a structured pre- and post-event questionnaire with participants rating confidence to perform each procedure and scenarios independently before and after induction.

Effects of Change: New-to-NHS doctors reported greater confidence in systems, communication, and procedural competence. Confidence in IV Fluids and Medication nearly doubled, while simulation-based confidence—particularly in managing medication errors—rose by over 230%. Average scores increased 28–37%, with overall preparedness up 36.5%. The inter-professional format fostered collaborative learning and contextual understanding of the HSCNI.

Discussion: Findings highlight the impact of targeted inter-professional simulation in bridging experiential gaps and equipping New-to-NHS doctors with practical skills and clinical assurance. Results support extending Regional Enhanced Induction to include simulation-based education tailored to the needs of N2NI trainees.

Improving Appropriate Prescription of High-Intensity Statins at Discharge Among ACS Patients in a Tertiary Care Centre: A Two-Cycle Quality Improvement Project

Dinesh Raja

Problem: Despite AHA/ACC guidelines recommending high-intensity statins (HIS) for all patients with acute coronary syndrome (ACS), adherence at discharge remains suboptimal, potentially compromising secondary prevention of cardiovascular events.

Strategy for Change: A Two cycle QIP in April and September 2024 assessed HIS prescription rates at discharge among ACS patients in our Cardiology department. Results were presented during departmental meetings and discussed with the multidisciplinary team. To reinforce adherence, educational posters summarizing guideline recommendations were displayed in the ward and ICCU.

Measurement of Improvement: The first cycle reviewed 52 ACS patients discharged in April 2024. Following team engagement and intervention, a second audit of 55 patients in September 2024 measured changes in HIS prescribing patterns.

Effects of Change: Initial findings showed 86% of patients received appropriate HIS, with gaps in those with LDL ≥70 mg/dL and prior coronary artery disease. After interventions, the second cycle showed significant improvement, with 99% of patients receiving HIS at discharge and sustained adherence rates above 96%.

Discussion: This two-cycle quality improvement project demonstrates that structured interventions such as formal discussions, education (posters), and feedback can significantly improve guideline adherence for HIS prescription in ACS patients. Sustained audit processes are key to promoting evidence-based practice and optimizing cardiovascular outcomes.

Compression Stocking prescription and adherence across Two surgical wards in Belfast City Hospital

Eilidh Gilchrist, Abdullah Chaudury

Introduction: VTE is widely recognised as a common and preventable cause of morbidity and mortality in surgical patients. A timely risk assessment and prescription of prophylaxis, if deemed appropriate, can decrease the risk of hospital acquired thrombosis. There is a perceived deficiency in prescription and adherence to compression stockings for patients across two surgical wards within Belfast city hospital. This audit highlights areas for improvement within patient care and implements a test of change to address this deficiency.

Aims: 100% of patients across two surgical wards (2N and 2S) in The Belfast City Hospital to be prescribed and allocated compression stockings, where indicated.

Method: Cycle 1: Review of all surgical patients for the following;

- Are compression stockings indicated?
- Is this reflected in their VTE assessment?
- Are they prescribed for the patient?
- Is the patient wearing them at the time of the review?

Implementation of the change idea

Visual prompt displayed within the department and email disseminated to healthcare professionals

Cycle 2: Re-audit of the questions discussed in Cycle 1.

Results and discussion: Overall observed increase in the inclusion of mechanical thromboprophylaxis in VTE assessment (67% --> 68%), in stocking prescription (4% --> 38%), and in patients wearing compression stockings at time of review (35% - 51%) following change implementation. This audit identifies an area for future improvement, highlighting scope for further education and system development.

Standardising Autologous Blood Patch Pleurodesis to Reduce Infection Risk: a multidisciplinary quality improvement protocol

Eoghan McHugh, R B Karsan, C Goncalvez, L Montgomery, R Beattie

Problem: A sentinel case of empyema occurred after two autologous blood patch pleurodeses (ABP) for a persistent air leak following VATS wedge resection. Root-cause review highlighted unwarranted variation and potential breaks in aseptic technique, with no standardised guidance for ABP locally.

Strategy for change: A multidisciplinary team (thoracic surgeons, nurses, infection-prevention) mapped the procedure end-to-end, defined critical safety steps, and drafted a concise protocol covering consent/analgesia, aseptic blood collection, intrapleural instillation via the chest drain, rotation schedule, clamp/unclamp timings, observation, and re-application of suction; drafts were iteratively reviewed and ratified for local adoption.

Measurement of improvement: Process adherence was monitored prospectively for subsequent ABP cases using a checklist; outcome surveillance captured procedure-related infection (including empyema) and other complications.

Effects of change: The protocol was implemented service-wide at the Royal Victoria Hospital and used in the next six patients; no post-procedure infections were observed during short-term follow-up.

Discussion: A single adverse event catalysed a system response that standardised ABP, embedding infection-control steps and clarifying roles. Early observational data suggest improved safety and feasibility with minimal burden on workflow. Ongoing audit will track adherence, complications, and length of stay; the protocol will be shared to enable spread and learning across the region.

Seeing Is Believing: A QI Project in Ultrasound-Guided IV Access

Fearghal Hosty-Blaney, Kathryn Canavan

Problem: Ultrasound (US) guidance is increasingly recommended for difficult venous access, though anecdotal reports suggest many clinicians feel underconfident due to limited structured teaching and hands-on training.

Strategy for Change: We undertook a quality improvement (QI) project to improve staff confidence in US-guided intravenous access (USGIVA). Two teaching sessions were delivered to a total of 16 participants. Each included a short presentation on US principles and supervised small-group practice on model arms using US machines.

Measurement of Improvement: Baseline data showed limited prior training: 5/16 participants had received informal teaching (3 during medical school), 6/16 had previously attempted US on the ward, and only 2/16 expressed confidence in its use. Confidence was measured with pre - and post - teaching surveys using a 5-point Likert scale (1= not confident, 5 = very confident). Pre-teaching average confidence scores were: 2.3 for US physics, 2.4 for indications, 2.1 for probe selection, 1.9 for probe orientation and imaging planes, and 1.8 for cannulation under US guidance.

Effects of Change: Post-teaching averages showed improvement: 3.75 for US physics, 3.8 for indications, 3.9 for probe selection, 3.8 for probe orientation and imaging planes, and 3.8 for US guided cannulation. Participants highlighted the supervised practical component as the most valuable element.

Discussion: This QI project showed that structured teaching combining theory and practice improved confidence in USGIVA. Incorporating regular teaching and refresher sessions into induction programmes may help sustain improvements and encourage wider adoption in practice.

Identifying and improving the prescribing of lipid lowering medications and follow-up of patients following an acute coronary syndrome: Initial data from a quality improvement project commenced in the Coronary Care Unit

Gary Roulston, Elena Connell, Patrick Donnelly, Kathryn Ryan, Peter McKavanagh

Problem: Cardiovascular disease (CVD) causes over 4 million deaths in Europe yearly. Therefore, prevention of CVD is imperative. Low-density lipoprotein cholesterol (LDL-C) is key to atherogenesis. Lower LDL-C equates to lower CVD risk. An LDL-C of <1.4mmol/L is recommended for CVD secondary prevention by the European Society of Cardiology (ESC).

Strategy for change: In our institution, results and recommendations from pre-intervention data were presented at departmental teaching. Ward posters were created highlighting lipid medication pathways. We collaborated with chemical pathologists, pharmacists and nursing staff, including establishing a weekly inpatient lipid review.

Measurement of Improvement: We carried out retrospective case note review of patients admitted to coronary care due to an acute coronary syndrome both before (August-October 2024, 60 patients), and after interventions (Feb-March 2025, 51 patients), using the same parameters to determine improvement.

Effects of change: Pre-intervention data showed 82% had admission LDL-C >1.4mmol/L. 39% commenced Atorvastatin 80mg. 37% remained on pre-admission lipid-lowering medications. Only 20% had a lipid profile checked post discharge, 40% of whom had an LDL- <1.4mmom/L.

Post intervention, 49% commenced atorvastatin 80mg, a 25% increase. More non-statin medications were prescribed. 33% commenced ezetimibe, and three PCSK9 inhibitors. Four had familial hypercholesterolaemia genetic testing, with one found to have this condition. 43% had lipid profiles checked post discharge, 50% of whom had LDL-C <1.4mmol/L.

Discussion: We showed notable improvements and diversification of lipid-lowering medication prescribing, in LDL-C towards ESC recommendations, and more appropriate lipid follow-up. We aim to continue ongoing PDSA cycles to maintain this progress.

The impact of clinical trials on child health: An audit of oral corticosteroid prescriptions in preschool aged children presenting with acute wheeze in Belfast Children's A&E

Hannah Norman-Bruce, Bethany Fisher, Louise Cochrane, Tom Waterfield

Problem: There is wide variation in oral corticosteroid (OCS) prescribing for children under five with acute wheeze internationally. Local A&E guidelines recommend *consideration* of OCS in mild–moderate wheeze, yet overuse is common, exposing children to unnecessary adverse effects particularly associated with cumulative dosing.

Strategy for Change: We audited prescribing during winter 2023/24 against local guidance. Concurrently, the PRECISE study, a single-site feasibility trial randomising preschool children with wheeze to OCS based on point-of-care testing, was initiated. The research team promoted evidence-based practice through a variety of different teaching sessions tailored to the spectrum of clinical experience and high staff turnover in the department.

Measurement of Improvement: The audit was repeated in winter 2024/25 using identical sampling methodology. Patients approached or enrolled in PRECISE were excluded from analysis to avoid bias.

Effects of Change: OCS prescribing fell from 83% to 66% in the cohort. Prescriptions more often followed a documented assessment period, and reasons for prescribing or withholding OCS were recorded more consistently, demonstrating improved adherence to guidance.

Discussion: Practice is now more consistent with the 2018 local algorithm, with safer, rationalised prescribing and clearer documentation. This is a small-scale example highlighting the impact of clinical trials in delivering evidence-based care *beyond* the few children enrolled in the trial itself and transforming the culture of the department.

Problem List Problems: An Epic Quality Improvement Project

Hannah Patterson, Catherine Whiteside, Dr David Wilson

Problem: All HSC Trusts in Northern Ireland now use the digital patient record Encompass by Epic®, which requires new best practice in clinical documentation. Diagnoses treated in hospital should be entered into the "Hospital Problem List" (HPL) function for the purposes of clinical coding, hospital funding, audit, appropriate discharge destinations and entry into follow-up registries. In the South Eastern Trust, it was noted by various stakeholders that these were poorly completed, with a resulting Serious Adverse Incident.

Strategy: This 5-cycle QI project addressed doctors' awareness of the HPL and its wide-ranging importance. Education and demonstration was undertaken in several settings and later incorporated into medical induction, followed by a reminder poster.

Measurement: The outcome measure was the percentage of medical inpatients in the Ulster Hospital Dundonald with an HPL rated as accurate from notes review (50% at baseline), sampling 60 patients per week over 22 weeks. The process measure was the percentage of HPLs "marked as reviewed" and the balancing measure was events of incorrect diagnoses remaining in the HPL.

Effects: This QIP was successfully undertaken to increase HPL accuracy from 50% to the target 80% in 5 months with no increase in the balancing measure. Doctors also felt more comfortable with increased understanding of Encompass.

Discussion: Incorporation into resident doctor induction drove the biggest shift in accuracy, and reflected the value of management investment in the project. Lessons learnt from this process may be valuable to Encompass users and managers.

Anticipatory Prescribing – Can We Do Better?

Jodie Arlow, Lauren Dalzell

Problem: Anticipatory prescribing practices in Antrim Hospital do not always conform to current guidelines, leading to a lapse in symptom control and distress to the dying person and their family.

Strategy for change: Audit on anticipatory prescribing in September 2024 of medical patients in the last days of life. Visual aid poster was placed on all medical wards in Antrim Hospital with departmental teaching in October 2024. Re-audit on anticipatory prescribing in December 2024.

Measurement of improvement

- Percentage of patients prescribed appropriate anticipatory medications in the last days of life
- Percentage of patients with a documented clinical indication

Effects of change: Only 35% of patients in the first audit had all five key symptom areas prescribed. After our interventions this increased to 50% of patients. There was a 50% reduction in patients who had no anticipatory medications prescribed.

20% of patients in the first audit had a documented clinical indication. After interventions, this increased to 95% of patients.

Discussion: Anticipatory prescribing allows for rapid symptom control in patients in the last days of life. As individual need can be difficult to predict the medications prescribed should cover the five key symptom areas of pain, breathlessness, nausea/vomiting, respiratory secretions and agitation. We identified a lack of knowledge in anticipatory prescribing so produced a poster which was placed on all medical wards and had departmental teaching. The positive outcomes of our interventions have demonstrated an improvement in anticipatory prescribing practices in Antrim Hospital.

Baseline ECG, documentation of QTc interval and use of haloperidol at Mater Hospital

Kelvin Mupunga

Problem: 3 patients newly commenced on haloperidol developed life-threatening tachyarrhythmias. ECG assessment showed a prolonged QTc, but no baseline ECG had been done as recommended.

Haloperidol, commonly for managing agitation and delirium, prolongs the QTc interval. NICE recommends pre-treatment ECG; if circumstances make this impractical, haloperidol should be avoided (NICE, 2019). Our clinical experience suggested that this was not being routinely done; it was decided to do a QIP following the PDSA guidance.

Strategy for change: A mini online survey was sent to junior doctors to understand the reasons for poor compliance with the safety precaution when prescribing haloperidol. This was followed by a junior doctors teaching session. Posters to improve awareness were sent via email to doctors; some were put in resting areas, notice boards and resting areas. Collaborated with the Trust IT made it possible for the poster to be displayed as a screensaver on workplace desktops.

Measurement of Improvement: PDSA cycles were used to guide QIP and assess for improvement. Proportion of patients who had a baseline ECG and those who had a QTc interval documented as evidence that the ECG had been reviewed. Patients included were those who received more than 1 dose of haloperidol regardless of route, while those already taking haloperidol at admission and those on end-of-life care who received haloperidol as adjunct anticipatory were excluded.

Effects of change: Improved awareness of junior doctors, hence patient safety

Discussion: Interventions done were useful in bringing a positive change; however, due to frequent changeovers of doctors, the positive gains may be difficult to sustain long-term. The EPIC software team was engaged to consider incorporating pop-up messages into the computer system to act as reminders when prescribing medications with recommended baseline investigations needed before prescribing.

Introduction of Discharge Observations in Royal Victoria Hospital Emergency Department for Category 2 & 3 Patients Discharged Home with No Follow-up

Lauren McGeoghan, Grace Guinness

Problem: Timely discharge observations are essential for patient safety in the Emergency Department (ED). At the Royal Victoria Hospital (RVH), Category 2 and 3 patients discharged with follow-up were experiencing delays of up to 9 hours, with an average of 3 hours 46 minutes between their final observations and discharge. This fell short of Trust guidelines of observations within one hour of discharge. The aim was to improve uptake and reduce this interval by 25% by May 2025.

Strategy for Change: The Institute for Healthcare Improvement (IHI) methodology was adopted. Baseline data on last observations were collected, and a staff survey identified barriers. Five PDSA (Plan-Do-Study-Act) cycles were delivered, including targeted staff education, email reminders, and poster prompts. Results were shared throughout the process to sustain engagement.

Measurement of Improvement: Final observation timing for all eligible patients was monitored daily, with mean time from last observation to discharge as the primary measure.

Effects of Change: Over 14 weeks, the average interval decreased by 1 hour and 43 minutes, a 45.5% reduction. A run chart showed a sustained downward trend, particularly following the fifth intervention.

Discussion: This project successfully reduced delays. Staff engagement was key. To sustain improvements, a 'Discharge Observation Station' and new observation equipment are planned. This initiative demonstrates the value of structured QI methodology in achieving meaningful, lasting improvements in ED practice.

A smear miss! – Improving accessibility in primary care for routine smear tests.

Lydia Byrne

Problem: The NI Cervical Screening Programme offers smear testing every 3 years, for people with a uterus aged 25-49. This project was designed to investigate the reasons people are not participating and to improve uptake based on these results. In one GP practice electronic care records were reviewed for those eligible for screening and found a compliance rate of 65%.

Strategy: Those overdue regular screening were identified. These patients were sent a multiple-choice SMS survey to establish why they had not attended and if they would attend an out-of-hours smear clinic. 48 hours after communication, electronic care records were re-reviewed.

Measurement: 388 people were identified as overdue for their smear, and sent the survey. 107 responded. The survey asked patients why they have not attended screening and 3 responses were available:

1."I don't believe smear tests are important" 2 selected. 2."Iamuncomfortablewithintimateexaminations"18selected. 3. "I cannot attend 9-5 appointments" 49 selected. Another question asked, "Would you attend a smear clinic outside 9-5?" 93 responded yes.

Effects: Within 48 hours of having received this survey 45 people booked for a smear test. An out-of-hours smear clinic has been introduced in the practice and is underway. The practice has committed to yearly text reminders for those overdue cervical smears. This project demonstrates that a significant number of patients are not participating in cervical screening due the accessibility of appointment times.

A Quality Improvement Project: A Clinical Audit and Re-Audit on the Management of Anemia in CKD Patients Undergoing Hemodialysis in Accordance with International Guidelines

Mehak Ahsan, Natasha Javaid

Problem: Anemia is a common and serious complication in patients with Chronic Kidney Disease (CKD) undergoing hemodialysis. Suboptimal management contributes to increased morbidity and reduced quality of life. A baseline audit at Bahria International Hospital revealed poor adherence to international anemia management guidelines.

Strategy for Change: The audit team implemented multiple interventions to align clinical practice with KDIGO guidelines. This included staff education sessions, updated protocols for erythropoiesis-stimulating agents (ESAs) and iron supplementation, regular hemoglobin monitoring, and checklists incorporated into patient files.

Measurement of Improvement: Key metrics were hemoglobin levels, ESA dosing compliance, iron studies, and documentation. The baseline audit data were collected over a 3-month period, followed by intervention and a re-audit after 3 months using the same criteria.

Effects of Change: Post-intervention, compliance with target hemoglobin ranges improved from 40% to 75%. Documentation of iron studies rose from 50% to 85%. ESA and iron dosing practices aligned more closely with guidelines, and a reduction in transfusion rates was observed.

Discussion: The re-audit showed significant improvement in the quality of anemia management in hemodialysis patients. Sustained changes were achieved through team engagement, protocol reinforcement, and continuous monitoring. This project highlights the impact of structured quality improvement initiatives in enhancing patient care and clinical outcomes in nephrology.

Improving Pre-Admission Medication Reconciliation on Medical Admissions

Nadera Layyous, Ahmed Salman, Ahmar Saeed, Claire Coey-Niebel, Erika Hughes, Peter Todd

Problem: NICE recommends all inpatients have medicines reconciliation (Med Rec) completed within 24 hours of admission. Following the August 2024 junior doctor changeover, pharmacists at the Ulster Hospital observed a marked reduction in completion of pre-admission medication (PTA) reviews on Epic, raising patient safety concerns.

Strategy for change: We aimed to improve completion of PTA Med Rec to >90% of admissions by June 2025. Using Epic live reporting, we monitored all medical admissions 24–48h post-admission. We carried out 4 individual PDSA cycles including: targeted education in the form of a mid-rotation update, an induction training video, a system-level change to Epic that we influenced (defaulting to the PTA meds panel) and an EPIC driven PTA system update.

Measurement of improvement: Outcome measure: percentage of admissions with PTA Med Rec completed within 24–48h. Process measure: percentage of admissions where PTA meds were marked as "clinician reviewed."

Effects of change: Educational interventions alone led to brief, un-sustained improvements. In contrast, Epic system changes produced sustained increases in completion rates and reduced variability, as demonstrated by median shifts and tighter process limits. Although the target of 90% was not reached, significant improvement in both outcome and process measures was achieved.

Discussion: This project demonstrated that sustainable improvements in medication reconciliation are more effectively achieved through system redesign than educational interventions alone. Embedding safer workflows within Epic reduced reliance on individual behaviours, aligning with international evidence that system-level solutions drive meaningful patient safety improvements.

Improving Opioid-Induced Constipation Management: A QI Project on Proactive Laxative Co-Prescription in Trauma and Orthopaedics

Nahid Shamandi, Jiewon Lim, Lea Homaee

Introduction: Opioid-induced constipation (OIC) is a common complication, causing nausea, vomiting, bowel obstruction, and perforation, which can prolong admission. Despite its prevalence, no national guideline exists. Best practice recommends co-prescribing laxatives within 48 hours of opioid initiation, yet this is inconsistently applied, especially in patients <65 years not routinely reviewed by ortho-geriatrics.

Aim: To improve proactive laxative use within 48 hours of opioid initiation in younger trauma and orthopaedic inpatients.

Methods: Data were collected in three phases: baseline (October 2024), after the first PDSA cycle (November 2024), and after the second cycle (January 2025). Inclusion criteria were patients <65 years admitted with lower limb fractures and hospital stay >7 days. Exclusions included polytrauma, upper limb fractures, pre-admission opioid use or significant gastrointestinal pathology. Cycle 1 focused on staff education, stool chart documentation, and prescribing prompts. Cycle 2 emphasised patient education on OIC risks and encouraged patients to request laxatives.

Results: At baseline, less than 25% of patients received laxatives proactively, while over 50% never received any. After cycle 1, proactive use rose to >50% but quickly regressed. Following cycle 2, rates improved by 46% from baseline and the change was sustained.

Discussion: This project highlights the absence of national guidance and the risk of younger patients missing prophylaxis. Sustainable improvement was achieved by engaging both staff and patients, with patient involvement proving most effective. A combined staff–patient approach is key to optimising OIC management.

Promoting cardiovascular risk assessment in patients with psoriasis in general practice

Ruth Junkin

Problem: Psoriasis is a recognised risk factor for cardiovascular disease. Patients with severe psoriasis have threefold increased odds of developing a heart attack. NICE guidance states that all patients with psoriasis receive a cardiovascular risk assessment. However, only 29% of patients with psoriasis at our GP practice had an up-to-date risk assessment, potentially leading to a missed opportunity for primary prevention of cardiovascular disease.

Strategy for change: The aim for this project was to increase the number of patients with psoriasis aged over 30 who have had a cardiovascular risk assessment completed within in last 3 years (qRISK score) in the practice to 80%. The strategy involved three PDSA cycles involving practice-wide education, patient education and follow-up consultations.

Measurement of improvement

The primary measure of improvement was the number of psoriasis patients who received an up-to-date qRISK score. A secondary measure was the number of patients commenced on statin therapy.

Effects of change: Due to the implemented change ideas, the number of patients in the practice who received a cardiovascular risk assessment increased from a baseline of 29% to 52% with a further 4% of patients being commenced on statin therapy.

Discussion: This QI intervention improved the care of patients with psoriasis by promoting preventive care. However, the aim was not reached and there are future interventions to consider. Improved recognition of psoriasis as a chronic condition leading to increased cardiovascular risk and implementing strategies such as automatic recalls would be a useful long term strategy.

Improving the number of surgical patients with TEDs

Shannon Vose

Problem: Since the launch of encompass in the Northern Trust only 42% of general surgery patients in Antrim Area Hospital were wearing TEDs, as they were not prescribed.

Strategy for change: Introduced an order for doctors on EPIC, "apply TEDs stockings", which nursing colleagues must acknowledge, at which point they should provide the patient with TEDs. I made a poster which was displayed on the wards and in the doctor's office to educate the MDT on the importance of TEDs, including how to place and acknowledge the order.

Measurement of Improvement: Measured the number of surgical patients without contraindications to TEDs who were wearing TEDs for 3 weeks prior to the introduction of the order, "apply TEDs stockings", and for 4 weeks after the introduction of the order.

Effects of change: The number of general surgery patients in Antrim Area Hospital without contraindications to TEDs who had TEDs on increased from an average of 42% prior to the order to 95% after 4 weeks.

Discussion: From this QI project we learnt the importance of MDT education on VTE prophylaxis, that multiple factors such as patient compliance and location in hospital were the reason 100% was not achieved and the importance of ensuring systems are designed with ways to prompt staff to order and apply TEDs. Ultimately utilising the "apply TEDs stockings" order should improve the number of surgical patients wearing TEDs and contribute to reducing the number of patients developing VTEs.

Improving Post-Acute Kidney Injury Medication Management in the Acute Medical Unit

Shazna Shariza Bi, Andrew Walker, Eadaoin Hannon, Lucy Hamilton, Matthew Quinn, Andrew Porter

Problem: Acute kidney injury (AKI) is common in hospitalized patients and associated with higher morbidity and mortality post-discharge. Safe medication management—appropriate holding and restarting of drugs, patient education, and follow-up—is inconsistently applied, creating risks of avoidable harm.

Strategy for Change: A hospital-wide audit identified gaps in practice compared with NICE standards. Using a Cause-and- Effect Diagram, root causes were explored. Interventions included: pharmacy email reminders, an EPIC smart phrase and discharge template, targeted teaching for doctors, and pharmacy-led discussions to address barriers.

Measurement of Improvement:

The project included patients discharged from the Acute Medical Unit at Ulster Hospital, Dundonald, with any stage of AKI. Exclusions were palliative discharges, pre-admission dialysis, and self-discharges. Four outcomes were measured weekly (28 March–25 July 2025):

1)AKI documentation in discharge letters 2) Appropriate medication restart 3) Follow-up arrangements documented

4)Sick Day Rule advice recorded

Data were tracked with run charts to assess trends.

Effects of Change: Greatest improvement was achieved in safe medication reconciliation and Sick Day Rule provision. Smaller gains were seen in AKI documentation and follow-up planning, reflecting unclear national guidance and workload pressures in primary care. The EPIC smart phrase, reinforced by education and pharmacy engagement, had the most consistent impact.

Discussion: Multidisciplinary, targeted interventions improved safe restart of medications and patient education, empowering patients to reduce future AKI risk. Sustaining improvement requires ongoing reinforcement, system-level support, and clearer pathways for follow-up in primary care.

Reassessment of Management of Breast Infections Following Implementation of New Local Guidance

Susan McKendry, Duncan Simpson

Problem: Breast infections, for example, postoperative complications, breast abscesses, and mastitis, are common presentations that require early and effective management to improve outcomes. We found that local inconsistencies in management emphasised the need for standardised care. No breast abscesses were aspirated during our initial audit in 2022.

Strategy for change: We implemented new local flowchart guidance. Our primary objectives were to reassess breast infection management following the new guidance implementation and compare our findings with the newly published Mastitis and Mammary Abscess Management Audit (MAMMA).

Measurement of improvement: Twenty-five patients who presented to the Emergency Department with breast infections over a four-month period were retrospectively identified following flowchart guidance implementation. Rates of admission for intravenous antibiotics, incision and drainage, and aspiration were recorded. Findings were compared to pre-intervention data from 2022 and the MAMMA audit.

Effects of change: The mean age was 37 years (range 20–72). Twelve patients had mastitis, with six admitted for intravenous antibiotics. Thirteen had abscesses; six underwent aspiration in ED, with two subsequently requiring incision and drainage. Five patients did not undergo aspiration at initial presentation but underwent aspiration in clinic. Two patients underwent incision and drainage at first presentation. Post-intervention, we had more admissions (2022:26%, 2023:40%, MAMMA:22%) and aspirations (2022:0%, 2023:46%, MAMMA:61%), with less incision and drainages (2022:59%, 2023:31%, MAMMA:21%) performed.

Discussion: The introduction of standardised flowchart guidance resulted in improved breast infection management by encouraging aspirations and less incision and drainages. Regular auditing will promote ongoing progress, high-quality care, and drive improvement.

Frailty Matters: A Quality Improvement Approach to Realistic Medicine in the ED

Timothy Atkinson, Rosemary Kelly

Problem: As our population ages, frailty is increasingly common in the ED, affecting 10% of attendees and 30% of acute medical admissions. Delayed Comprehensive Geriatric Assessment (CGA) increases the risk of deconditioning, delirium, prolonged hospital stays, and poor outcomes. Delivering timely, patient-centred care in a busy ED is challenging, particularly when balancing clinical pressures with individualized decision-making and ensuring interventions are appropriate to patient goals.

Strategy for Change: A four-week pilot Frailty Intervention Team (FIT) was implemented in the ED of a large teaching hospital. The multidisciplinary team - 1 geriatrician, 2 specialist nurses and 1 advanced practitioner - used a QI approach to structure patient identification via ED whiteboards, streamline assessments through flexible face-to-face or virtual methods, and support care planning that aligned interventions with patient priorities and reduced burdensome treatments. Kotter's change model guided implementation, including creating urgency around frailty care, engaging stakeholders, building coalitions with specialties such as palliative care and old age psychiatry, and promoting the service across the trust.

Measurement of Improvement: QI measures included initiation of CGA components, early discharge recommendations, and 28-day readmissions. Discussions about goals of care and alignment with patient priorities were observed and will inform future evaluation.

Effects of Change: CGA was initiated for 72% of patients; early discharge was recommended for 42%, with 31% discharged within 24 hours. FIT enabled timely conversations about goals of care, anticipatory planning, and avoidance of burdensome interventions in patients with advanced frailty or dementia. The pilot promoted a cultural shift toward patient-centred care that aligned interventions with individual priorities and avoided unnecessary or burdensome treatments, while working within ED pressures to deliver care effectively.

Discussion: Applying a QI framework allowed the team to address workflow constraints and competing priorities. Key enablers included leadership, stakeholder engagement, flexible assessment strategies, and structured change management using Kotter's model. The pilot offers a practical framework for embedding Realistic Medicine in acute care settings. Future evaluation with patient and staff feedback will further inform service refinement and sustainability.

Improving Documentation and Reducing Broad-Spectrum Antibiotic Prescribing in Primary Care

Zain Makda

Problem: Antimicrobial resistance causes approximately 25,000 deaths annually in Europe. Inappropriate prescribing of broad-spectrum antibiotics, such as co-amoxiclav, cephalosporins, and quinolones, accelerates resistance. In primary care, prescribers often fail to document the clinical rationale for broad-spectrum antibiotic use, undermining antimicrobial stewardship.

Strategy for Change: A retrospective audit (Cycle 1) reviewed all broad-spectrum antibiotic prescriptions of a GP practice in May 2024, assessing whether rationale for prescribing was documented. Following this, an electronic intervention was introduced: a mandatory text box requiring prescribers to state the clinical indication when prescribing broad-spectrum antibiotics. The audit was repeated in July 2024 (Cycle 2).

Measurement of Improvement: The percentage of prescriptions with documented rationale and the total volume of broad-spectrum antibiotics prescribed were compared between cycles.

Effects of Change: In Cycle 1, 73% (44/60) of prescriptions had a documented rationale. In Cycle 2, documentation improved to 100% (36/36). Additionally, overall broad-spectrum antibiotic prescribing fell by 40% between cycles.

Discussion: Introducing a mandatory indication field significantly improved accountability and prescribing behaviour. The intervention ensured compliance with stewardship standards while also reducing unnecessary antibiotic use. Given its simplicity and effectiveness, this strategy could be readily implemented in other primary care practices to help combat antimicrobial resistance.