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Comparison of AI and Resident Doctors in Diagnosing and Managing Acute Respiratory Cases: A Retrospective Study

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Introduction

- Artificial intelligence is gaining interest in clinical medicine for supporting diagnosis and treatment decisions. Real-world performance of AI compared to resident doctors remains unclear.
- Acute respiratory medicine requires timely, accurate decisions that impact outcomes.
- This study compares diagnoses and management plans by resident doctors and an AI model (ChatGPT 4.0) against a consultant-defined gold standard.

Methods

- Retrospective analysis of 45 patients admitted to the respiratory admissions unit was conducted.
- Clinical data were input confidentially into ChatGPT 4.0 to generate diagnostic and management plans.
- Plans from resident doctors and ChatGPT were assessed by blinded respiratory specialists against a consultant gold standard.
- A 5-point Likert scale measured concordance with a consultant-defined gold standard.
- Analyses included IQRs, Wilcoxon signed-rank test, and Cohen's Kappa for agreement.

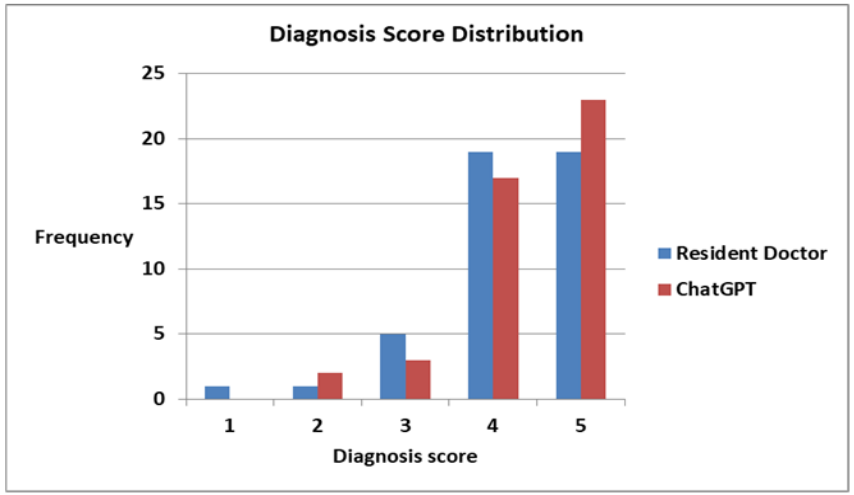


Figure 1

Figure 2

Results

- We found no significant difference between ChatGPT and resident doctors for diagnosis ($p = 0.35$) or management ($p = 0.14$).
- Resident doctors had a median diagnostic score of 4.00 (IQR 4–5); ChatGPT scored 5.00 (IQR 4–5). (Figure 1)
- For management, resident doctors scored 4.00 (IQR 3–4); ChatGPT scored 4.00 (IQR 4–5).(Figure 2)
- ChatGPT achieved higher perfect agreement with consultant plans in both diagnosis (51.1% vs. 42.2%) and management (40.0% vs. 24.4%).

Conclusion

- ChatGPT's diagnostic and management plans performed comparably to those of resident doctors whilst showing higher perfect agreement
- AI has potential to support diagnostic accuracy and assist resident doctors; further research is needed to guide safe clinical integration.

Smoking Cyclone:
A 2 cycle QIP to improve compliance of Nicotine Replacement Patch Prescription in Hospitalized Patients

NHS
University Hospitals Bristol and Weston
NHS Foundation Trust

INTRODUCION:

SMOKING Still remains a public health problem all around the world. All the healthcare professionals along with the government have shown their contribution towards tackling this problem and success has been achieved at different levels across the globe. Still this remains a significant issue and Nicotine Replacement Patches have been helping patients admitted in hospital in overcoming their smoking habit and promising their progress to a better, smoke-free life.

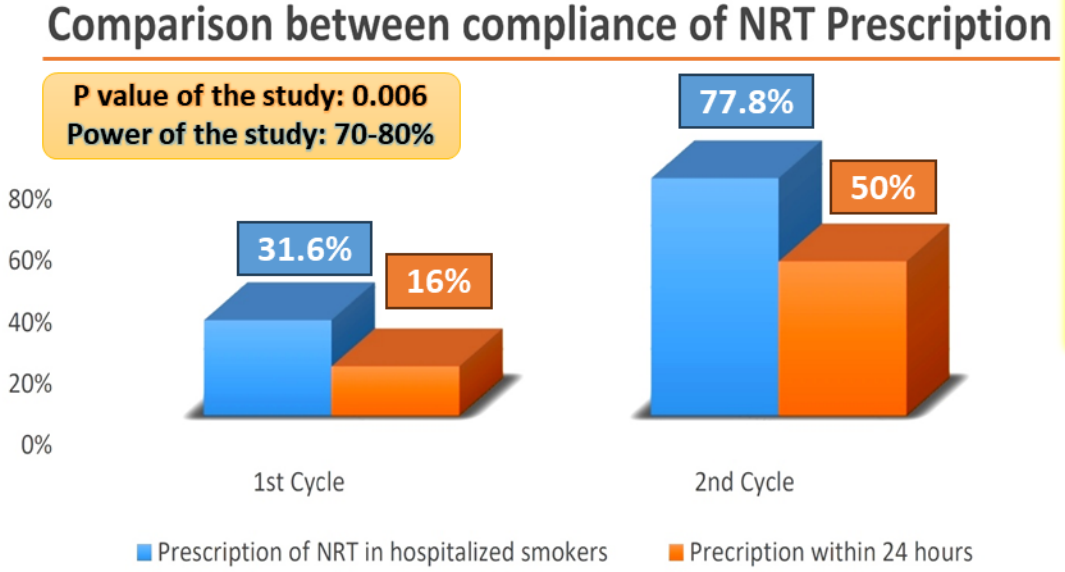
OBJECTIVE:

Our goal was to assess and improve the compliance of NRT Patch prescription in hospitalized patients. Though a little step, but we wanted to be a part of the Government's commitment to create a smoke-free generation by 2030.

METHOD:

Data was collected over two cycles across all of the wards across Weston General Hospital. 1st cycle involved 19 patients and 2nd cycle involved 18 patients. Both cycles were conducted over 3 days. In between the cycles a poster was made to raise awareness among the healthcare members.

In comparison to the 1st cycle of QIP, the 2nd cycle of the QIP showed marked improvement and compliance



Compliance of NRT prescription improved to 77.6% from 31.6% and prescription within 24 hours also improved to 50% from 16%.

The improvement is statistically significant with p value of 0.006, determined by Fisher's Exact Test.

The power of the study is around 70-80%

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GETTING THE CODE RIGHT: IMPROVING THE FREQUENCY & ACCURACY OF CODING PRIMARY +/- SECONDARY DIAGNOSES ON DISCHARGE SUMMARIES

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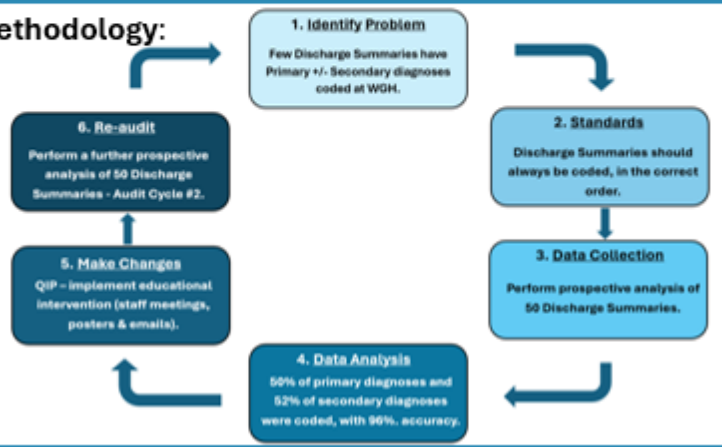
1 Background:

- **The Purpose of Discharge Summaries**: They communicate key information such as diagnoses, treatments, investigations, and follow-up plans. This information is conveyed from the hospital admission to GPs, future care providers and patients themselves [1].
- **The Importance of Accurate Coding**: Only confirmed primary and secondary diagnoses should be coded (in order), while unconfirmed diagnoses must go in free text. This ensures reliable documentation and supports safe, effective continuity of care [1].
- **The Role of Clear Documentation**: Clear Discharge Summaries reduce the need for clinical coders to seek clarification, improving coding accuracy and efficiency. This benefits patient outcomes and ensures high-quality data for audits, research and funding [2].

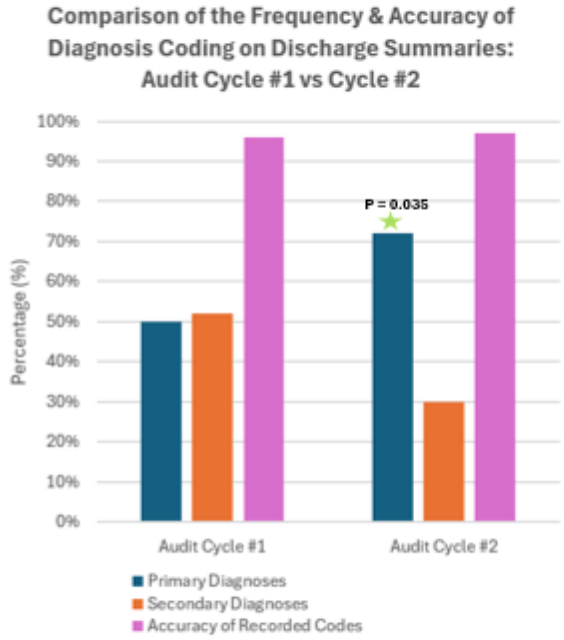
2 Aim:

To improve the Consistency and Accuracy of Diagnosis Coding in Weston General Hospital Acute Medicine Discharge Summaries.

3 Methodology:



4 Results:



Primary Diagnosis Coding on Discharge Summaries

Cycle	Coded	Not Coded	Chi squared statistic (X^2)	p-value
Audit cycle 1	25	25	4.455	0.035
Audit cycle 2	36	14		

Secondary Diagnosis Coding on Discharge Summaries

Cycle	Coded	Not Coded	p-value (using exact Fisher's Test)
Audit cycle 1	14	13	0.27
Audit cycle 2	3	7	

Accuracy of Primary +/- Secondary Diagnoses on Discharge Summaries

Cycle	Coded	Not Coded	p-value (using exact Fisher's Test)
Audit cycle 1	24	1	1.0
Audit cycle 2	35	1	

5 Conclusions & Discussion:

- **Lack of Coding Exposed:** The initial audit revealed low diagnosis coding rates.
- **Action Taken:** QIP launched with training, visuals, and real-time feedback.
- **Primary Coding Boosted:** Statistically significant improvement achieved ($p = 0.035$).
- **Secondary Coding Slips:** Frequency decrease noted—this requires deeper investigation.
- **Accuracy Remains Strong:** 96–97% correctness confirms effective use of clinical notes.
- **Rotation Risk:** Staff turnover threatens sustainability—induction training is key.
- **Next Step is to Listen & Learn**: Questionnaire and re-audit planned to uncover barriers.
- **Better Coding = Better Care:** Clearer documentation strengthens patient outcomes and system-wide data quality.

6 Future Priorities:

- **Identify Barriers:** Use a questionnaire and re-audit to understand gaps in diagnosis coding.
- **Sustain Training:** Deliver coding education at the start of each junior doctor rotation.
- **Embed in Curriculum:** Promote coding awareness in medical training.
- **Enhance Collaboration**: Strengthen feedback between clinicians & coders.
- **Impact assessment**: Track improvements in accuracy and clinical coder efficiency; have we contributed to fewer clarifications needed?

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Just another tablet? Identifying barriers to statin uptake in patients living with HIV

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Introduction

- People living with HIV (PLHIV) are at increased risk of cardiovascular disease.
- The Randomized Trial to Prevent Vascular Events in HIV (REPRIEVE) demonstrated benefits of statin therapy for this population.[1]
- In response, the British HIV Association (BHIVA) issued guidance recommending statin therapy for PLHIV ≥40 years.[2]

Aim

To assess the proportion of patients recommended a statin during clinic visits, whether these recommendations translate into prescriptions in primary care, and the barriers to statin uptake.

Methods

- Random sample of PLHIV ≥40 years who attended an HIV appointment since March 2024 was selected.
- Data collected from electronic patient record including QRISK3 scores, previous statin use, and statin recommendation in clinic.
- Statin prescribing was assessed at the next clinic visit or in GP records.
- Exclusions: Patients with statin advice within 4 weeks of data collection or if GP records unavailable.
- Patients not taking statins after clinic recommendation were invited to complete a questionnaire on:
  - → Information received about statins
  - → Reasons for non-initiation
  - → Concerns about statin use
  - → Strategies to improve uptake

Results

- 271 cases were reviewed.
- 26% were female and the mean age 53 (range 40-84).
- Mean QRISK3 score was 10.4%.
- Of the 203 patients not already on statins, 111 (54.7%) were recommended a statin in clinic.
- QRISK3 >5% correlated with recommendation (χ^2, $p<0.001$).
- 72 were included for follow up; only 19 (26.3%) were prescribed a statin.

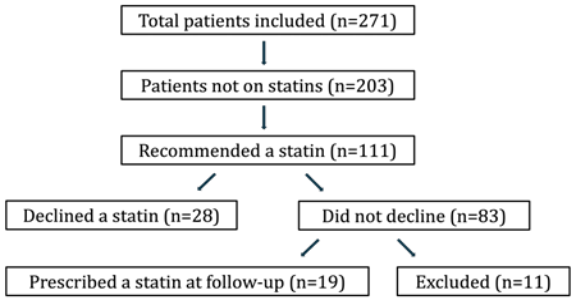

Figure 1: Flowchart of patient progression through recommendation and prescribing stages.

Patient Perspective

- 24 patients completed the survey. 22 (91.7%) recalled receiving advice on statins in clinic, but only 11 (45.8%) recalled being informed about both the benefits and risks.
- Reasons for non-initiation and concerns are listed in Figure 2.

Suggestions from patients to improve uptake:

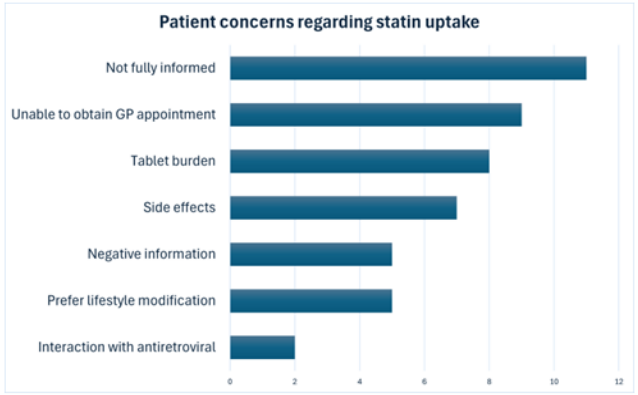

Figure 2: Frequency of concerns and reasons for non-initiation of statins as reported by patients.

Discussion

There are many misconceptions about the benefits and risks of statins, which can make recommendations challenging. While BHIVA suggests prioritising recommendations for those with QRISK3 >5%, traditional scoring tools are likely to underestimate cardiovascular risk in HIV. Therefore, all PLHIV ≥40 years should be given the opportunity to discuss whether statin therapy may benefit them. Clinicians must take the time to explain the benefits in a personalised way, considering the increased risk while also accounting for the patient's existing tablet burden. It is important not to underestimate the impact of this decision for the patient, who may already be on multiple medications with high side effect profiles. Transparent discussions around side effects can help dispel misinformation and support decision-making. Lifestyle modification remains a crucial factor and should be encouraged alongside these discussions. Empowering patients with this information, along with clear communication to GPs, will support prescribing.

Conclusion

This study highlights the disparity between statin recommendations and prescriptions in PLHIV. A multifaceted approach is needed: enhanced patient counselling with individualised discussions, patient information leaflets to support informed decision-making, and stronger coordination with primary care, including educational sessions for GPs.

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the northern contraception, sexual health & HIV service

The Effect of CGRP Monoclonal Antibodies on Cardiovascular Disease

Dr Adam Sinker and Rebecca Town (tACP)

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Introduction

- Increased expression of Calcitonin Gene Related Peptide (CGRP) in migraines was first identified by Goadsby et al (1988).
- Three monoclonal antibodies (MABs) targeting the ligand CGRP (eptinezumab, fremanezumab and galcanezumab) and one targeting the CGRP receptor (erenumab) have been developed to try and prevent migraines (Lentsch et al., 2022).
- CGRP is also found in blood vessels having a vasodilatory effect consequently by blocking the CGRP receptors there is a theoretical risk of causing hypertension with MABs.

Early trials deemed MABs safe

Kudrow et al. (2019) Study:

- Four, double-blind, placebo-controlled trials to assess cardiovascular, cerebrovascular and peripheral vascular safety of erenumab
- They compared the use of placebo to 70mg to 140mg Sub Cut monthly (n=1400).
- Determined that patients on erenumab had no significantly increased risk in cardiovascular, cerebrovascular or peripheral vascular disease.

However....

Croteau et al. (2021) investigated 61 cases which were reported to the FDA Adverse Event Reporting System database of patients who had been started on erenumab and subsequently developed hypertension (HTN)

19/61 – worsening of pre-existing HTN

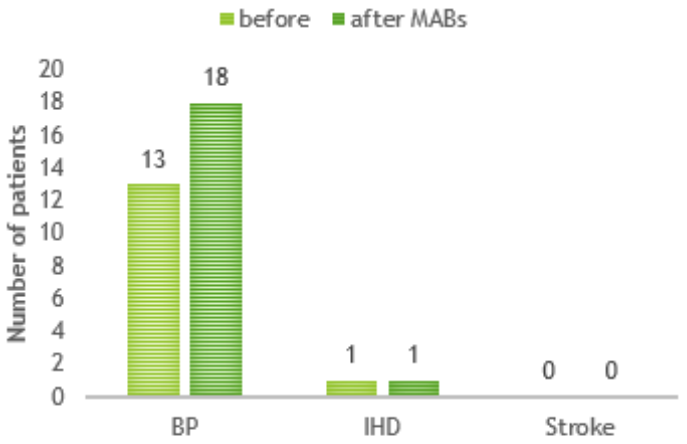
28/61 – HTN within 1 week of starting erenumab

27/61 – needed treatment for HTN

7/61 – required hospitalisation for BP control.

Our study

- Investigated if there was a link between the use of MABs and an increased risk of HTN, ischemic heart disease (IHD) and stroke.
- 245 patients were identified as having received MABs between 23rd April 2019 – 22nd August 2024
- Patient demographics:
  - Age range 20 to 73 years old
  - Median age 45 years old
  - 84% female and 16% male
- Prior to starting MABS:
  - 13/245 had pre-existing HTN
  - 1/245 had IHD
  - 0 patients had a previous history of stroke
- Following treatment with MABs 5 patients (all female) had a new diagnosis of HTN



Graph 1. Cardiovascular disease prevalence pre and post MABs

Those who developed new HTN...

- 2 patients stopped taking MABs due to HTN:
  - 1 of these patients now takes amlodipine 5mg OD and candesartan 2 mg BD
  - The other patient takes 16mg candesartan OD
- The other 3 patients continue taking MABs but are on Single antihypertensive therapy
- The ages of the patients who developed new hypertension; 35, 45, 57, 62 and 63

Conclusion

- 5/245 patients who started on MABs developed new HTN with 2/245 having to stop taking MABs due to Hypertensive side effects.
- Our study failed to identify any patients who had a new diagnosis of IHD or stroke following MABS.
- Patient who are now on MABS have six monthly BP checks and are warned that HTN is a potential side effect of starting MABs

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Cardiac arrest following unopposed calcium replacement for cabozantinib-induced hypocalcaemia

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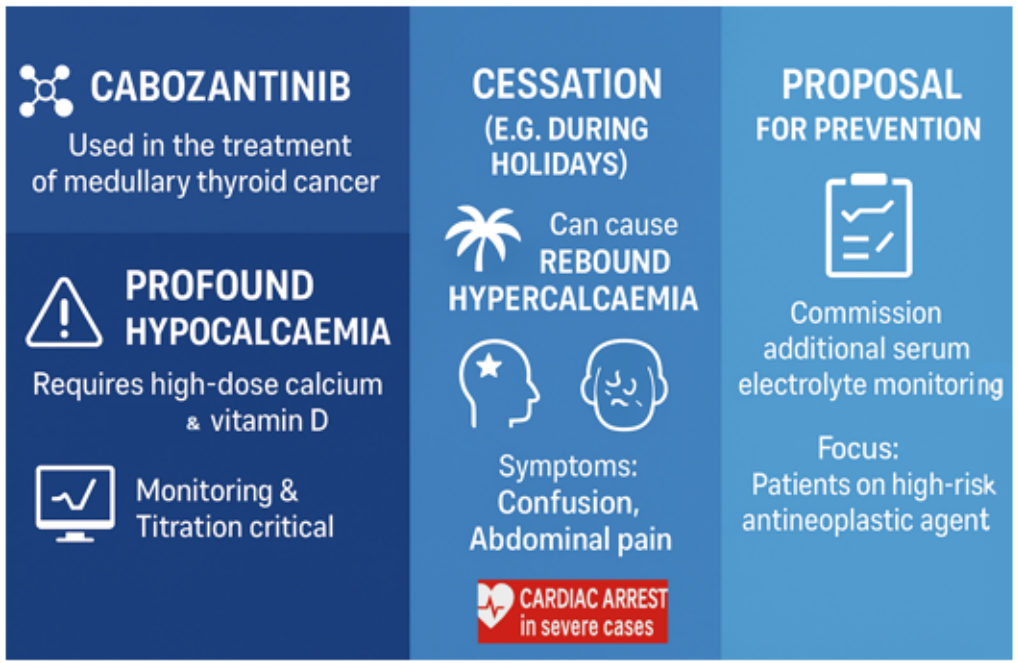

Introduction

- Cabozantinib is a tyrosine kinase inhibitor which specifically targets the MET, VEGFR2, and RET pathways.[1]
- Commonly used first-line in medullary thyroid carcinoma, and renal cell carcinoma (RCC).[2]

	Admission	Normal
Adj. Ca	5.11	(2.2-2.6)
Urea	25.3	(2.5-7.8)
Creatinine	511	(62-115)
CRP	183	(<5)

Table 1. Relevant admission blood tests

Case Presentation

- A 47-year-old gentleman presented to hospital with confusion and abdominal pain.
- Background: Cessation of cabozantinib for 3 weeks, while on holiday. On **high dose Adcal-D3®** (10/day).
- On examination: febrile, tachycardic, visible oral ulceration (prior dental infection).
- Admission bloods (see Table 1) demonstrated severe hypercalcaemia and stage 3 AKI.
    - Pamidronate, IV fluids and empirical antibiotics initiated.
- Despite this, developed **cardiac arrest on day 3 of admission**. ROSC achieved after 3 shocks.
- ITU: rebound hypocalcaemia (Adj Ca 1.68), careful titration of **alfacalcidol (0.5mcg) + Adcal-D3® QDS**.
- During follow up, switched to palliative selpercatinib with twice-weekly bloods and monthly ECG.

Discussion

- Multikinase inhibitors known to cause electrolyte disorders.
- 2024 pharmacovigilance analysis in RCC[3]
    - 33 cases of hypocalcaemia – while mechanism unknown in this drug, sorafenib proposed to cause calcium mobilisation due to endoplasmic reticulum stress.
    - 10 cases of hypercalcaemia
- Likely cause of hypercalcaemia in this case was unopposed calcium replacement.
- Bone metastasis considered as differential. CT TAP suggestive, notably no significant difference reported in cabozanitib-induced hypercalcaemia with and without bone metastasis.[4]

Conclusions

- Patients may need to pause their antineoplastic treatments for several reasons, including pre-operative (28 days), severe haemorrhage and hypertensive crisis.[5]
- If this period is prolonged, it is imperative to monitor serum electrolytes closely (fortnightly or weekly) with concurrent ECG and avoid unopposed supplementation resulting in iatrogenic adverse outcomes.
- Patient counselling is also paramount, so that patients are aware of when to seek assistance (red flags).

Contact
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Venous Thromboembolism Compliance in a Tertiary Cardiothoracic Centre in the United Kingdom

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Introduction

- Venous thromboembolism (VTE) imposes significant national health and socioeconomic burden due to the associated morbidity and mortality.
- Evaluating VTE assessment compliance for patients admitted to hospital is of paramount significant to ensure that VTE events and the associated burden are minimized.

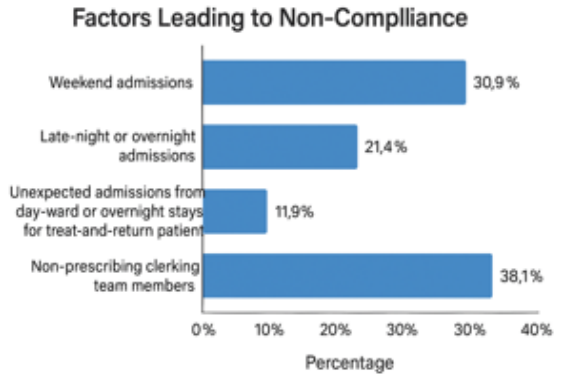

Figure 1: Factors leading to non-compliance in VTE assessment

Methods and Materials

- Compliance in VTE assessments for patients admitted to the cardiology department at a tertiary cardiothoracic centre in the United Kingdom was reviewed for the months of November and December 2024.
- Patients whose VTE assessment was not performed within 24 hours of admission were flagged as non-compliant.
- Factors leading to the non-compliance were evaluated and analysed.

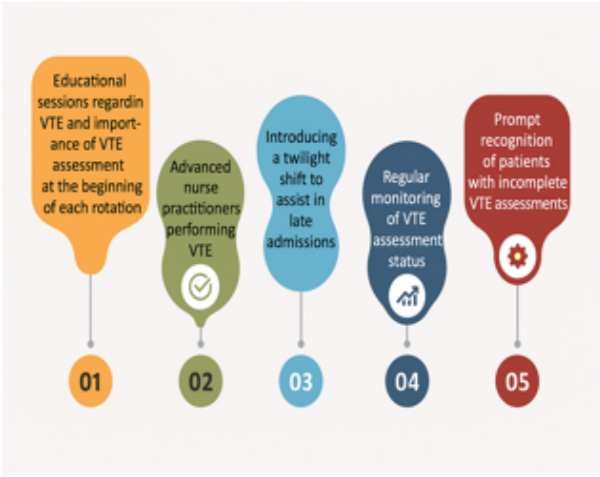

Figure 2:Interventions introduced to tackle the non-compliance

Results

- The overall compliance in the cardiology department in November 2024 and December 2024 was found to be 93.1%. 24 patients were found to have non-compliant VTE assessment.
- Non-compliance was most noted in admissions under the interventional cardiology team, followed by structural cardiology team, and lastly by electrophysiology team.
- Factors leading towards non-compliance were evaluated. The most prevalent factors were weekend admissions (30.9%), late-night or overnight admissions (21.4%), unexpected admissions from day-ward or overnight stays for treat and return patients (11.9%), and non-prescribing clerking team members (38.1%) (Figure 1).
- Interventions towards the identified factors have been planned and introduced (Figure 2).
- Accordingly, and following these interventions, the overall compliance in the cardiology department in January 2025 and February 2025 were determined to be 95.6%.

Conclusions

Overall, evaluating the key factors towards VTE non-compliance are of paramount significance in regard to patients' safety and care as they enable effective introduction of interventions to tackle the resultant non-compliance.

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Point-of-care ultrasound (POCUS) Programme 2024-2025

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INTRODUCTION

Point-of-care ultrasound (POCUS) is increasingly recognized as a critical skill in the management of acutely unwell patients. The POCUS Programme at Leicester Royal Infirmary (LRI) is a structured, year-long training initiative designed to equip doctors with proficiency in ultrasound techniques aligned with FAMUS (Focused Acute Medicine Ultrasound) and FUSIC-Heart accreditation pathways. This programme supports competency development in ultrasound imaging for rapid diagnosis and clinical decision-making.

METHODOLOGY

The POCUS Programme employs a blended learning approach, integrating theoretical instruction, bedside practical training, supervised and mentored sessions, and online peer discussions.
Teaching sessions are conducted 1-2 times weekly over 12 months, covering lung, abdominal, vascular, and cardiac ultrasound applications. Participants engage in supervised scans, formative assessments, and accreditation examinations to ensure skill acquisition and competency.

RESULT

Participation and Compliance:
- Over 80% of enrollees consistently attended theoretical and practical sessions.

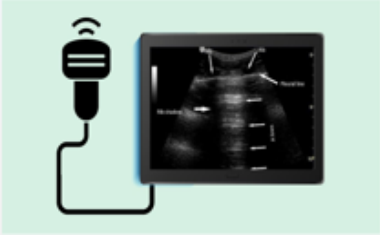
Skill Development:
A marked improvement in scanning technique and pathology identification was observed, with a 70% increase in diagnostic confidence.

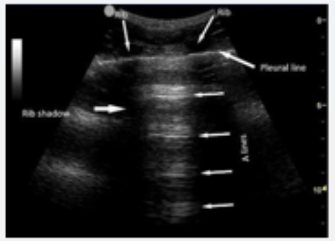
Accreditation Progress:
Preliminary data show that 60% of participants have completed the required supervised scans

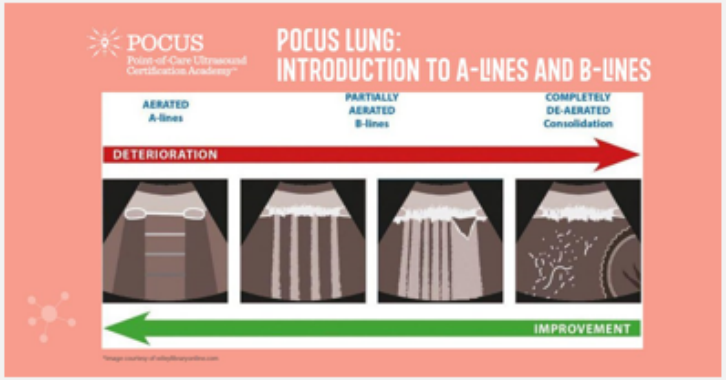
Feedback:
Participants highlighted the structured mentorship and bedside scanning opportunities as key facilitators in their learning

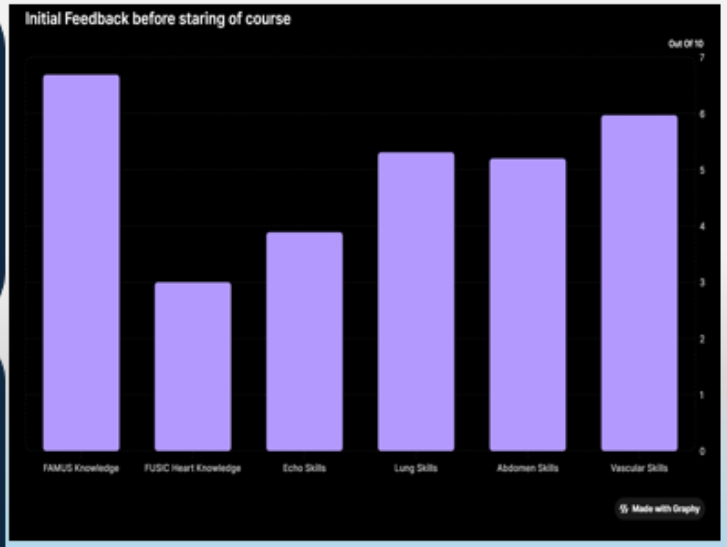
CONCLUSION

The POCUS Programme at LRI has demonstrated effectiveness in training doctors in focused ultrasound, aligning with national accreditation standards. Early survey data suggests positive outcomes in skill acquisition and diagnostic confidence. Future iterations of the programme will aim to enhance accessibility and refine assessment strategies to optimize learning outcomes.







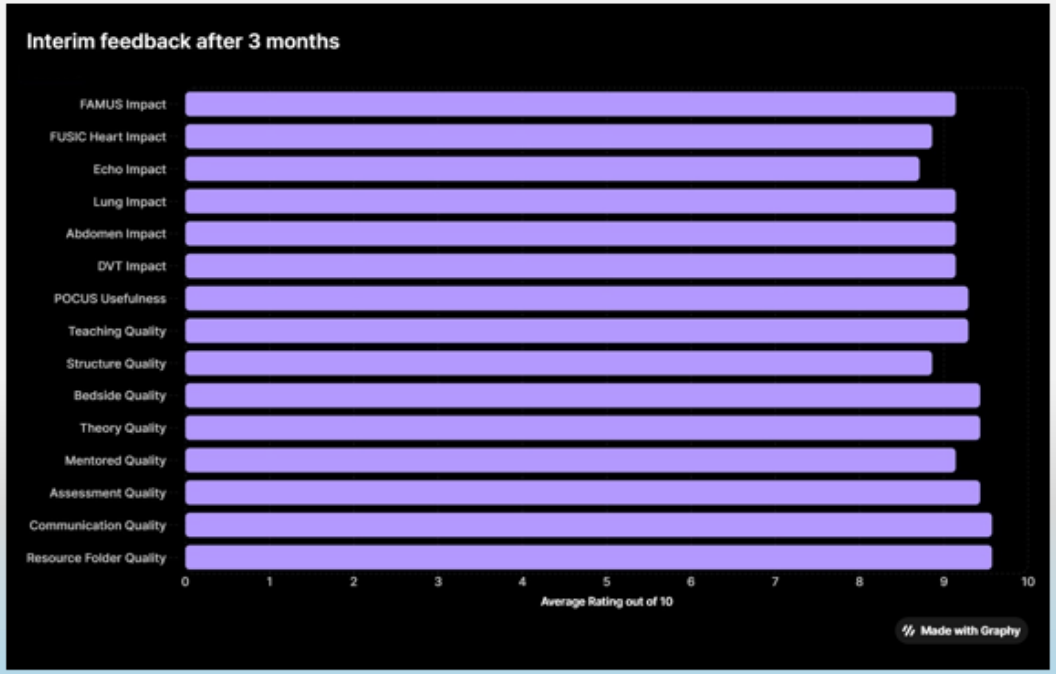


SURVEY

To evaluate the effectiveness of the programme, surveys were conducted at three stages:

1. Initial response at registration– assessing participants' prior ultrasound experience and expectations.
2. Interim response during the programme – capturing progress, challenges, and feedback on training quality.
3. Final evaluation (pending) – measuring overall competency, accreditation success rates, and perceived impact on clinical practice.

Initial data analysis reveals that a significant proportion of trainees had minimal prior experience with POCUS, with most aiming for FAMUS or FUSIC-Heart accreditation. Interim results indicate an improvement in confidence and skill application, particularly in lung and cardiac ultrasound.



Lymphoproliferative Disorders and Renal Dysfunction: A Case of CLL-Related AKI

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(1)Betsi Cadwaladr University Health Board

Introduction

- 81-year-old male, March 2024,presented with AKI(Creatinine 296 µmol/L, eGFR 18). His past medical history includes glaucoma, hypercholesterolemia, and chronic lymphocytic leukaemia (CLL).He was initially admitted for symptoms of diplopia and headache. Past CLL history (2019),under wait and watch approach, progressed to low grade B-cell NHL(2020).
- Recent scalp biopsy(February 2024), indicated CLL/SLL.CT head ruled out stroke. This case highlights lymphoproliferative infiltration as a cause of AKI in this subset of patients as seen in Table 1.

	Number (%)	Co-existent CLL infiltration n (%)	Therapy prior to biopsy n (%)
Related to chronic lymphocytic leukemia			
Membranoproliferative glomerulonephritis	10 (20)	4/10 (40)	0/10 (0)
CLL infiltrate as primary etiology	6 (12)	NA	4/6 (67)
Minimal change disease	5 (10)	0/5 (0)	1/5 (20)
Acute interstitial nephritis	4 (8)	3/4 (75)	1/4 (25)
Amyloidosis	3 (7)	1/3 (33)	0/3 (0)
Light chain cast nephropathy	3 (7)	0/3 (0)	0/3 (0)
Membranous glomerulonephritis	2 (4)	2/2 (100)	0/2 (0)
Mesangial proliferative glomerulonephritis (unclassified)	2 (4)	1/2 (50)	0/2 (0)
Indirectly related to chronic lymphocytic leukemia			
Thrombotic microangiopathy	6 (12)	2/6 (33)	5/6 (83)
Adenovirus acute interstitial nephritis	1 (2)	0/1 (0)	1/1 (100)
Infection-related CGN	1 (2)	0/1 (0)	1/1 (100)
p-ANCA-associated pauci-immune CGN	1 (2)	0/1 (0)	1/1 (100)
Unrelated to chronic lymphocytic leukemia			
Diabetic glomerulosclerosis	2 (4)	1/2 (50)	0/2 (0)
Obesity-related focal segmental glomerulosclerosis	2 (4)	0/2 (0)	0/2 (0)
Hypertension-related nephrosclerosis	1 (2)	0/2 (0)	0/2 (0)

CLL: chronic lymphocytic leukemia; CGN: crescentic glomerulonephritis; NA: not applicable.

TABLE NO: 1

Materials and Methods

- The patient's clinical assessment revealed normal cardiovascular, respiratory, and abdominal examinations, with no neurological signs. Blood tests showed anaemia (Hb 93 g/L), a white cell count of 123 x 10^9/L, and a platelet count of 179 x 10^9/L. A blood film confirmed CLL, with no evidence of haemolysis. Renal function was significantly impaired(Creatinine 296 µmol/L, eGFR 18).
- Urine analysis showed red blood cells (RBCs), white blood cells, and negative culture. An ultrasound revealed a complex cyst in the left kidney and splenomegaly (14.8 cm).
- A renal biopsy was performed, showing a prominent lymphocytic infiltrate with evidence of mild chronic renal damage [1]. Immunohistochemistry identified small lymphocytes with lambda light chain restriction [2] .
- Patient was started on acalabrutinib after discussions with the All-Wales Lymphoma panel.

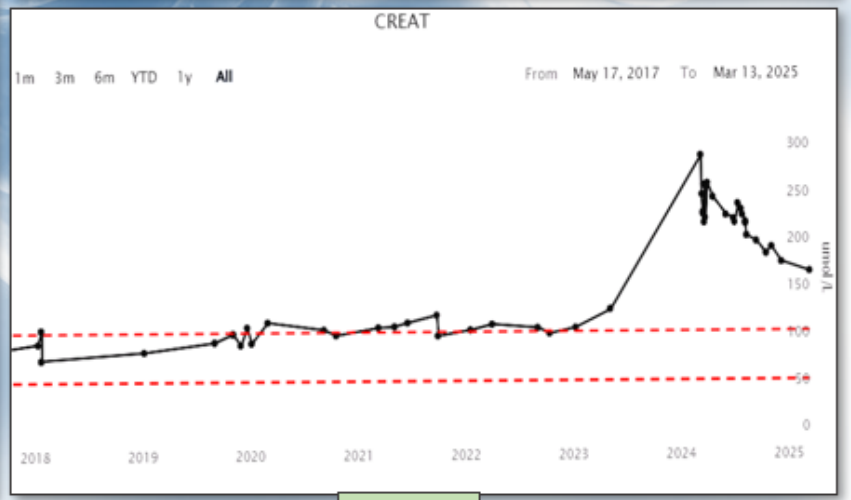

TABLE:2

Results

- A renal biopsy revealed lymphocytic infiltration without blast cells or casts was consistent with CLL/SLL. This infiltration caused the mild chronic renal damage and contributed to AKI.
- Imaging showed widespread lymphadenopathy and splenomegaly, indicating systemic lymphoma progression.

DISCUSSION

- Renal Involvement in CLL/SLL, although uncommon, can cause kidney dysfunction through direct infiltration by neoplastic lymphocytes or immune-mediated damage.
- Targeted therapy with acalabrutinib, a BTK inhibitor, was initiated following specialist review to address both the lymphoma and renal involvement.

Conclusion

- This case highlights the diagnostic challenges in an elderly patient with indolent lymphoma presenting with AKI and systemic lymphadenopathy[3].
- A comprehensive diagnostic approach, including renal biopsy and close collaboration with a multidisciplinary team, was essential in guiding appropriate treatment [4] .
- The decision to initiate acalabrutinib[5] represents a targeted therapeutic approach for managing CLL/SLL-related renal disease and lymphoma progression.

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4.PLOS One(2015)
5.Ahn and Brown(2015)

EMPOWERING EXCELLENCE: TRANSFORMING GIRFT ACCESSIBILITY THROUGH A CENTRALISED TRUST INTRANET PORTAL, NORTHERN CARE ALLIANCE EXPERIENCE

Ayesha Lala,[1] Robert Nipah,[1] Alistair Craig,[1] Molly Gollop,[1] Shirley Naylor,[1] William Keith Gray,[2] Katrein Savage,[2] Janet Cox,[2] Paul Mcmullen,[1] Alshymaa Eltahan [1]

NHS Northern Care Alliance NHS Foundation Trust [1]

GIRFT GETTING IT RIGHT FIRST TIME [2]

INTRODUCTION

Context:

The GIRFT (Getting It Right First Time) programme is aimed at improving patient care by using data and service reviews to highlight best practices across specialties.

Problem Statement:

Access to GIRFT-related resources and tools was fragmented and inconsistent across the Trust, limiting its effectiveness.

Objective:

To centralise GIRFT resources into a single, accessible intranet portal to streamline access, improve communication, and increase engagement with GIRFT initiatives.

METHODOLOGY

- **Collaborative Approach:**
  - Worked with residents, GIRFT Academy, IT, Service Improvement, and QIP teams.
  - Key drivers and interventions identified in a Quality Improvement Project (QIP) drivers diagram.
- **Webpage Development:**
  - Designed on Frank CMS and integrated into the Trust's broader Service Improvement page. Pages created include 'Introduction to GIRFT', 'Find a Specialty', 'Teaching & Education materials'
  - User experience (UX) and user interface (UI) were redesigned to be more intuitive and user friendly, with the aim of increasing engagement.

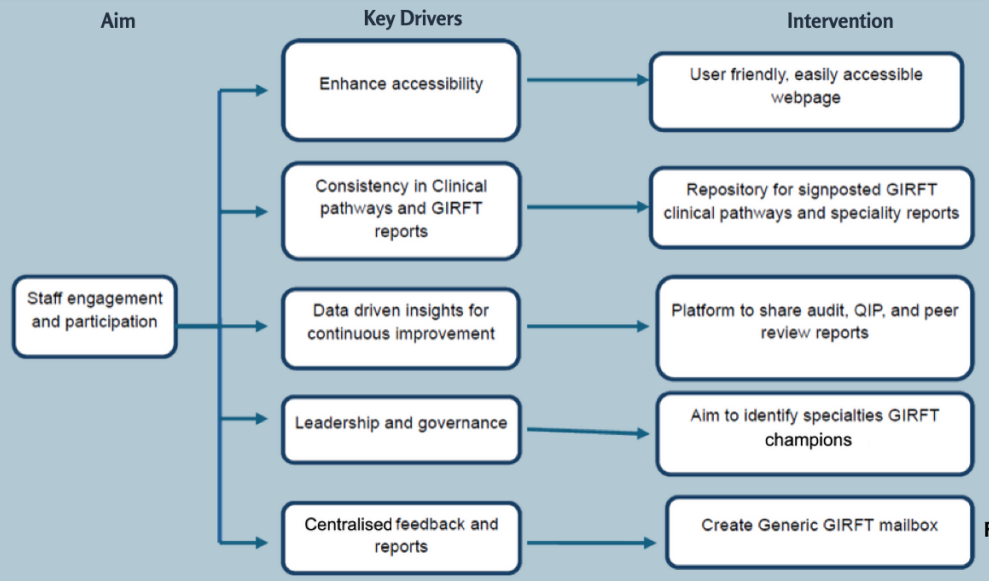
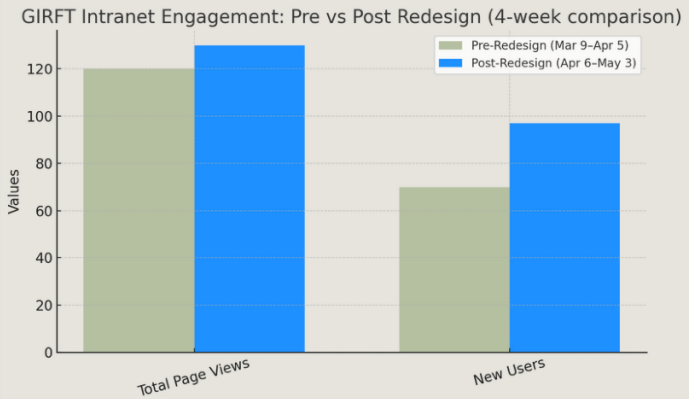


Figure 1: QIP Drivers

RESULTS



- Page views and new users increased, showing wider engagement across the Trust after the launch
- Unique users jumped by 39%, indicating that more new staff discovered and accessed the page

Figure 2: Graph illustrating ganalytics of the webpage (via google analytics report)

CONCLUSION

Feedback from clinical and managerial staff revealed that 83% felt the webpage improved access to GIRFT resources. Navigation and accessibility scored well (avg. 3.6/5), while integration into clinical practice and resource relevance scored moderately (avg. ~3.0). The Teaching section had the lowest engagement (avg. 2.5), identifying a key area for future focus.

Impact: The centralised GIRFT intranet webpage has significantly improved resource accessibility, engagement, and awareness across specialties, helping clinicians better access tools for service improvement and patient care.

Figures 3 & 4: Two snapshots illlustrating elements of the redesigned GIRFT webpage on the trust intranet

From Hypertension to Heart Failure: The Missed Clues of Transthyretin Cardiac amyloidosis

Case Study

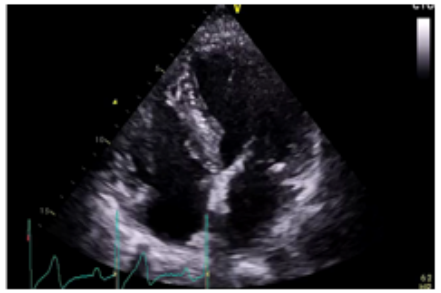
An 91year-old woman with a history of hypertension and hypothyroidism was referred to the cardiology clinic due to worsening shortness of breath. She was an independent individual who lived alone and managed all daily activities. Her symptoms had been present for several years but had progressively worsened over recent months. She was recently evaluated in the emergency department for acute dyspnea and treated for an upper respiratory tract infection.

Time Line

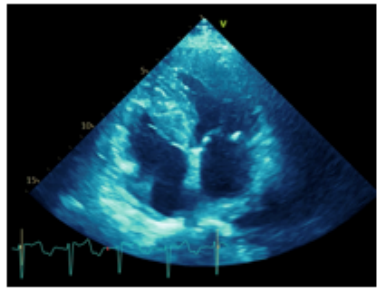
2009: *Presented with dizziness and shortness of breath*
2013: *Treated with bilateral carpel tunnel syndrome with steroid injections*
2017: *Treated with carpel tunnel release surgery*
2018: *Reviewed in cardiology again with shortness of breath high NT BNP 547ng/L*
2018: *Reviewed in respiratory, Mild COPD, discharged*
2024: *Referred to cardiology for dyspnea and LVH on echo; NT-proBNP 1204 ng/L.*
2024: *Referred to NAC , diagnosed with TTR wild cardiac amyloidosis*

Past history : Hypothyroidism and hypertension

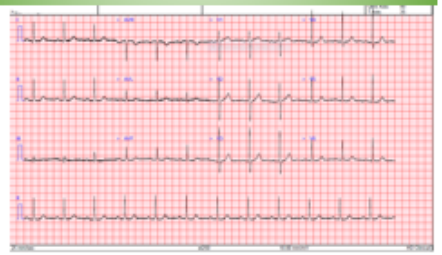
Year:** 2018: **NT Pro BNP: 549ng/L ***Year:** 2024:**NT Pro BNP: 1024ng/L***



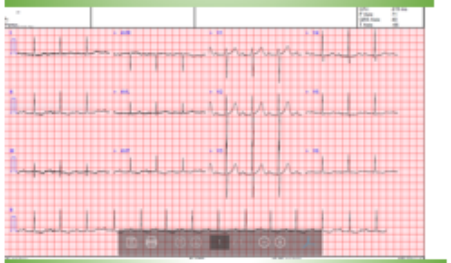
Echocardiogram: Apical 4chamber view with mild LVH 2019



Echocardiogram: Apical 4 chamber view with severe LVH 2024



12 lead ECG 2019 PR interval 221 221msec



12 LEAD ECG 2024 with PR interval 272 msec

Discussion

- *Cardiac amyloidosis is a disorder caused by amyloid fibril deposition in the extracellular space of the heart [1].*
- *Among the different types of amyloidosis, nearly all cases of clinical cardiac amyloidosis (>95%) are caused by light chain amyloidosis (AL) and transthyretin amyloidosis (ATTR) [2].*
- *The infiltrative process in the heart leads to progressive dysfunction of the cardiac muscle, while the conduction system of the heart is also affected .*
- *Amyloid cardiomyopathy is emerging as an important and often underdiagnosed cause of heart failure and cardiac arrhythmias, especially in older adults [3].*
- *Once suspected on the basis of prior clinical characteristics, imaging findings, and/or cardiac biomarkers, it is paramount to either confirm or refute the diagnosis of ATTR-CA.*
- *Echocardiography may reveal several abnormalities, including left ventricular hypertrophy and abnormal left ventricular global longitudinal strain, typically with apical sparing.*
- *Cardiac biomarkers (natriuretic peptides, cardiac troponins) are commonly elevated in patients with amyloid cardiomyopathy. Serum kappa/lamda free light chain ratio analysis, serum protein immunofixation and urine protein immunofixation shold also be performed. If monoclonal protein is identified by one or more of these tests, referral to a haematologist is recommended for evaluation and further assessment.*
- *Bone tracer cardiac scintigraphy is a hallmark test for identifying ATTR amyloidosis,*

Concluding points

- *This case underscores the importance of recognizing cardiac amyloidosis, often overlooked in clinical practice.*
- *Patients usually experience diagnostic delays of four to five years, resulting in missed opportunities for early intervention.[4]*
- *A high index of suspicion is essential, particularly in elderly patients with unexplained heart failure symptoms, progressive LVH, and autonomic dysfunction.[5]*
- *Enhanced clinical awareness and a comprehensive approach to unexplained heart failure symptoms are crucial, as early recognition and treatment can significantly improve patient.*
- *This patient's red flags—longstanding dyspnea despite controlled hypertension, a history of bilateral carpal tunnel syndrome, rising NT-pro BNP levels, echocardiogram with LVH could have facilitated an earlier diagnosis*

Author: Dr Ambreen Gul

Co author: Kamran Daowood

References

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4. *Lane T, Fontana M et al. Natural History, Quality of Life, and Outcome in Cardiac Transthyretin Amyloidosis. Circulation. 2019 July 2;140(1):16-24.*

5. *Lousada I, Maurer M, Warner M et al. Amyloidosis Research Consortium Cardiac Amyloidosis Survey: Results from Patients with AL and ATTR Amyloidosis and Their Caregivers. JACC. 2018 Mar;71(11 Supplement):A89*

***LVH:** Left ventricular hypertrophy*
NT- pro BNP: N terminal B type natriuretic peptide
***ATTR-CA:** Transthyretin Cardiac Amyloidosis*
***COPD:** Chronic obstructive airway*

Variability in anticoagulation duration and follow-up for deep vein thrombosis

Adam Darnley, Thomas Knight, Jecko Thachil. Manchester University NHS Foundation Trust.

Manchester University NHS Foundation Trust

Introduction

- Deep vein thrombosis (DVT) is increasingly managed in ambulatory care, with direct-acting oral anticoagulants (DOACs) as first-line treatment.
- Guidelines recommend a minimum of 3 months of anticoagulation, followed by reassessment.[1]
- Our Trust lacks a structured follow-up pathway, potentially leading to inappropriate treatment duration and increased risk of recurrence or bleeding.

Aim

To evaluate anticoagulation duration, follow-up practices and clinical outcomes in patients diagnosed with DVT in ambulatory care.

Methods

- Retrospective analysis using electronic patient records from two ambulatory care units in Manchester.
- Identified patients who underwent lower limb ultrasound for suspected DVT over a three-month period.
- Exclusion criteria:
  - ✗ No confirmed DVT on ultrasound
  - ✗ Died within 3 months of diagnosis
  - ✗ Already receiving DOAC therapy
  - ✗ No GP records available
- Data were collected on the use of bleeding risk scores, anticoagulation duration, secondary care follow-up, and subsequent thrombotic or bleeding complications.
- Patients were grouped into 'provoked' and 'unprovoked' DVT according to the International Society on Thrombosis and Haemostasis definition of unprovoked venous thromboembolism.[2]

Results

Patient cohort

- 145 patients underwent ultrasound for suspected DVT.
- 52 had DVT confirmed on imaging; 43 were included for analysis.
- 13 had previous documented thromboembolic events; 1 had concurrent PE.
- 8 had provoking factors for DVT (4 were transient, 4 persistent).

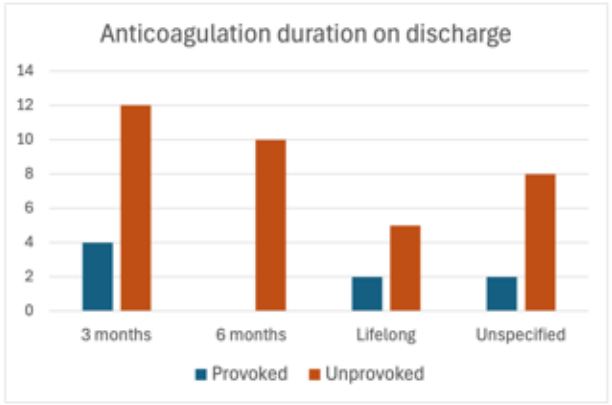

Figure 1: Anticoagulation duration documented on discharge for provoked and unprovoked DVTs.

Anticoagulation duration

Anticoagulation duration at discharge varied, as illustrated in Figure 1. A discrepancy between duration on discharge prescriptions and GP records was observed in 21/43 (49%), primarily due to ongoing treatment beyond six months.

Follow up

- Despite recommendations for reassessment, only 12 of 43 (28%) received follow-up in secondary care (Figure 2).
- All patients followed up in secondary care had their DOAC therapy extended beyond 3 months.

Clinical outcomes

- 4 patients (9.3%) developed recurrent DVT within 2 years.
- Of these, 3 had no transient risk factors identified.
- No patients with recurrence had follow-up to discuss DOAC duration.
- No major bleeding complications were reported in the cohort.

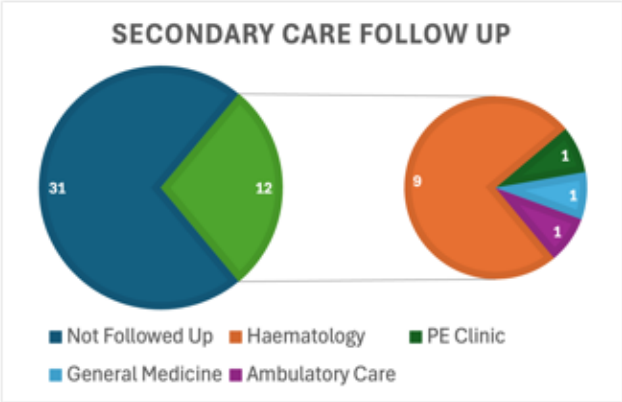

Figure 2: Secondary care follow up (n=12) versus those without (n=31). Follow-up shown according to type of clinic.

Discussion

Determining the optimal duration of anticoagulation for DVT is complex, influenced by individual risk factors, bleeding risk, and patient preference. At diagnosis, long-term risk of recurrence is often uncertain, underscoring the importance of timely reassessment by a clinician experienced in DVT management.

This study highlights the consequences of an unstructured follow-up pathway. Inconsistent documentation and lack of reassessment led to variable treatment durations and discrepancies between hospital and GP records.

Notably, many patients without identifiable risk factors were discharged with only 3 months of anticoagulation. Given recurrence rates of up to 36% at 10 years, this group requires review to discuss the benefits of extended therapy—especially considering the low bleeding complication rates observed.[3] In contrast, some patients with clearly transient risk factors remained on DOACs beyond the 3-month period, unnecessarily increasing bleeding risk. Patients reviewed in secondary care uniformly had anticoagulation extended, while several without follow up experienced potentially preventable recurrences.

Conclusion

A standardized follow-up pathway is needed to support shared decision-making and ensure safe, consistent and individualised anticoagulation management. Further research should assess the impact of such frameworks on long-term outcomes.

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Evaluating Modified Early Warning Score Compliance to Minimize Unnecessary ICU Admissions: A Needs Assessment for Quality Improvement Implementation in Resource-limited settings.

ICU Beds in LMICs= 0.7/100,000 population.

MEWS predicts deterioration but 65.8% Non-compliance in triaging

Does MEWS compliance reduce mortality in LMIC ICUs, and why do 2/3 of admissions bypass protocols?

Descriptive Cross-Sectional =120 Patients

Consecutive Sampling

- ICU Logs
- Patient Medical Records
- Hospital Databases

Key Results

1

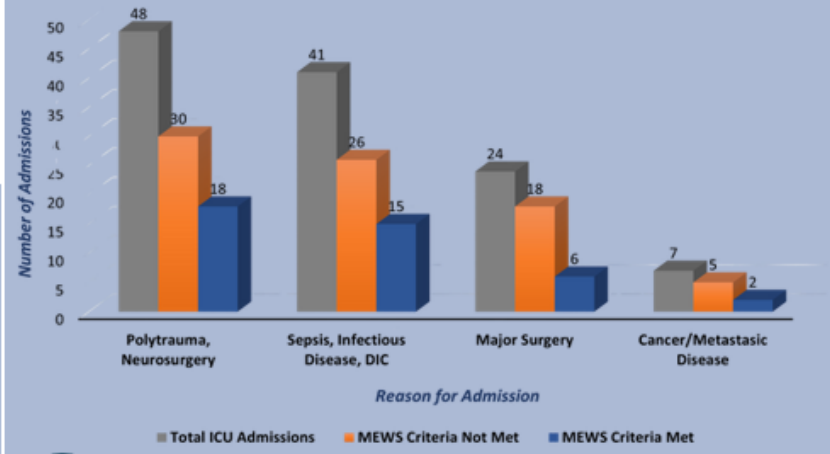
34.2% compliant (41/120 patients) vs.

65.8% non-compliant (79/120).

Compliant Group: 26 deaths (OR 0.247)

Non-compliant: 22 deaths

2 Departmental Non-Compliance



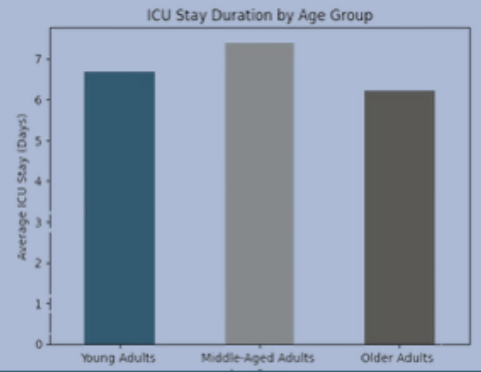
3 Age ≠ Priority:

Disease severity > chronological age

Key Drivers of Non-Compliance

Physician Reliance on Clinical judgment in trauma/surgery

Lack of step-down units (HDUs)



Quality Improvement Triad Needed

- Digital Integration
- Simulation Drills
- Specialty-Specific Modifiers

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Compliance with RCP Standards in Medical Documentation: A Retrospective Audit at UHW

GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol Caerdydd a'r Fro
Cardiff and Vale University Health Board

Authors: Maryam Pervez and Hina Bahadar (Both contributed equally)

Supervised by: Dr. Amlan Bhattacharya

Introduction

Effective medical documentation is essential for patient safety, quality of care, and compliance with information governance. This study investigates whether clinicians at University Hospital Wales (UHW) adhere to Royal College of Physicians (RCP) standards in medical documentation.

Aims & Objectives

- To introduce posters to raise awareness for all healthcare professionals and to remind clinicians of the significance of precise recordkeeping.
- improved documentation facilitates better communication among clinicians, ensuring patient safety, and helps the institution meet legal and professional standards.
- The goal is to adhere to GMC and RCP guidelines when it comes to patient medical data.

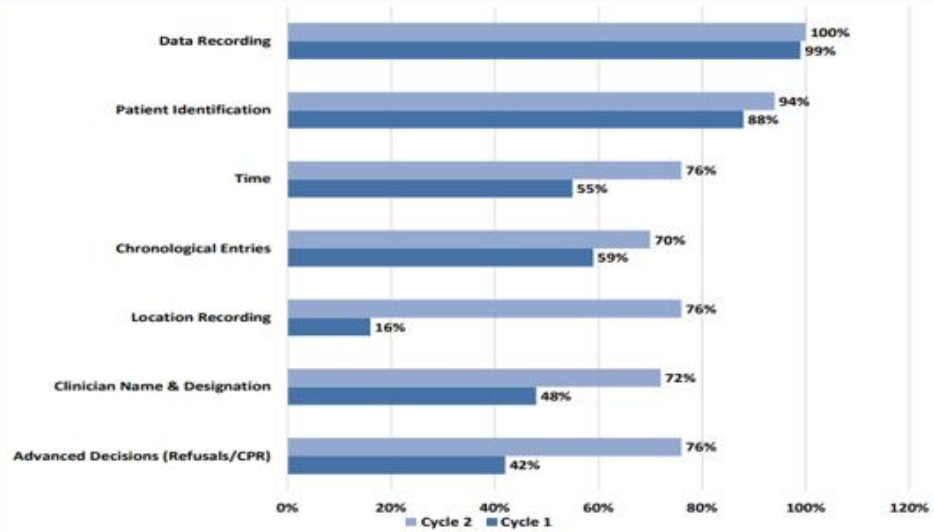
.

Methods

The medical records of 200 patients were investigated in retrospective audit 1st cycle during morning ward rounds in wards A1 North and A1 South in UHW between October 10th and November 9, 2024.The audit aimed to evaluate adherence to important RCP recommendations and exclusion criteria was new patients whose notes were recorded on the same day. The second cycle of audit, which was conducted between 5th to 20th March 2025 and which showed significant improvement in all documentation areas the following the implementation of recommendations.

Results

Comparison of Documentation Compliance: 1st vs. 2nd Cycle Audit



Overall Improvement: Significant gains across all key documentation criteria after implementing recommendations

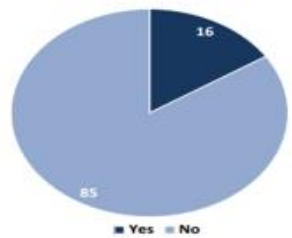


Figure1. A pie chart show the location recording in 1st cycle

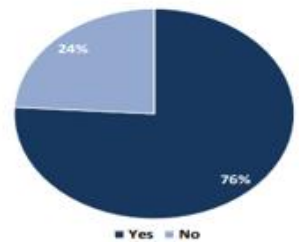


Figure 2. A pie chart illustrates how location recording has improved in 2nd cycle after the recommendations

Conclusion

The audit highlights deficiencies in the medical documentation practices at UHW. This showed obvious need for betterment, specifically in time and location recording and confirming that all entries include the responsible clinician details. We recommend implementing educational initiatives for clinical staff, reinforcing documentation training during teaching rounds and increasing awareness through departmental forums. Furthermore, continuous observing and compliance with best practices will be essential in promoting a culture of accountability and enhancing overall patient care.

Future Plan of Action

- We would attain nearly 100% compliance with medical documentation with continued training and awareness initiatives.
- Frequent audits will assist in tracking advancements and highlighting areas in need of more development.
- Maintaining high standards requires consistent work and team participation. All things considered, we expect a considerable improvement in the completeness and quality of documentation.

References

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Reducing Unnecessary Blood Tests in the Elderly Care: A Quality Improvement Project

Dr Anavi Prakash,[1] Dr Theik Oo,[1] Dr Soe Aye,[1] Dr Carmen Carroll,[1] Dr Jonathan Cullis[1]
[1]Salisbury District Hospital

Salisbury NHS Foundation Trust

Background

- Excessive blood testing is a widespread phenomenon in geriatric medicine, which is associated with numerous disadvantages.[1]
- Examples include bruising, infection, disrupted sleep, negative environment impact from single use materials, overdiagnosis leading to longer hospital stays, and acquired anaemia due to frequent blood tests during an extended admission.[2]
- Efforts to reduce unnecessary blood tests are often obstructed by clinician habit, institutional culture and a fear of complaints.[2]

Methods

- Data was collected over 14 days from the laboratory, which included the number of blood tests and sets ordered. The blood test and sets requests were reviewed and the number of tests with a sufficient justification was counted.
- An educational infographic was created and widely displayed on the elderly care ward and presented at a departmental meeting. (Figure 1).
- Following these interventions the same data was collected over a second period of 14 days and compared with the first cycle using unpaired t-tests.

Figure 1

Aims

1. Reduction in unnecessary blood requests for elderly care patients
2. Reduction in unnecessary sets ordered per blood test for elderly care patients
3. Improvement in indications provided for each blood test

Results

- Data was collected from 40 patients in the pre-intervention cycle as well as the post-intervention cycle. Five patients were included in both cycles of the QIP due to their extended hospital stays.
- In the first cycle, **158** blood tests were performed, with **914** sets ordered within these tests. In the second cycle, **169** tests with **907** sets were ordered.
- Although there was no significant reduction in the absolute number of blood tests and sets ordered, the number of targeted blood tests containing one set only increased from **4 to 13** (p=0.01).
- The number of sets with a sufficient justification provided by the requesting clinician also increased from **50 to 94**, but this was not statistically significant (p=0.2).

Conclusions

- This project demonstrated high levels of blood testing seen in geriatric medicine.
- Although the intervention **failed to achieve a reduction in the number of blood tests performed**, the significant **increase in the number of single test orders suggests that these were more specific and targeted**.
- There was an **improvement in the justification of tests**, suggesting that clinicians were considering the necessity of the tests prior to requesting.
- Although this QIP was performed over a short period, the **intervention may have resulted in some behavioural changes in clinicians requesting blood tests.**
- Further educational interventions and continuous reminders will be required to overcome clinician habits and achieve a meaningful reduction in unnecessary blood tests in elderly care.

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NHS
Croydon Health Services
NHS Trust

Doctors' perspectives of the suggested key shifts in NHS healthcare delivery

Dr Angharad Flower FY2, Dr Chloe Doan ST5 Geriatric Medicine, Dr Chris Bell Consultant in Community Geriatrics

Introduction

Lord Darzi's independent investigation into the NHS in England was published in September 2024 and found that the health service is in a "critical condition".[1] The government will be publishing its 10-year health plan in spring 2025 to address this. It will centre around three key shifts in healthcare delivery:

1. Moving more care from hospitals to communities
2. Making better use of technology
3. Focusing on preventing sickness.[2]

Methods

We designed an online survey to assess doctors' perspectives on the proposed shifts in healthcare delivery to identify any key areas of training and development needed to fulfil these changes. We distributed the survey amongst doctors across all grades in Southwest London using snowballing sampling over a one-month period.[3]

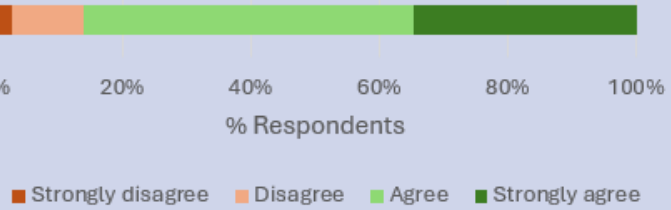

Figure 1: Do respondents agree with the planned shift of more NHS care from hospitals to community settings?

References

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3. Naderifar M, Goli H, Ghaljaie F. Snowball Sampling: A Purposeful Method of Sampling in Qualitative Research. *Strides in Development of Medical Education* 2017;14(3).
4. NHS England annual report and accounts 2023 to 2024 » Appendices. 2024. https://www.england.nhs.uk/long-read/annual-reaport-23-24-appendices/ [Accessed 21 March 2025].

Results and discussion

We received 72 responses from doctors across a range of hospital (85%) and community specialties (15%). Of the respondents 46% were consultants and 54% were resident doctors across different grades. 86% of doctors who responded agreed with the proposed shift away from hospital care to more provision in the community (figure 1). Respondents said that the top challenges in delivering more care in the community were insufficient funding (76%) and lack of community workforce (67%). Only 38% of respondents feel adequately trained to support community-based care and 33% have had no training at all in community medicine. Respondents said they would benefit from dedicated full time community placements during rotational training and many reported poor understanding of the role of community services.

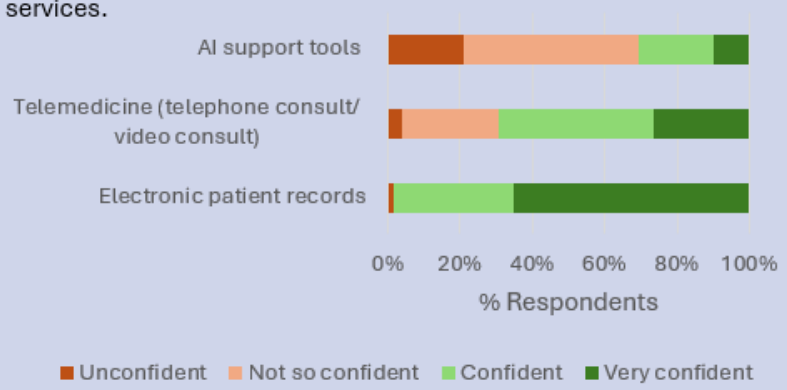


Figure 2: How confident are respondents using digital healthcare tools?

Reassuringly, 99% of respondents are confident using electronic patient records and most (70%) felt confident with telemedicine (figure 2). This reflects the current use of digital tools in clinical practice with 98% of respondents using electronic patient records (nationwide, at least 90% of NHS Trusts have electronic patient records).[4] However, only 30% of respondents are confident using AI support tools (figure 2). The biggest barriers to digital change identified were poor IT infrastructure (81%) and lack of joined up IT systems (80%). There were a wide range of comments about frustrations with the current IT systems.

65% of respondents regularly incorporate prevention-focused interventions into patient care. The biggest barriers to including prevention in routine clinical practice were lack of time during consultations (72%), lack of access to preventative services (57%) and low patient engagement/motivation (50%). Respondents think that the key areas that should be prioritised for future training and development are prevention and public health interventions (72%), delivering community-based care (69%) and digital skills and AI in healthcare (51%).

Conclusion

There was general consensus from respondents with the proposed shifts towards more community-based healthcare delivery, making better use of technology and focusing on prevention. However, to support these shifts we need to consider the training needs of doctors, including developing systems literacy in community services and dedicated full time community rotations. Additionally, we need infrastructure to allow joined up technology and reconfiguration of clinical models to facilitate a stronger focus on prevention.

"Better integration between hospitals and primary care"
"Focus on preventative medicine instead of being so reactive. Training staff to take risks of managing patient in community. "
"More defined scope of community practice, better understanding of role of community medicine, bigger community workforce, more training in community medicine"

Figure 3: Quotes from respondents suggesting areas for NHS workforce to focus on to align with future health needs.

A NOVEL APPROACH IN MANAGING IDIOPATHIC GASTROPARESIS: A QUALITY IMPROVEMENT PROJECT

Dr Anisha Roy[1], Dr Rachel Perry[2], Dr Melanie Lockett[3], Dr Susanna Meade[3], Miss Bridie Watson[4]

Gastroenterology Department, North Bristol NHS Trust(1,3)
Gastroenterology Department, United Lincolnshire Teaching Hospitals NHS Trust(2)
Dietetic Department, North Bristol NHS Trust(4)

INTRODUCTION:

- Idiopathic gastroparesis(IG) is delayed emptying without mechanical obstruction. (1)
- Between 2018-2019, we collected data on consecutive patients with IG presenting to North Bristol Trust. Significant service use and a high psychological burden were identified. Consequently, the IG pathway was designed involving MDT referral to dietitians, psychologists, and the pain team.
- A re-audit was planned to assess the effectiveness of the pathway.

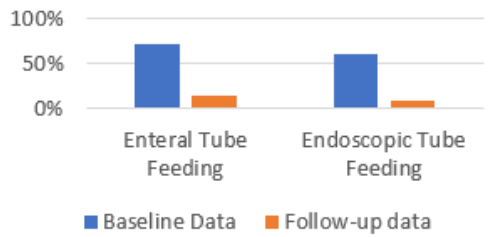
METHODS

We performed a retrospective review between 31/05/2022 and 1/06/2023. Data collected included patient demographics, past medical and psychiatric history, gastrointestinal investigations before and after diagnosis, referral rates to the -MDT, local emergency and elective admissions for the same indication, and cumulative length of stay.

RESULTS

- **Data were collected on 13 patients and compared with the prior cohort**

Comparison of tube feeding



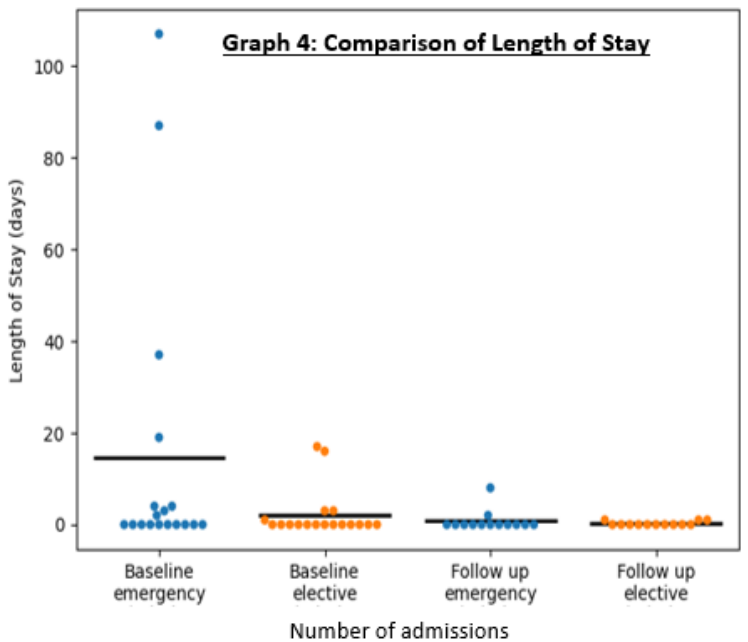
Mean number of admissions

Comparison of mean IR tube insertions

Table 1:Baseline characteristics

Baseline variables	Baseline data(n=18)	Follow-up data(n=13)
Average Age (years)	27	33
Female sex predilection	92%	94%
Psychiatric co-morbidity(n,%)	15(69)	6(46)
Dietetic referral (n,%)	16(89)	13(100)
Psychology referral(n,%)	2(11)	9(69)
MDT discussion	0/18(0)	13/13(100)
Radiological investigations (n,mean)	27(1.5)	0(0)

Graph 4: Comparison of Length of Stay



CONCLUSION

Early access to the MDT was associated with a reduction in rates of admission, length of stay, radiation exposure, and invasive tube-related procedures. Tube feeding can be associated with iatrogenic harm and may not improve symptoms. We have demonstrated that early MDT involvement with holistic care plans was associated with a reduction in the need for tube feeding and related medical interventions.

Title: Systemic Immune-Inflammation Index (SII) vs. Neutrophil-to-Lymphocyte Ratio (NLR): Evaluating the Predictive Power of SII and NLR in severity of Acute Ischemic Stroke based on NIHSS Score

Authors List: Hassan, Arbaz; Hamza, Anfal; Khan, Kiran; Shafique, Aiza; Naz, Faiza; Riaz, Rameen; Shabbir, Fazeel; Babar, Muhammad Zafar Majeed; Saleem, Muhammad; Ahsan, Hafiz Haseeb; Mustafa, Ghulam; Amjad, Hafiz Muhammad Usama

Introduction:

Stroke ranks third in terms of its combined impact on mortality and disability. Ischemic strokes account for approximately 87% of all strokes and occur due to blood vessel blockage. Previous studies have found higher NLRs to be associated with post-stroke complications.

Objectives:

- Evaluating the predictive power of NLR and SII in Ischemic Stroke patients stratified on the basis of NIHSS Score
- Assessing the reliability of markers such as SII and NLR in clinical settings

Materials and Methods:

- 159 Patients of Acute Ischemic Stroke stratified into two groups:
  - Mild Stroke(NIHSS≤8)
  - severe stroke (NIHSS>8)
- Data was not normally distributed; we calculated:
  - Median
  - Inter-quartile Range (IQR)
- Threshold for statistical significance (p-value <0.05)

ROC Curve Analysis (To assess the diagnostic accuracies)	Spearman's Correlation (To assess the relationship between two)
•SII •NLR	•SII and NIHSS •NLR and NIHSS

Results:

- 159 Patients: 107 (67%) male and 52 (33%) females
- Prevalent Comorbid Conditions (Fig.4):
  - Hypertension (76%)
  - Diabetes Mellitus (41%)
  - family history (32%)
  - Ischemic Heart Disease (25%)
- Median and IQR:
  - SII = 7.83×10^5(3.79×10^5 -1.38×10^6)
  - NLR = 3.75(2.18-6.83)

Key Findings:

- ROC Analysis (AUC) (Fig. 1,2)
  - SII: 0.634 (95% CI: 0.530–0.738, p = 0.033)
  - NLR: 0.499 (95% CI: 0.352–0.646, p = 0.993)
- Spearman's Correlation (Fig.3)
  - SII with NIHSS: (ρ = 0.212, p = 0.007)
  - NLR with NIHSS: (ρ = 0.170, p = 0.032).

Figures:

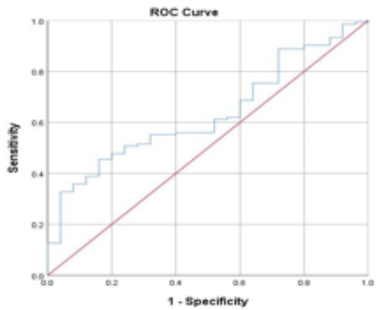


Fig.1: ROC of SII

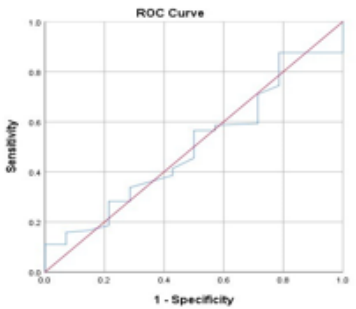


Fig.2: ROC of NLR

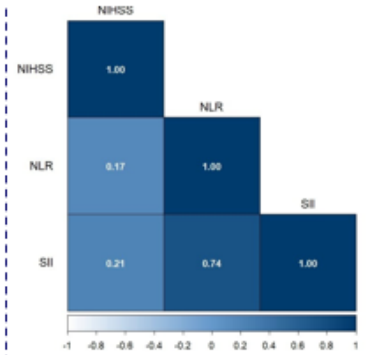


Fig.3: Spearman's Correlation

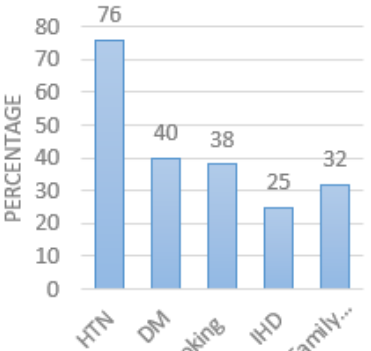


Fig.4: Co-morbid Conditions

Conclusion

- Predictive Power ⇒ SII > NLR
- Correlation With NIHSS ⇒ SII > NLR

Dreaming of a good night's sleep
- A Quality Improvement Project on Improving Length and Quality of Sleep in Hospitals

Dr Arbi Hasanaj (Croydon University Hospital [CUH], South-West London Foundation School), Dr Emma Turner (South-East London Foundation School), Dr Matthew Wateridge (Gold Coast University), Dr Jas Virdee (CUH)

1. Background

In hospitals, environmental factors such as noise from alarms, frequent medical checks, and disturbances from staff and patients can cause sleep disturbances. Poor sleep in hospital may be linked to delayed recovery and impact the length of stay.

This study examines the implementation and effectiveness of a new structured sleep intervention, termed 'SLEEP' (Silencing machines, Lights off at 11 pm, Eye masks, Ear plugs, and Promoting sleep hygiene), in enhancing sleep duration and quality.

2. Objectives

The study aimed to assess whether structured sleep interventions could increase sleep duration and quality in hospitalised patients.

It measured changes in sleep duration before and after intervention, time taken to fall asleep, and frequency of nighttime waking.

3. Methods

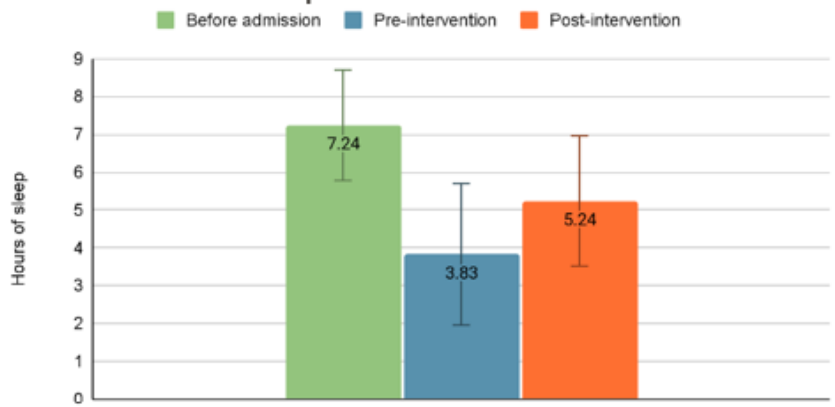
The study was conducted across three hospital wards: surgical, gastro/general medicine, and geriatric. Patients were surveyed using online questionnaires about their sleep patterns at three stages: before hospital admission (at home), in hospital before the intervention and in hospital after the intervention. The intervention was rolled out through posters, staff training, and the distribution of sleep aids across the three hospital wards. A total of 29 responses were collected across several days on the second cycle where SLEEP was developed and implemented. Statistical analysis was performed to compare mean sleep duration before and after intervention, with significance set at $p < 0.05$.

Sleep poster on wards

4. Results

Prior to the intervention, hospital sleep length was reduced by 3 hours and 25 minutes compared to at home. Following the intervention, sleep duration in hospital increased by 1 hour and 25 minutes ($p < 0.05$). An additional finding was that patients fell asleep 33 minutes faster post-intervention compared to pre-intervention.

Average hours of sleep before admission vs after admission pre- and post intervention



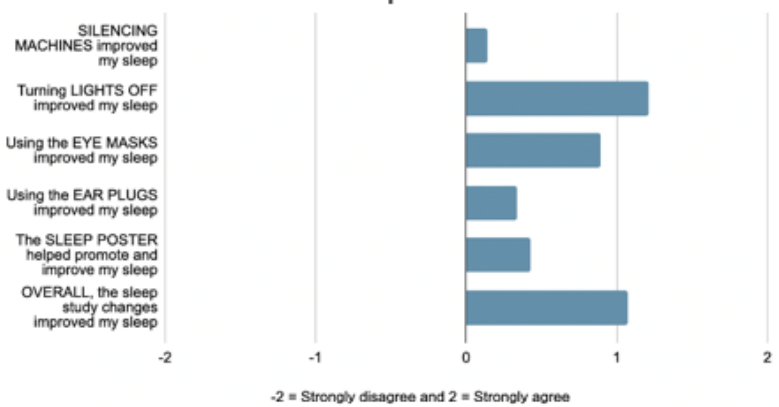
5. Limitations

- Frequent awakenings persisted due to noise from staff activities and disruptive patients
- Silencing machines was challenging due to medical needs.
- There was mixed feedback on sleep aids: earplugs effectively blocked noise but were uncomfortable, eye masks were of poor quality.

6. Conclusion

The sleep intervention led to a significant increase in patient sleep duration. Challenges remain in fully optimising sleep quality in the hospital setting. Future cycles should explore further strategies to minimise disruptions, improve the comfort of sleep aids, and increase staff awareness of sleep-promoting practices to shorten hospital stays and increase patient well-being.

Overall impact of each intervention

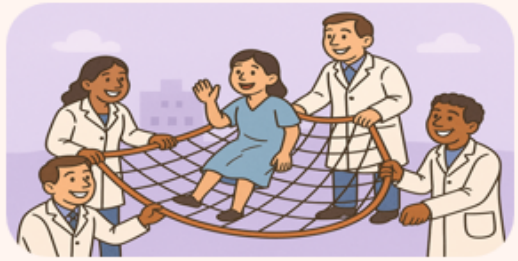


From Uncertainty to Confidence
Improving Safety Netting in Discharge Summaries

A Quality Improvement Project

02/06/2025 - 03/06/2025

Introduction



Background

Safety netting is a **vital component of safe patient discharge**, ensuring patients understand red flag symptoms, when to seek help, and what to expect from their condition. Despite its importance, safety netting in discharge summaries is often inconsistent, vague, or missed entirely—frequently due to time pressures and a lack of confidence[1]. Doctors often feel **uncertain, underprepared,** and concerned about **medico-legal** risk when providing safety netting advice.

This Quality Improvement Project (QIP) aimed to tackle these issues with a **simple, structured, and scalable intervention** to standardise safety netting across common presentations.

Objectives

1. **Standardise** the quality, clarity, and consistency of safety netting advice in discharge summaries
2. **Improve** junior doctor confidence and peace of mind
3. **Reduce** time spent drafting or rewording safety netting
4. **Minimise** variability in discharge documentation

Research

Methodology

Cycle 1: Baseline Assessment

- ➔ Surveyed doctors on confidence, satisfaction, and perceived safety when giving safety netting advice.
- ➔ Evaluated the anticipated benefits of a standardised template for patient safety, time-saving, and documentation quality.
- ➔ Collected feedback on common challenges: inconsistency, time pressure, and fear of missing red flags.

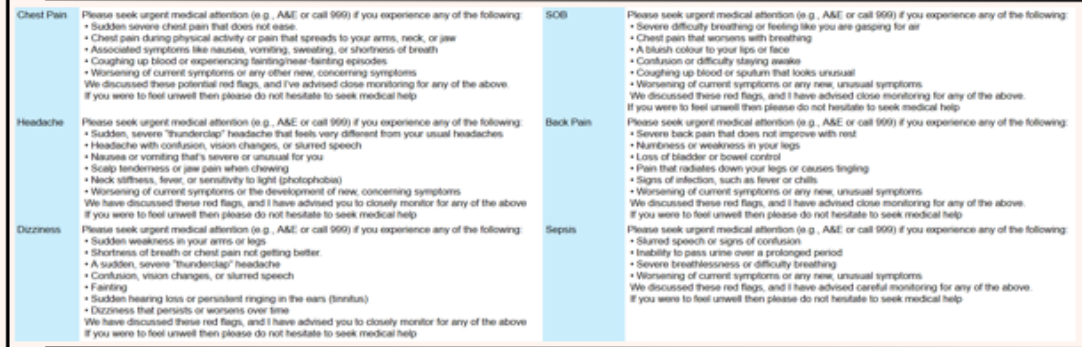
Intervention:

- ➔ Creation of a standardised safety netting template for 12 common presentations[2]
  - e.g.chest pain, seizures, dizziness, SOB, hyperglycaemia
- ➔ Template hosted at tinyurl.com/GPAUSN for easy copy-paste use

Cycle 2 (Post-Intervention):

- ➔ Repeat survey evaluating changes in:
  - Confidence
  - Satisfaction & peace of mind
  - Time efficiency in discharge summaries

Fig 1. QR code linking to the Safety Netting Template Hub



Chest Pain	Please seek urgent medical attention (e.g., A&E or call 999) if you experience any of the following: • Sudden severe chest pain that does not ease • Chest pain during physical activity or pain that spreads to your arms, neck, or jaw • Associated symptoms like nausea, vomiting, sweating, or shortness of breath • Coughing up blood or experiencing fainting/near-fainting episodes • Worsening of current symptoms or any other new, concerning symptoms We discussed these potential red flags, and I've advised close monitoring for any of the above. If you were to feel unwell then please do not hesitate to seek medical help
Headache	Please seek urgent medical attention (e.g., A&E or call 999) if you experience any of the following: • Sudden, severe "thunderclap" headache that feels very different from your usual headaches • Headache with confusion, vision changes, or slurred speech • Nausea or vomiting that's severe or unusual for you • Scalp tenderness or jaw pain when chewing • Neck stiffness, fever, or sensitivity to light (photophobia) • Worsening of current symptoms or the development of new, concerning symptoms We have discussed these red flags, and I have advised you to closely monitor for any of the above If you were to feel unwell then please do not hesitate to seek medical help
Dizziness	Please seek urgent medical attention (e.g., A&E or call 999) if you experience any of the following: • Sudden weakness in your arms or legs • Shortness of breath or chest pain not getting better • A sudden, severe "thunderclap" headache • Confusion, vision changes, or slurred speech • Fainting • Sudden hearing loss or persistent ringing in the ears (tinnitus) • Dizziness that persists or worsens over time We have discussed these red flags, and I have advised you to closely monitor for any of the above If you were to feel unwell then please do not hesitate to seek medical help
SOB	Please seek urgent medical attention (e.g., A&E or call 999) if you experience any of the following: • Severe difficulty breathing or feeling like you are gasping for air • Chest pain that worsens with breathing • A bluish colour to your lips or face • Confusion or difficulty staying awake • Coughing up blood or sputum that looks unusual • Worsening of current symptoms or any new, unusual symptoms We discussed these red flags, and I have advised close monitoring for any of the above. If you were to feel unwell then please do not hesitate to seek medical help
Back Pain	Please seek urgent medical attention (e.g., A&E or call 999) if you experience any of the following: • Severe back pain that does not improve with rest • Numbness or weakness in your legs • Loss of bladder or bowel control • Pain that radiates down your legs or causes tingling • Signs of infection, such as fever or chills • Worsening of current symptoms or any new, unusual symptoms We discussed these red flags, and I have advised close monitoring for any of the above. If you were to feel unwell then please do not hesitate to seek medical help
Sepsis	Please seek urgent medical attention (e.g., A&E or call 999) if you experience any of the following: • Slurred speech or signs of confusion • Inability to pass urine over a prolonged period • Severe breathlessness or difficulty breathing • Worsening of current symptoms or any new, unusual symptoms We discussed these red flags, and I have advised careful monitoring for any of the above. If you were to feel unwell then please do not hesitate to seek medical help

Fig 2. Screenshot of the safety netting template hub (tinyurl.com/GPAUSN. Showing some of the common conditions covered. SOB (Shortness of Breath)

Results (Post Intervention)

- ➔ **Confidence in Safety Netting**
  - 85% of doctors rated their confidence as 5/5
  - Reported reduced uncertainty and fewer omissions of red flag advice
- ➔ **Professional Satisfaction**
  - 71% rated satisfaction as 5/5
  - Cited improved structure and consistency in discharge summaries
- ➔ **Time Efficiency**
  - 86% rated the template as saving time (5/5)
  - Described as "a massive time-saver" and useful during busy ward rounds
- ➔ **Qualitative Feedback**
  - "I use it daily now. I know I'm not forgetting anything."
  - "It's helped me discharge patients faster and more safely."

Conclusion

Discussion

Standardising safety netting advice in discharge summaries proved to be a **low-cost, high-impact intervention.** The introduction of structured templates significantly improved junior doctors' confidence, reduced the time burden of discharge documentation, and enhanced the clarity and consistency of safety netting advice. Doctors found the templates easy to adopt and appreciated how they supported **safer, more efficient communication with patients.**

This project demonstrates how small, well-targeted interventions can address a common pain point in clinical care and create tangible improvements. The success of the templates highlights their potential for scale-up across other specialties and trusts. This single-page, freely accessible tool has shown that **small changes can create meaningful, system-wide improvements** in patient safety.

Future Considerations

- ➔ Expand templates to cover more presenting complaints and specialties
- ➔ Collaborate with IT to integrate drop-down options in electronic discharge summaries
- ➔ Promote a culture of safety netting by creating hospital-wide campaigns to raise awareness and encourage use of the template

References

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2. Jones D et al., Safety netting for primary care: evidence from a literature review. Br J Gen Pract. 2019;69(678):e70-e79. doi:10.3399/bjgp18X700193

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Dr Ashveer Ramlugan

Spectrum of Anaemia in Rheumatic Diseases and the Involvement of Rheumatologists in its Management – A Single Centre Study

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[1]Basildon University Hospital, Basildon, United Kingdom, [2]Anglia Ruskin University, East Anglia, United Kingdom

Mid and South Essex NHS Foundation Trust

Background: Anaemia is a common condition observed in inflammatory rheumatic diseases. The presence of anaemia negatively influences a patient's physical activity and might aggravate the severity of symptoms of the underlying inflammatory disease[1]. The **diverse aetiology of the anaemia** may be attributed to the underlying disease activity therefore may be neglected to be investigated and treated thoroughly. Historically anaemia of inflammation is a more common cause of anaemia in rheumatic diseases; however, a **UK study found iron deficiency anaemia (IDA) to be more common** in their cohort of patients with rheumatoid arthritis (RA)[2] .

Objectives: Our aim was to **determine the spectrum of anaemia** observed in our cohort of rheumatology patients. We looked into whether appropriate relevant investigations were organised and analysed the extent of the involvement of the rheumatology team in the management of anaemia.

Methods: This is a **retrospective observational** study from a single centre, Basildon University Hospital, England UK. We identified patients under the care of the rheumatology department who are anaemic from January 2024 until September 2024. Exclusion criteria were patients who developed anaemia before the diagnosis of their rheumatic diseases. Data on diagnoses, medications, co-morbidities, disease activity and investigations were collected via hospital database. The involvement of the rheumatologists was determined based on the electronic documentations. We recorded the eventual diagnosis for the anaemia and its management.

Results: 248 rheumatology patients were identified to be anaemic in the time period. 148 were excluded as they had existing anaemia well before the diagnosis of their rheumatic diseases. **100 patients were included** in the study. 84% were female; with average age of 63.7 (youngest 22 and oldest 92).

Result (2): 66% have the diagnoses of inflammatory arthritis, 21% connective tissue diseases (CTD), 2% vasculitis; and 11% others including polymyalgia rheumatica, adult onset Still's disease, sarcoidosis and non-inflammatory rheumatic diseases. The mean duration to develop anaemia was 63.5 months (range from 1 month to 291 months). The average haemoglobin level was 101.44 g/L at the time of the anaemia diagnosis (normal range 115-165 g/L for female; 130-180 g/L for male).

The spectrum of anaemia and eventual diagnoses are elaborated in Table 1.0. Note 60% received a diagnosis for the anaemia; 40% did not.

The **commonest anaemia in our cohort is iron deficiency anaemia** (IDA) at 38%. Dissecting the IDAs, 53% were documented to have active disease at the time of anaemia diagnosis; 45% inactive disease; 2% not documented. 47% of the IDAs were diagnosed by rheumatology. 98% were treated accordingly for the IDA. Across all 60 cases that received a diagnosis, 22 cases were by the rheumatology team.

Table 1.0 Spectrum of anaemia and the eventual diagnosis

Microcytic	Normocytic	Macrocytic
24 cases • 17 IDAs • 1 ACD • 6 no diagnosis	69 cases • 21 IDAs • 8 bleeds and post-operative anaemia • 2 ACD • 1 B12-deficiency • 2 chronic renal disease related • 4 disease activity related • 31 no diagnosis	7 cases • 2 B12-deficiency • 1 ACD • 1 medication related • 3 no diagnosis

IDA – iron deficiency anaemia, ACD- anaemia of chronic diseases

Results (3): In terms of the rheumatologists' involvement in the investigations, they **acted in 58%** of those cases – 49 cases where they had written to primary care general practitioners (GPs) to either acknowledge the anaemia, arrange further investigations, offer a diagnosis, ask for primary care to investigate further or ask for initiation of anaemia treatment. In 9 cases, they generated a referral to other specialists including gastroenterology and haematology. **42% cases were not acted** on by the rheumatologists.

Conclusion:

Our study demonstrated the **commonest anaemia** in our cohort of patients is **normocytic anaemia** in nature. **IDA** was the commonest reason for the anaemia across those with microcytic and normocytic anaemias. Anaemia of chronic diseases (ACD) was minimally observed in our cohort . None of the ACD was diagnosed by the rheumatologists.

Our study confirmed we must not assume the anaemia in rheumatic diseases to be attributed to anaemia of inflammation without evidence and thorough investigations. In terms of the involvement of the rheumatologists in management of the anaemia, the rheumatologists did not act in 42% of the cases. We suggest vigilance in investigating anaemia in rheumatic diseases and raise the need for recommendations and guidelines in approaching such complex yet common condition in our patients with rheumatic diseases.

References:

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Continuity of care and follow-up duration in interstitial lung diseases outpatient clinics

Asmaa Ghonim
Watford General Hospital

INTRODUCTION

- Continuity of care (CoC) implies the delivery of services in a coherent, logical, and timely manner.
- In outpatient settings, seeing the same physician in follow-up clinics ensures familiarity with patient history, leading to more efficient and effective care

- This audit aims to assess whether patients followed up with the same physician and whether the duration between follow-ups adhered to recommended standards.

METHOD

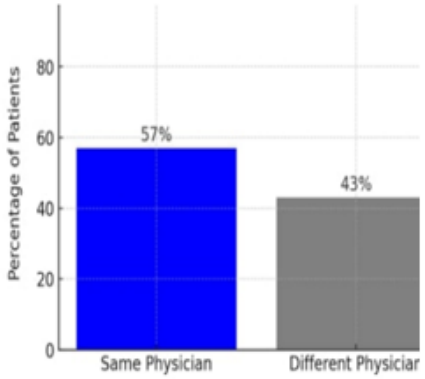
- A retrospective audit was conducted in the ILD outpatient clinic by randomly selecting patients over a three-month period.
- Inclusion criteria included patients requiring follow-up for interstitial lung diseases.
- Data were extracted from electronic health records, focusing on:

-Whether patients saw the same physician for follow-up.
-The duration between follow-up visits.
-Compliance with recommendations of continuity of care.

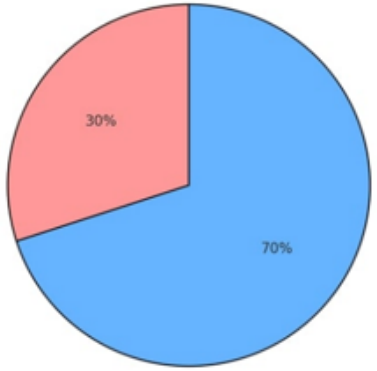
RESULTS

- A total of 62 patients were included in the audit.
- Key findings included:

-57% of patients were seen by the same physician in follow-up clinics.
-70% of patients were followed up without delay.
-The average follow-up duration was 3–6 months and up to 9 months in non-urgent cases, aligning with clinical guidelines.



(Figure 1: percentage of patients with consistent physician follow-ups)



(Figure 2: Distribution of follow-up intervals)

DISCUSSION

- Continuity of care is considered a vital part of modern healthcare provision and is included as an indicator of quality of care in national health policy in the United Kingdom and internationally.(2)(3)
- The continuity of patient care, where care is both coherent over time and across settings, is a critical feature to ensure high-quality outcome (4). The findings suggest good adherence to recommendations of continuity of care in outpatient follow-ups.(1)
- Ensuring that patients consistently see the same physician can improve
- Communication and fluency of clinical decision-making.
- The audit highlights the effectiveness of current practices in maintaining continuity.
- Potential areas for improvement include further optimizing clinic scheduling systems to maintain high adherence rates.
- Future audits could explore patient perspectives on continuity and the challenges of maintaining consistent follow-up with the same physician.(3)

CONCLUSION

This audit confirms that ILD outpatient clinics generally follow recommendations for continuity of care and follow-up duration. Further efforts should focus on sustaining and enhancing adherence to these guidelines to support efficient patient management.

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Intravascular Epithelioid Haemangioma Mimicking Eosinophilic Granulomatosis with Polyangiitis: A Rare Diagnostic Dilemma

Dr Athira Warrier, Dr Victoria Bardsley, Dr Kevin W. Loudon
Addenbrookes Hospital, Cambridge University Hospitals NHS FT

INTRODUCTION

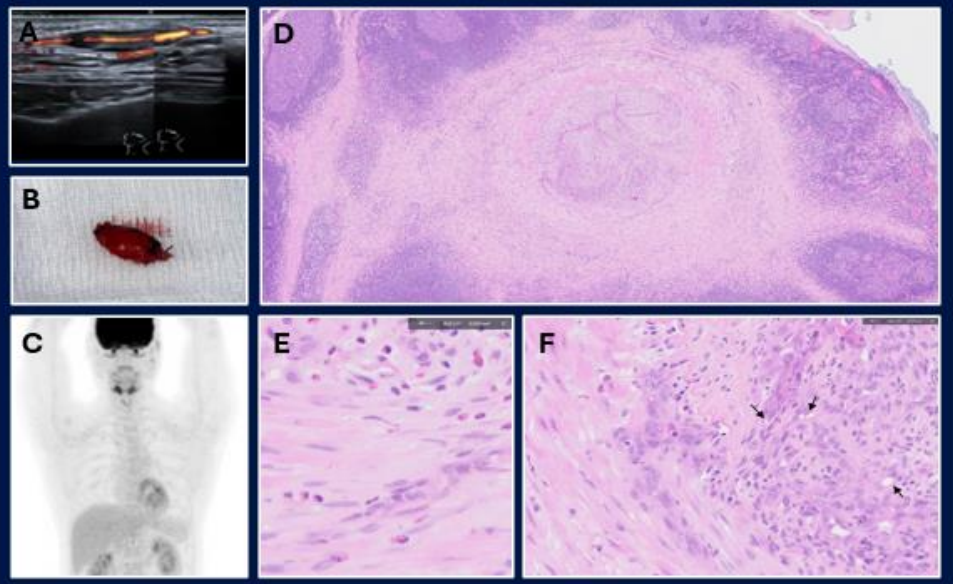
Distinguishing between benign and inflammatory vascular disorders can be particularly difficult when clinical and laboratory findings overlap. One such challenge lies in differentiating Epithelioid Haemangioma (EH)—a rare, benign vascular tumour that typically affects the head and neck, involving the skin and small vessels [1]—from eosinophilic granulomatosis with polyangiitis (EGPA), a rare but potentially life-threatening small-vessel vasculitis. EGPA often presents with asthma, sinusitis, and peripheral eosinophilia, features that may also be seen in EH. Notably, both conditions can exhibit marked eosinophilic infiltration [2]. Misdiagnosis of EH as EGPA may result in the initiation of unnecessary and potentially harmful immunosuppressive therapy.

CASE

- 44-year-old Caucasian male with a history of well-controlled asthma, eczema, and recurrent sinusitis.
- Presented with a tender swelling over the LEFT temple.
- He was noted to be hypertensive.

INITIAL INVESTIGATIONS

- Peripheral eosinophilia was noted (0.62×10^9/L) with weak positivity for p-ANCA and ANA.
- Inflammatory markers (ESR, CRP) were within normal limits.
- Renal function was normal, with bland urinary sediment.
- Doppler ultrasound of the swelling revealed a pseudoaneurysm of the left temporal artery.
- CT aorta showed no evidence of medium or large vessel involvement.
- Other causes of eosinophilia, including parasitic infections, were excluded.
- PET-CT demonstrated no signs of medium or large vessel vasculitis.



A Temporal artery pseudoaneurysm on Doppler. **B** Excised left temporal artery pseudoaneurysm. **C** PET-CT showing no evidence of metabolically active vasculitis. **D** Temporal artery with near-occlusive intimal thickening, intra-mural and periarterial inflammation (eosinophil-rich) and periarterial lymphoid tissue. **E** Eosinophils infiltrating arterial media. **F** Epithelioid endothelial proliferation within the intima. Intracytoplasmic lumina appear as vacuoles (black arrows).

HISTOLOGY

- Temporal artery with surrounding lymphoid tissue including reactive follicles. Eosinophil-rich inflammation present in adventitia and extending into arterial media and intima
- Marked, near-occlusive arterial intimal thickening containing an endothelial proliferation (CD31 and ERG positive), characterised by an **epithelioid morphology and intracytoplasmic vacuoles – consistent with a predominantly intravascular variant of Epithelioid Haemangioma (EH)**
- Fragmentation of the internal elastic lamina and minor extension of the endothelial proliferation into the media
- No vascular necrosis, no granulomas
- Tertiary opinion sought from Dr Eduardo Calonje, St Johns Institute Dermatology: diagnosis of intravascular EH confirmed

FOLLOW-UP

- EH is a benign vascular tumour typically managed with surgical excision, so no additional treatment was necessary. At 12 months, the patient remained asymptomatic, with complete resolution of eosinophilia.

CONCLUSION

Purely intravascular Epithelioid Haemangioma (EH) is an exceptionally rare entity, with only a limited number of cases documented in the literature [6-7]. This case presented a unique diagnostic challenge due to overlapping clinical features with EGPA. The definitive diagnosis hinged on the histopathological findings, particularly the identification of the characteristic epithelioid, vacuolated endothelial proliferation typical of EH. Timely and accurate diagnosis is essential to prevent unnecessary immunosuppressive therapy, which would typically be initiated for EGPA [8].

References

'Hypo box' Audit to Assess its' Presence, Contents Compliance and Location on the Medical Wards in Accordance to the Joint British Diabetes Societies for Inpatient Care Guidelines.

Authors: Dr Ayley Loh, Dr Jeyasurya Subbarayan, Dr Elizabeth Humberstone, Dr Doom Joy Chen-Unongo, Dr Jeyanthy Rajkanna

NHS North West Anglia NHS Foundation Trust

Background

- **Hypoglycaemia** is a common, potential medical emergency that can lead to severe outcomes if it is not managed immediately and effectively.[1]
- **'Hypo boxes'** were introduced by the Joint British Diabetes Societies for Inpatient Care (JBDS-IP). They contain all the equipment required to treat hypoglycaemia. They provide standardised and efficient management.
- Since its implementation, the **appropriate management** of hypoglycaemia has **improved from 42% to 82%.**[2]

JBDS-IP guideline's 'hypo box' content recommendations:

- ✓ Copy of hypoglycaemia algorithm (inside of lid)
- ✓ 2x 200ml carton of pure fruit juice
- ✓ 2x packets of dextrose tablets
- ✓ 1x mini pack of biscuits (source of long-acting carbohydrate)
- ✓ 3x tubes (1 box) 40% glucose gel
- ✓ 20% glucose IV solution (100ml vial) with infusion set
- ✓ 1x green cannula 18G
- ✓ 1x grey cannula 16G
- ✓ 1x 10ml sterile syringe
- ✓ 3x 10ml sodium chloride 0.9% ampoules for flush
- ✓ 1x green sterile needle 21G
- ✓ Chlorhexidine spray/alcohol wipes
- ✓ 1x IV dressing (cannula cover)
- ✓ 10% glucose for IV infusion (500ml bag) with infusion set
- ✓ Audit form
- ✓ Instructions on where to send audit form and replenish supplies
- ✓ 1x Glucagon pack- to be kept in the nearest drug fridge or labelled with reduced expiry date of 18 months if stored at room temperature

***Aim**: To measure the **compliance of the 'hypo boxes'** in Peterborough City Hospital's (PCH) general medicine wards against the JBDS-IP guidelines.*

We Assessed...

PRIMARY OBJECTIVES	SECONDARY OBJECTIVES
? The presence of 'hypo boxes' on all general medicine wards.	? If five ward staff can correctly identify the function of the 'hypo box', list at least three contents items. correctly and report its correct location.
? The presence of all the contents in the box as outlined by the JBDS-IP guidelines and whether these are in-date.	? The colour of the 'hypo box' – preferably a bright colour.
? If the 'hypo box' is located on the resuscitation trolley.	
? If the 'hypo box' is checked daily by a staff member.	

Methods

- All general medicine wards in PCH were sampled (n=13).
- Prospective data was collected between 10/12/24-31/01/25.
- Data was collected by four Doctors (first and second authors).
- Random selection was used to select the five ward-staff to interview, one of which had to be the Deputy Nurse. Staff were randomly selected based on their time availability due to ward pressures.

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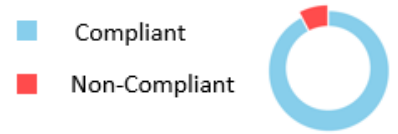
Results:

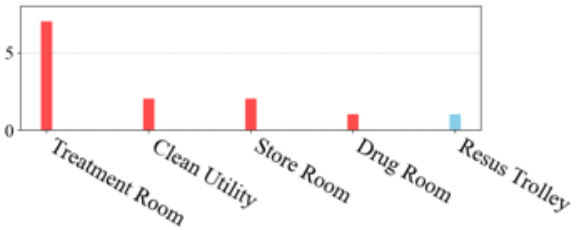
13/13 wards had a hypo box present...



...and 12/13 wards checked their hypo boxes daily.

Figure 1. Compliance with Daily 'Hypo Box' Checks

Figure 2. Location of 'Hypo Box' on Ward



but... 0/13 wards had all JBDS-IP recommended 'hypo box' contents present and had all the contents in the box in-date.

- 5/13 wards (38%): all 5 members of staff could correctly define the function of the 'hypo box'.
- 1/13 wards (8%): all 5 members of staff could correctly list at least 3 contents of the 'hypo box'.
- 3/13 wards (23%): all 5 members of staff could correctly provide the location of their 'hypo box'.
- 3/13 wards (23%): had a brightly coloured 'hypo box'.

Final audit outcome: **non-compliant.**

- All audit standards, apart from the presence of 'hypo box' on each ward, require areas of improvement. There is an overall incorrect maintenance of the box; ward staff knowledge of the 'hypo box' is also lacking.
- A Standard Operating Procedure (SOP) and awareness poster for checking, restocking and maintaining the 'hypo box' was created. It is awaiting approval from Trust's Clinical Governance Team and key stakeholders.
- A re-audit will commence in 2025/26.

Improving Onboarding Experience for Clinical Fellows Through a Work Buddy System

Bwrdd Iechyd Prifysgol Caerdydd a'r Fro
Cardiff and Vale University Health Board

Ayoade Adesanya[1], Siobhan Lewis[2] - Department of Integrated Medicine, University Hospital of Wales

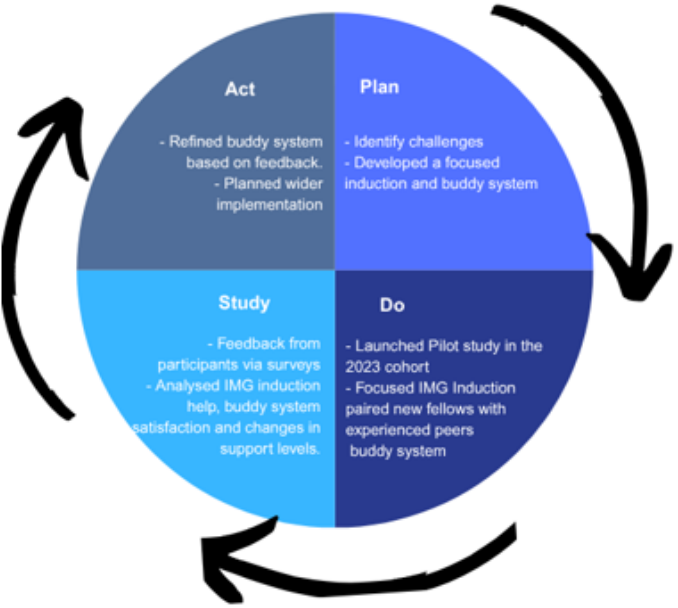
Background

Clinical fellows, many of whom are International Medical Graduates (IMGs), play a vital role at Wales' largest teaching hospital. This quality improvement project introduced a work buddy system to enhance their onboarding experience. IMGs face unique challenges in adapting to a new healthcare environment; this project aimed to ease their transition, increase support, and improve performance.

Aim

To improve the onboarding experience and support for International Medical Graduates (IMGs) by 70%.

Methodology



PDSA cycle used (total N = 34; 2023 cohort: N = 16, 2024 cohort: N = 18).

Results

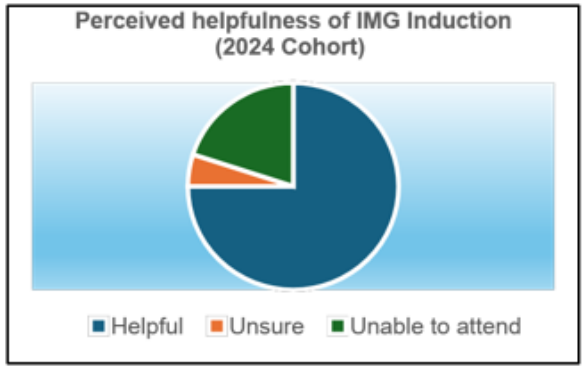


Figure 1. Perceived helpfulness of focused induction

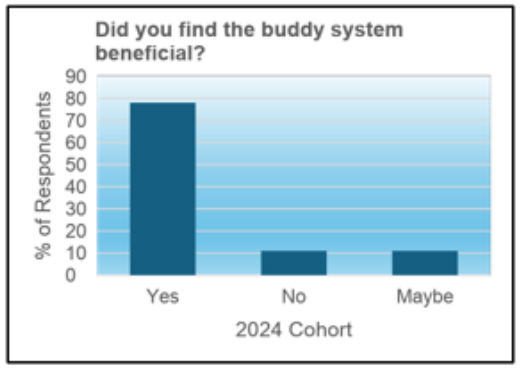


Figure 2. Benefit of the buddy system (intervention group)

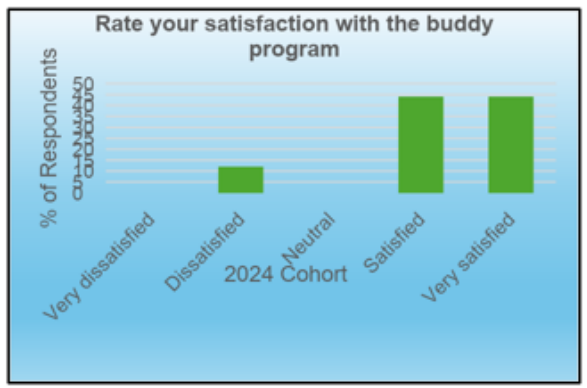


Figure 3. Satisfaction with the buddy program

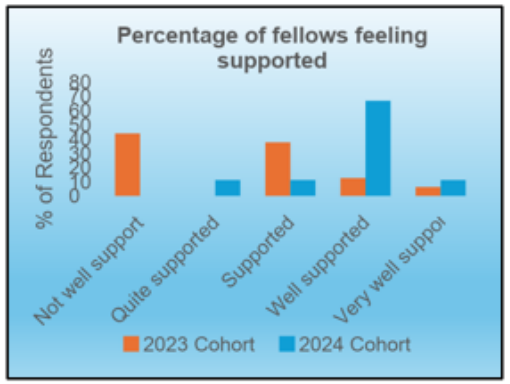


Figure 4. Feeling of support at role commencement

Key takeaway: Participants in the buddy system reported improved confidence, better integration, and stronger peer support.

Conclusion

The work buddy system and focused induction significantly improved onboarding for IMGs at Wales' largest university teaching hospital. High satisfaction rates and enthusiasm from fellows to serve as future buddies suggest the program is sustainable and beneficial long-term.

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5. PMI, 2014 - Implementing Buddy System

Contact

LENGTH OF INPATIENT STAY IN PATIENTS WITH A SUSPECTED NSTEACS LISTED FOR INVASIVE CARDIAC CATHETERIZATION

Oxford University Hospitals NHS Foundation Trust

Dr Basma A. Abdelsalam[1], Dr Kinza Shahab[1], Dr Jonathan Vibhishanan[1], Dr Rafail Kotronias[1], Dr Richard DeButts[1], Dr Kyriakoula Marinou[1].

[1] Oxford University Hospitals NHS Trust, Headley Way, Headington, Oxford OX3 9DU

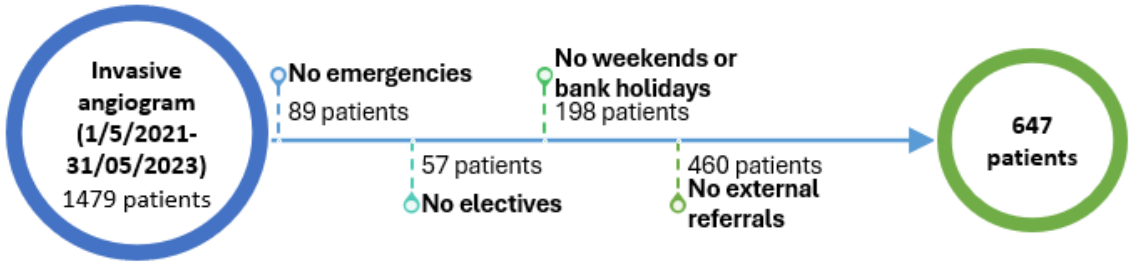
Background

NSTEACS are associated with significant morbidity and mortality. Current guidelines recommend early invasive strategy particularly in high-risk patients, as delays can prolong inpatient stays, potentially impacting patient outcomes and increasing healthcare costs. Identifying and addressing factors contributing to extended hospitalization is essential to improve patient flow, optimize care delivery and ensure adherence to guidelines. We aimed to investigate the length of stay and potential factors leading to its increase for NSTEACS inpatients awaiting invasive angiograms in our hospital.

Methods

- Retrospective analysis on patients presenting with ACS then underwent coronary angiography (5/2021- 5/2023) to Oxford University Hospitals
- Obtained demographic data, cardiac risk factors, chief complaint and initial diagnostic investigations of ACS (Table 1).
- Recorded initial presenting hospital site and date and time of admission to John Radcliffe Hospital, invasive angiogram and discharge.
- Calculated door-to-needle time in hours and days, total length of stay in days, and HEART score.

Patient Selection



Demographics

73%|27%

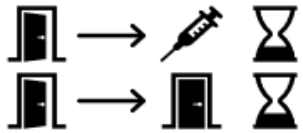
AGE

67 (30-93) years old

JR|HGH

82.84%|17.15%

Length of stay + HEART Score



37 hours (IQR 21, 66)

5.93 days (IQR 2.23, 6.25)

Mean(SD) HEART score was 6.9(1.6)

Results

The length of hospital stay of NSTEACS patients pending an invasive angiogram is more than 3 days, and this prolongs total hospital stay to nearly 6 days.

Nearly a third of these patients do not end up having PCI, so invasive angiography (and the delays related with it) could had been avoided if non-invasive diagnostic methods like coronary CT angiography were introduced on the day of presentation.

Diabetes		
IDDM	32	4.9%
Non-IDDM (OHA)	111	17.1%
Diet-controlled	12	1.8%
Pre-diabetic	19	2.9%
Hypertension		
Hypertensive	354	54.7%
Hyperlipidemia		
High Cholesterol	256	40%
Smoking		
Current	127	19.6%
Ex-smoker	190	29.4%
Significant Family History	161	24.9%

Ischaemic Heart Disease		
Previous history	166	25.6%
Previous MI	176	27.2%
Previous Revascularization		
PCI	123	19%
CABG	20	3.1%
PCI + CABG	14	2.2%

Typical cardiac chest pain	612	94.5%
Classic angina >24h	346	53.5%
ECG findings		
ST segment deviation	215	33.2%
T wave changes	206	31.8%

Table 1: Cardiac history and risk factors, presenting cardiac complaint and diagnostic investigations

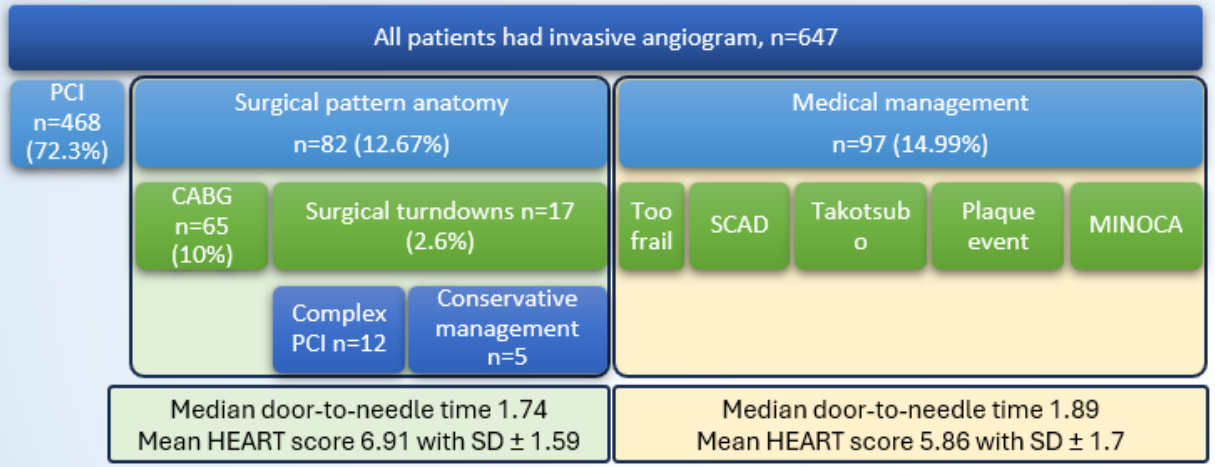


Figure 1: Management outcomes of patients presenting with NSTEACS

Clinical Audit /QIP Report: Rhythm Checks for Patients Admitted to the Hyper Acute Stroke Unit (HASU)

[1]Binisha Joshi, [1]Taba Ismael, [1*]Paul Bolaji
[1]Dorset County Hospital

Background

Stroke is a leading cause of death and disability. Atrial fibrillation (AF) and other arrhythmias are significant contributors to stroke risk. Early detection through continuous cardiac monitoring is key to improving outcomes by guiding timely anticoagulation and management.

Aim & Objectives

1. Assess compliance with HASU rhythm monitoring protocols and ECG documentation.

2. Evaluate effectiveness of 72-hour inpatient monitoring vs. outpatient Holter.

3. Identify common arrhythmias and their link to cardiac history and stroke type.

4. Improve ECG documentation and ensure clear follow-up for detected arrhythmias.

Standards

NICE Guideline NG196 (Published 27 April 2021; Updated 30 June 2021)

Methodology

Sample & Period: Retrospective review of all patients admitted to HASU from December 2024 to January 2025.

Data Collection: Reviewed electronic patient records, discharge summaries, and telemetry reports.

Key Data Points: Patient demographics and admission dates, types and duration of ECG monitoring (12-lead, telemetry, 72-hour continuous monitoring), Documentation details (notes, discharge summaries, digital records), Actions taken based on rhythm findings (e.g., initiation of anticoagulation, cardiology referrals) , Frequency of outpatient Holter monitoring requests

FIG 1. 72 H RHYTHM CHECK

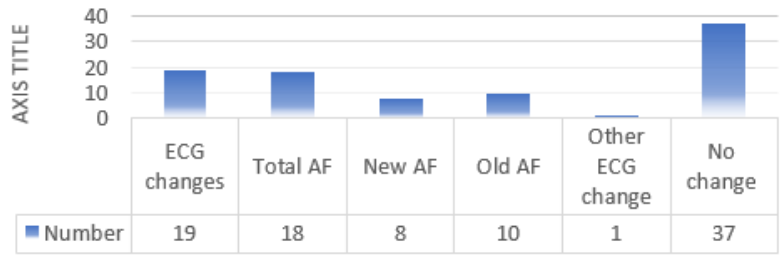
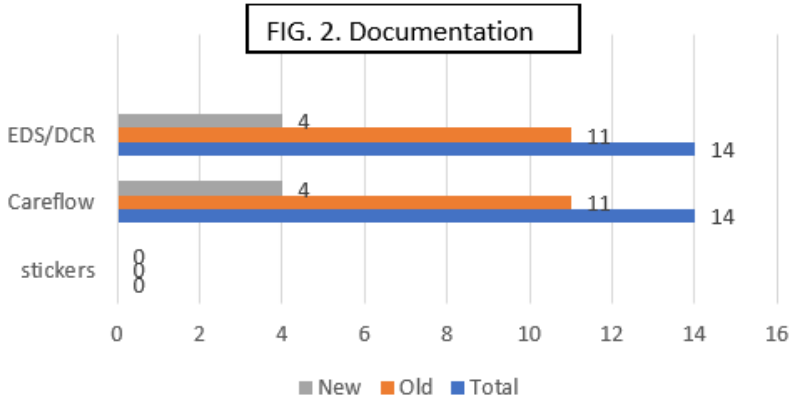


FIG. 2. Documentation



Results

Monitoring Duration: 100% of HASU admissions received 72-hour ECG monitoring.

Arrhythmia Detection: 32.7% of patients had AF; 18.1% were previously diagnosed and treated. 14.5% had new arrhythmia findings, with 75% detected after >24 hours of monitoring. 67.27% showed no ECG changes. (Fig 1)

Documentation Issues: 25% had complete documentation in both Careflow and EDS/DCR systems. 7.2% had no ECG documentation in standard records. No patients had documented evidence of cardiac monitoring on patients notes(Compared to our standard of 100%) (Fig 2)

Outpatient Monitoring: Approximately 31% required additional outpatient 24-hour cardiac monitoring.

Recommendations

- Standardized Sticker for Notes: Introduce tick-box stickers to prompt and confirm telemetry review in physical records.
- Careflow Integration: Add a dedicated telemetry review section in online records for consistency and clarity.
- Centralized DPR Access: Create a specific telemetry section in DPR for easier access during handovers and audits.
- Reaudit Plan: Reaudit February data to measure the impact of implemented improvements on documentation quality.

Conclusion

Implementing standardized documentation and dedicated data fields for telemetry findings will improve the timely detection of arrhythmias and ensure better continuity of care. This, in turn, can reduce unnecessary outpatient tests and enhance secondary prevention efforts for stroke patients.

Medical On-Call Handbook for Foundation Doctors: A Quality Improvement Project at Barts Health NHS Trust, London, UK

Dr Carola Maria Bigogno and Dr Francesca Bladt, Dr Amy Edwards, Dr Priyanka Sivakumaran, Dr Lamin King (1)
(1) Barts Health NHS Trust

Background

Newly qualified doctors face numerous challenges when starting the Foundation Programme, even more during busy medical on-call shifts in large district general hospitals. In fact, Foundation Year 1 (FY1) doctors are expected to manage handovers, bleeps and medical emergencies with limited prior experience and support, as well as lacking confidence in making clinical decisions and managing deteriorating patients. This project aims to improve confidence and knowledge amongst newly qualified doctors, through a structured on-call handbook of common medical presentations and emergencies.

Methods

A comprehensive Medical On-Call Handbook was developed in collaboration with senior registrars and consultants, covering common presentations and emergencies.

A survey before and after implementation allowed evaluation within the trust, assessing confidence levels, overall and across specific scenarios.

HANDBOOK

Results

Pre-handbook survey revealed a significant proportion of FY1 doctors feeling unfamiliar with their responsibilities and lacked confidence in managing common medical emergencies (n=22, Figure1).

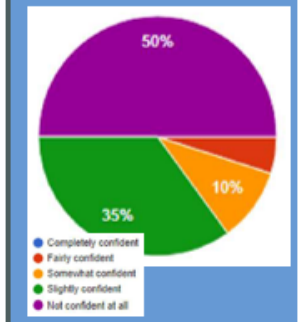


Figure 1

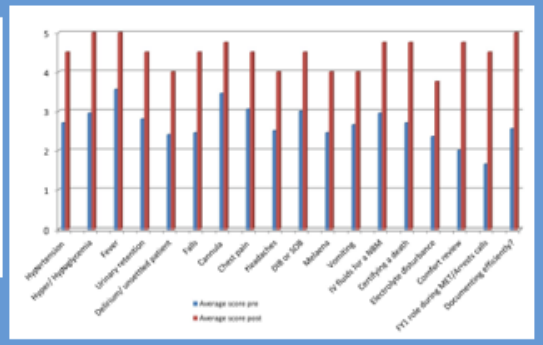


Figure 2

The post-handbook survey revealed that all doctors found the handbook useful. An average confidence increase of 72% was noted across all topics, with greatest improvements observed in conducting comfort reviews and understanding the role of FY1 during emergency calls (Figure 2).

Conclusion

The quality improvement project demonstrated that a structured handbook can significantly support and enhance FY1 doctors' confidence in managing emergencies, directly improving patient care and safety.

Future developments will focus on

(1) creating a mobile app for easier accessibility,
(2) tailoring handbooks to specifically to the different hospital sites, and
(3) introducing a teaching series to supplement learning for more complex topics.

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Barts and The London
School of Medicine and Dentistry

An initiative to improve the diagnosis, management and prevention of Hospital Acquired Pneumonia on the RBH Elderly Care wards

Authors: Charles McLaren, Apu Chatterjee, Shabnam Iyer, Thanuja Nanayakkara, Ruhel Miah

Introduction

- Hospital acquired pneumonia (HAP) is common and associated with significant mortality and increased length of stay[1].
- In 2019 a departmental audit showed that HAP incidence was 5% across Royal Berkshire Hospital's five elderly care wards significantly exceeded the national average of 0.5%-1.5%.
- In response, the Mind the HAP initiative was launched with the objective of reducing the monthly incidence of HAP cases through improved diagnosis, the implementation of prevention measures across the wards and standardisation of treatment approaches[2,3].

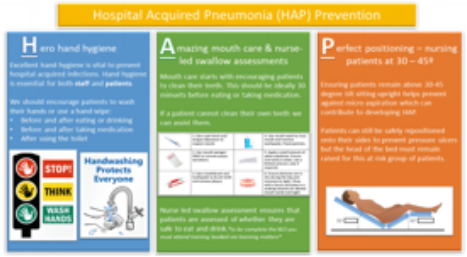

Figure 1: Educational poster highlighting HAP prevention measures.

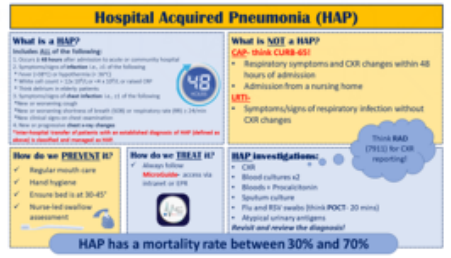

Figure 2: Educational poster highlighting HAP diagnostic criteria, investigations and treatment.

Methods

- Formation of a multidisciplinary steering group.
- Targeted awareness raising and multidisciplinary education campaign including face-face teaching, online induction module and posters (fig 1 and 2) , and training in nurse-led swallow assessment.
- Nominated 'HAP champions' on each ward and high-risk patients highlighted in daily nursing safety huddle.
- HAP prevention measures integrated as part of standard care.
- Physiotherapy supporting sputum culture collection.
- Repeated audit and development of HAP virtual dashboard to monitor effectiveness of preventative interventions and departmental performance (fig 3).

Figure 3: HAP virtual dashboard

Results

- HAP monthly incidence now consistently <2% (fig 4).
- Reduction in HAP associated mortality on the elderly care wards compared to trust-wide figures (fig 5).
- Reduction in tazocin utilisation across the elderly care department (fig 6).
- Development of a database of micro-organisms associated with HAP.

Figure 4: HAP incidence on EC wards 2023 – Feb 2025.

Figure 5: HAP associated morality EC wards vs trust 2019-2024.

Figure 6: Tazocin usage on EC wards 2019-2025 per 1000 admissions.

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Implementing a Multicentre Surveillance System to Standardise Hyperosmolar Hyperglycaemic State (HHS) Care: Development, Outcomes and Lessons Learned

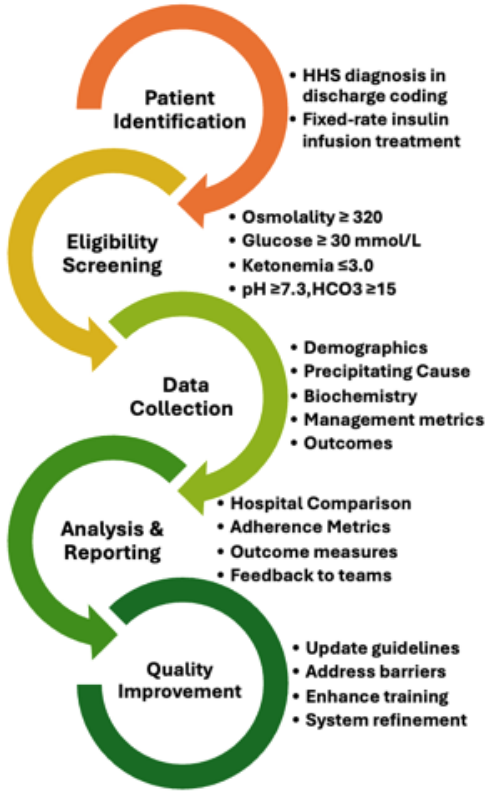
Charlotte Boden, Aspasia Manta, Tania Kew,Jhanvi Pravesh Sawlani, Abigail Hallum, Angelica Sharma, Amar Mann, Lakshmi Rengarajan, Joseph Dalzell, Sulmaaz Qamar, Alexandra Lubina Solomon, Elena Armeni, Gerry Rayman, Ketan Dhatariya,DEVI Collaboration, Punith Kempegowda

Problem
- Higher mortality with HHS despite guidelines- ? poor guideline adherence
- Audits provide limited insights

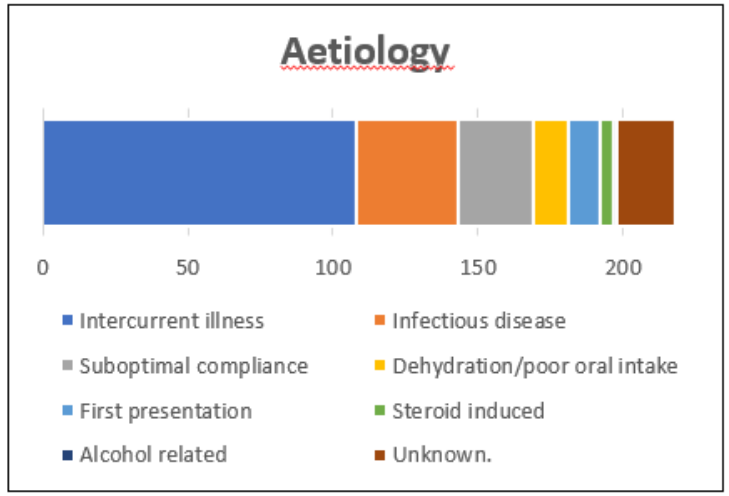
Solution
- A bespoke surveillance system for HHS

Objectives
- Establish surveillance across centres
- Measure adherence

Methods
- 12 hospitals
- Jan 2021-Nov 2024
- Data on demographics, management, and outcomes



Results	Whole cohort
Number of HHS cases (Jan 2021-Nov 2024)	218
Median age of patient	77 (IQR 64-85)
Median HHS Duration	48.2 hours (IQR 24.9-74.15)
Quantity of fluid given	6.5L (IQR 4.0-9.7)
Units of Insulin for resolution	69.0 (IQR 30.8-116)
Adherence to glucose monitoring	65.9 % (IQR 47.5-88.0)
Adherence to ketone monitoring	28.9 % (IQR 14.9 – 49.7)
Mortality	16.1%
ITU admission	5.5 %
Hypoglycaemic episodes	14.7%



Results	Hospital A	Hospital B
Adherence to glucose monitoring	86.3% (68.6-105)	64.9% (52.5-74.6)
Adherence to ketone monitoring	21.5% (13.0-31.9)	27.9%(9.53-41.0)
Total fluid given	6.5L(4.5-10.1)	7L (5.3-8.0)
Total insulin given	107 units (50-161.7)	65 units (27-101)
Mortality rates	2.3%	16.3%

Conclusion

•DEKODE helps Identify good practices and areas of improvement and can provide real-time feedback with existing resources

References 1. Pasquel FJ, Umpierrez GE. Diabetes Care. 2014
2. Thomas L, et al. Future Healthc J. 2020.
3. Mustafa OG, et al. Diabet Med. 2023.

DEKODE

Bridging the Gaps in Inpatient Tobacco Dependency Management: A Quality Improvement Project

Chaw Hsu, Myat Thin, Muhammad Arif

Watford General Hospital, West Hertfordshire Teaching Hospitals NHS Trust

Introduction

- Tobacco smoking is leading cause of preventable deaths, linked to cancers, respiratory, and cardiovascular diseases.
- Hospital admissions offer a unique "teachable moment" for addressing tobacco dependency.
- Despite this, inpatient support for tobacco dependency remains inconsistent.
- These gaps undermine the effectiveness of cessation efforts.

Aims

➢ Assess the impact of targeted interventions on:

- Smoking status documentation
- Delivery of Very Brief Advice (VBA)
- Initiation of Nicotine Replacement Therapy (NRT)
- Referral to smoking cessation services

➢ Conduct two audit cycles to measure improvement.

➢ Improve compliance with British Thoracic Society (BTS) guidelines.

Methods

- Retrospective audit of electronic patient records
- 198 inpatients reviewed in May 2024 (pre-intervention)
- 100 inpatients reviewed in September 2024 (post-intervention)
- Assessed the following metrics:

✓ Smoking status documentation

✓ Very Brief Advice (VBA) delivery

✓ Nicotine Replacement Therapy (NRT) initiation

✓ Referrals to smoking cessation services

Results

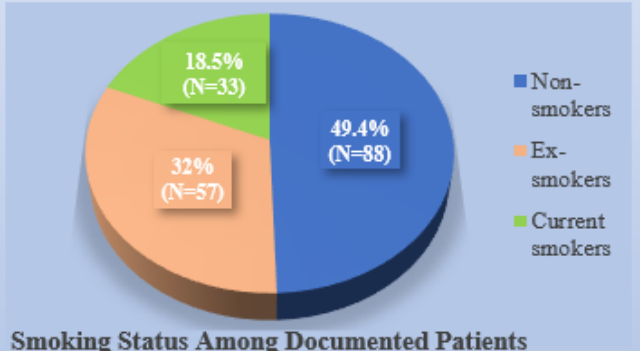
Interventions Implemented

❖ Staff education sessions on smoking cessation and BTS guidelines

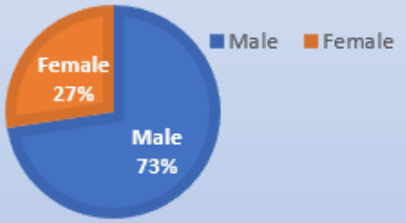
❖ Displayed informative posters in clinical areas

❖ Provided enhanced training support, including drop-in session.

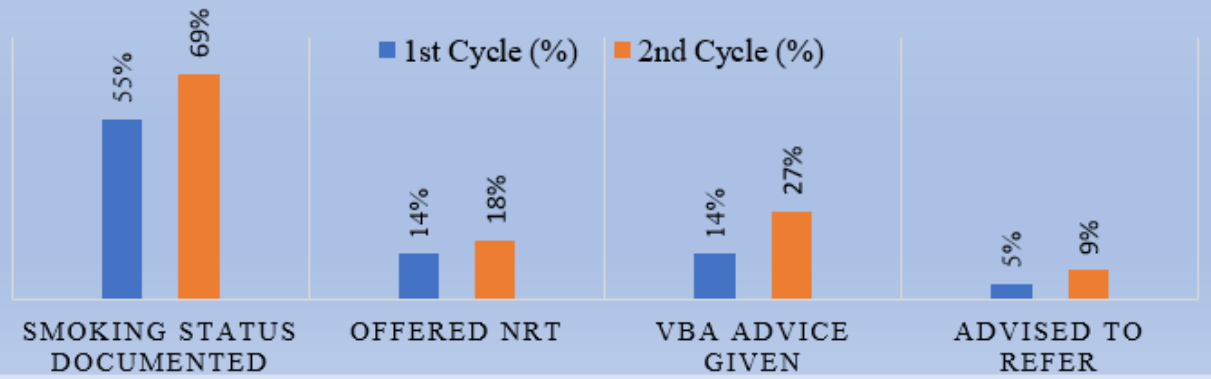
❖ Ensured alignment with the updated BTS guidance on tobacco dependency management.



Smoking Status Among Documented Patients (N = 178 out of 298)



Gender Distribution Among Current Smokers (N = 33)



Bar Chart showing the smoking status documentation, initiation of NRT, VBA given and referral to smoking cessation team by clinicians in First and Second cycle of data collection

Discussion & Implications

❑ Targeted interventions led to improved smoking status documentation, VBA delivery, and NRT initiation

❑ Results remained below BTS targets, indicating room for further progress

❑ Staff rotation and lack of a dedicated cessation team hindered consistent practice and follow-up

❑ Sustainable impact requires:

➢ Ongoing staff training

➢ Integrated clinical pathways

➢ Structural support across the organisation

Conclusion

- Targeted interventions improved key practices but fell short of BTS standards
- Sustained progress relies on dedicated cessation teams, engaged staff, and integration of smoking cessation into routine care
- To achieve long-term impact, organisations must address system-level barriers and invest in ongoing staff training and support
- Embedding tobacco dependency treatment into standard inpatient workflows is essential for lasting change.

References:

Agrawal S, Evison M, Ananth S, et al. Medical management of inpatients with tobacco dependency. Thorax. 2024;79(suppl 1):3-11.

https://www.brit-thoracic.org.uk/document-library/quality-improvement/audit-reports/national-smoking-cessation-audit-2021- management-of-tobacco-dependency-in-acute-care-trusts/

Improving Medical Night Handover: Strengthening Teamwork, Efficiency and Critical Patient Care

Moran D, Ng AYKC, Barclay A, Ghouse S
East and North Hertfordshire NHS Trust

Introduction

Handover between teams is crucial for ensuring safe care during overnight shifts.

A structured handover process not only helps to identify critically ill patients early but also fosters improved collaboration between medical and intensive care teams.

As part of the **Royal College of Physicians Chief Registrar** program we initiated a Quality Improvement Project (QIP) aimed at enhancing the medical night handover process - specifically to **streamline handover** and **incorporate the Critical Care team**.

Materials and methods

This QIP was implemented at a large district general hospital where the night medical team consists of two registrars, three SHOs, and two FY1s.

Two key changes were introduced:

- The acute take and inpatient wards were divided into two smaller handover sessions, each led by a registrar - this provided registrars with improved oversight of the acuity and volume of tasks
- The overnight **Critical Care Outreach Team (CCOT)** was involved in both handover sessions – this was designed to improve two-way communication about unwell patients

Surveys were distributed to doctors working in Medicine and ICU both before and after the modifications.

Key measures included **team cohesion, communication and accessibility between Medicine and ICU**, and **time efficiency.**

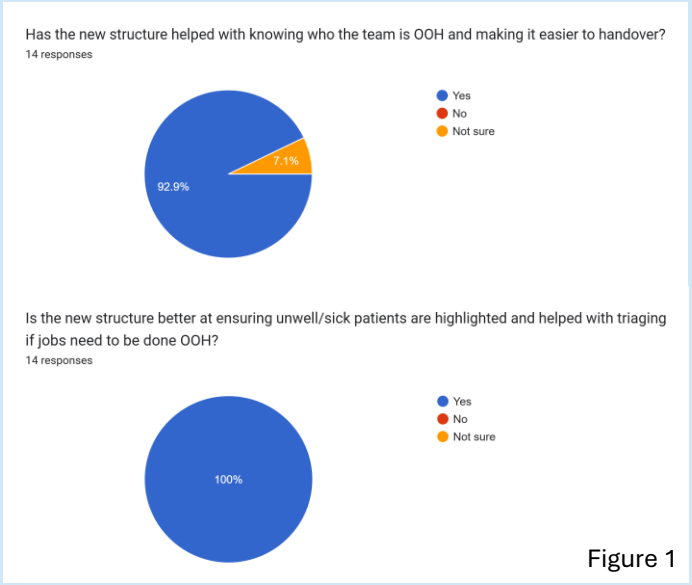


Figure 1

Table 1. Scores before and after handover structure changes (scale from 1=poor to 10=extremely well)

Measure	Median Score Before	Median Score After	Difference
Cardiac arrest team cohesion	6	7	+1
Awareness of the members on the other team (ICU/Medicine)	2.5	5	+2.5
Confidence in calling the other team (ICU/Medicine)	7	7	0
Helpful advice from other team - management of unwell patients	7	8.5	+1.5
Helpful advice from other team - escalation discussions	7	8.5	+1.5

Contact: Dr Daisy Moran, Internal Medicine Trainee
daisy.moran2@nhs.net

Results and discussion

92.9% felt that the new structure:

- Improved the running of handover
- Used time **more efficiently**
- Helped to highlight who the out-of-hours team were

100% felt that the new structure:

- Improved the **identification** of unwell patients
- Improved the **triaging** of jobs

- There was felt to be improved cardiac arrest **team cohesion**
- Respondents felt **more aware** of who team members were on each shift
- Greater feeling that Medical/ICU **collaboration** was helpful when making escalation decisions
- ICU team attendance also felt to provide valuable **learning opportunities** for junior colleagues

Conclusion

Separating the acute take from the inpatient ward handover in this large DGH enhanced **time efficiency** and **task prioritisation**.

Incorporating the ICU/CCOT team was widely regarded as a positive change, particularly in fostering **collaborative communication** and **early patient escalation**.

This project demonstrates that **simple adjustments** to handover structure can enhance team dynamics and improve patient care.

This handover model is one that could be implemented across other hospital trusts.

Ward Round Documentation In Gastroenterology; Can We Improve Patient Safety?

Deborah Charlesworth-Benedict (lead author), Rahavei Ragunathan (co-author)

Background and Objectives

- The effectiveness of ward round documentation is often affected by challenges like clinical priorities, a lack of staff and inadequate planning. Within the gastroenterology unit ward rounds can proceed rapidly and patients are often located in various outlier wards.
- Aim to introduce a structured ward round auto-text template to improve ward round documentation within the gastroenterology department using the parameters laid out in the RCP guidance [(1)].
- Aim to improve patient care and safety.

Results

- Improved overall adherence to the RCP guidance checklist was seen (pre-template = 23% vs post-template 38%).
- Following auto-text implementation, documentation of VTE improved from approx. 20% to 40% as seen in figure 2.
- Following auto-text implementation, documentation regarding infection control/antibiotics increased to 45% as seen in figure 1.
- Documentation of investigations (results, scans) reviewed, improved from approx. 55% to 85% post auto-text implementation, as seen in figure 3.

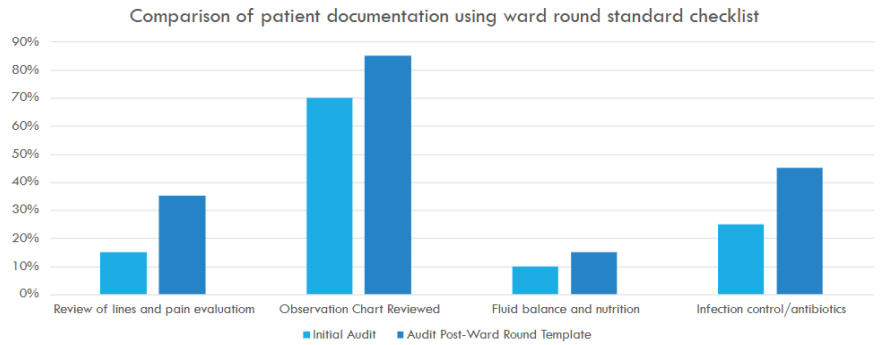


Figure 1.

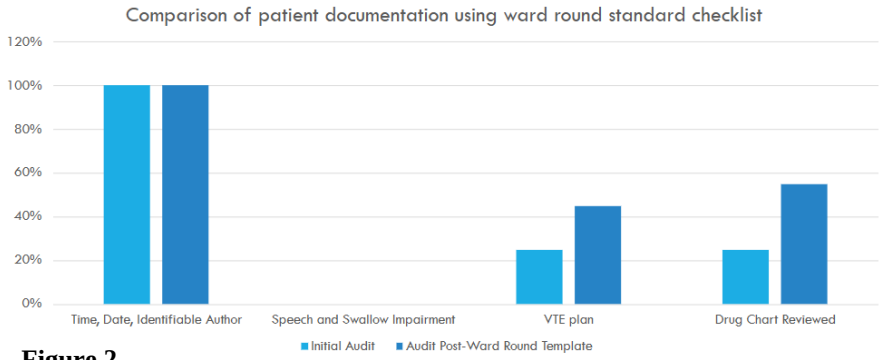


Figure 2.

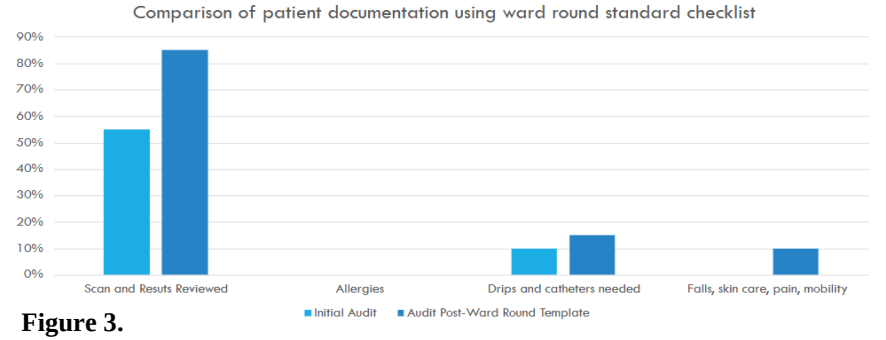


Figure 3.

Methods

- Gastroenterology inpatient ward round documentations were reviewed, in accordance with guidance laid out by the RCP "Ward rounds in medicine best principles for practice" [(1)].
- Ward round entries (20 patients) were analysed against the 12 parameters from the RCP checklist.
- An auto-text was created on CERNER to form the ward round documentation template. A poster outlining this template, with instructions on how to use it, was created and attached to the walls and computers on the ward.
- Two months post-template, 20 different patient ward round entries were re-assessed.

Discussion and Conclusion

- Overall improvement in ward round documentation.
- Few categories remained unchanged – reflective of the function of CERNER.
- For the majority of the patients, it was noted that although VTE risk assessment and plan was not documented within the ward round, they were on some form of VTE prophylaxis.
- Potential for auto-text to be implicated across all medical specialties.

NHS
Countess of Chester Hospital
NHS Foundation Trust

Reference

1. Kirthi V, Ingham J, Lecko C. Ward rounds in Medicine Principles for Best Practice [Internet]. 2012. https://www.rcp.ac.uk/media/yvaozxqf/ward_rounds_in_medicine.pdf [Accessed 19 Mar 2025].

The value of CT head scans for patients from care homes presenting to the Emergency Department following a fall

Dr. Russell Taylor & Dr. Shams-Ud Duja
The Dudley Group NHS Foundation Trust

Introduction

Frail elderly patients from residential and nursing homes frequently attend the Emergency Department (ED) following falls, many of which are unwitnessed making it difficult to determine if a head injury was sustained.

The current NICE guidelines for assessment of head injuries[1] state that all patients taking anticoagulants should be considered for a CT head scan within 8 hours of the injury. This results in many care home residents having repeated CT head scans due to recurrent attendances to ED with falls.

It is uncertain as to whether this practice results in an increased pick-up rate of intracranial bleeds and therefore whether these scans are necessary for all patients on anticoagulants.

Materials & Methods

All patients from residential and nursing homes who presented to ED in an acute hospital trust following a fall were identified between 1st December 2022 and 31st May 2023. Their medical notes were reviewed manually, and data was collected as to whether they were on anticoagulation before their fall, whether a CT head was performed, the result of the CT head and the outcome of any neurosurgical discussion if a bleed was identified. Data was also collected regarding whether they were admitted to hospital, their length of stay, 28 day mortality and 28 day reattendance rates.

Results & Discussion

406 patients were identified who attended ED from care homes with a fall in the six month period. Their demographics were as expected for an elderly cohort (59% female, 75% between the ages of 80 and 99).

37.4% of these patients were on anticoagulation before their fall (30.8% on a direct oral anticoagulant, 6.4% on warfarin and 0.2% on therapeutic enoxaparin). Of the cohort on anticoagulation, 69% of these patients had a CT head performed, compared to 30% in the cohort not anticoagulated.

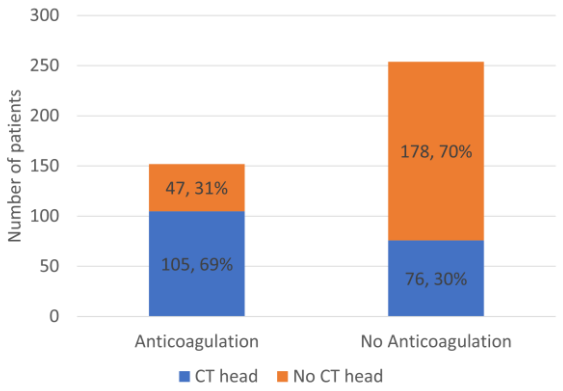


Figure 1: *CT head scans performed for patients on anticoagulation vs no anticoagulation*

4.8% of CT head scans performed on patients with anticoagulation showed a bleed, comparable to 3.9% of those performed on patients not anticoagulated.

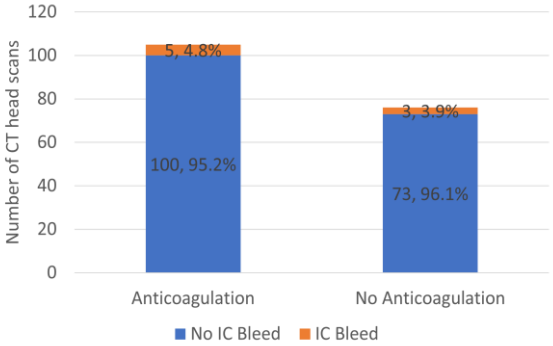


Figure 2: *Results of CT head scans for patients on anticoagulation vs not*

All of the bleeds in both cohorts were not for neurosurgical intervention.

Admission rates were similar in both groups (61% admitted on anticoagulation, 58% admitted not on anticoagulation. Length of stay was comparable between the two groups. 28 day mortality rates were also similar (8.6% in anticoagulated group; 9.8% in group not anticoagulated). However the readmission rates with a fall were significantly higher in the anticoagulated group (64.1% vs. 46.3%).

Conclusion

These results show that a significant proportion of our care home residents presenting with falls are on anticoagulation (37%).

Substantially more CT heads were performed in the anticoagulated cohort (69% vs. 30%), with no significant difference in the pick-up rate of intracranial bleeds between the two cohorts (4.8% vs. 3.9%).

We therefore suggest that the routine undertaking of CT head scans on all patients with falls from care homes is not necessary, and instead use clinical judgement to request scans for patients where there is clinical concern of a possible bleed.

This practice would significantly reduce the number of CT head scans performed, and help to ease pressure on ED by increasing the speed of discharge.

References

[1] NICE Guideline NG322 (Head injury: assessment and early management). https://www.nice.org.uk/guidance/ng232/chapter/recommendations [Accessed 20 March 2025]

Soups, Shakes and other Slimming Strategies: GLP-1 Agonists vs. NHS Type 2 Diabetes Path to Remission Programme in the Battle against T2DM & Weight Management.

D Trivedi
Cranham Health Centre, BHRUT NHS Trust

Background

Excess body weight increases the risk of cardiometabolic complications, morbidity, and mortality in patients with T2DM1 (type 2 diabetes mellitus). Effective management should prioritise medications that promote weight loss or remain weight-neutral to improve insulin sensitivity and blood glucose control. GLP-1 (glucagon-like peptide 1) agonists are well-established in T2DM treatment. They mimic the incretin hormone GLP-1, enhancing insulin secretion, suppressing glucagon release, and slowing gastric emptying. These actions lower HbA1c, improve insulin sensitivity and promote weight loss. Beyond pharmacologic options, dietary interventions have been studied for weight loss and glycaemic control. NHS England, in collaboration with Diabetes UK, launched the Type 2 Diabetes Path to Remission Programme (T2DR) for individuals diagnosed with T2DM for less than six years and above a specific healthy weight. The programme replaces all anti-diabetic medications with a 12-week meal replacement diet, leading to an average weight loss of 16 kg, with one-third of participants achieving remission 2 . This project compares the effectiveness of GLP-1 agonists and the T2DR programme in improving weight loss and HbA1c levels to determine the superior approach for T2DM management.

Methods

Retrospective analysis of 5,650 patients from a single GP surgery using SNOMED-coded data to identify patients commenced onto GLP-1 agonists or T2DR. Patients on GLP-1 agonists via private prescription were excluded. This analysis was conducted by filtering patients using keywords such as ‘‘T2DM, T2DR, and drug names such as semaglutide, liraglutide and dulaglutide’’.

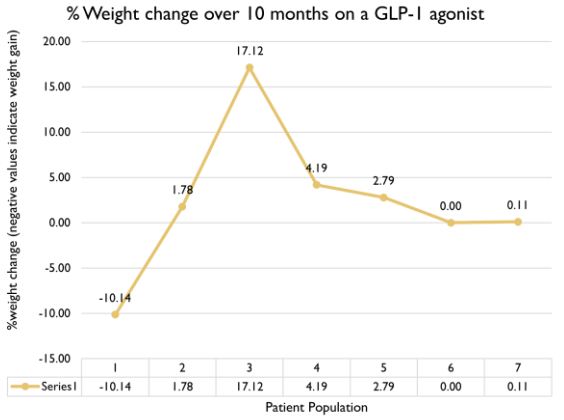
Results and Discussion

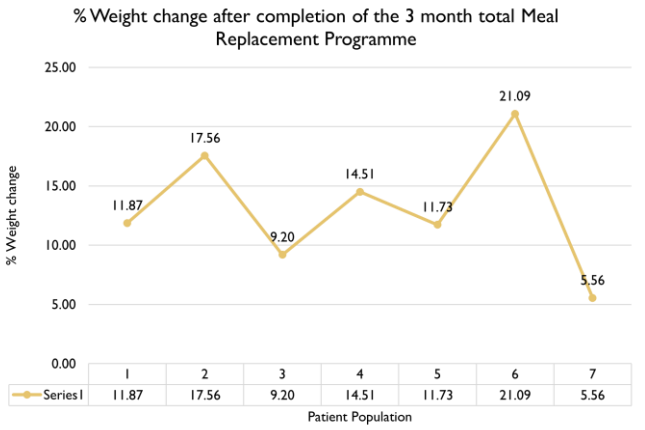
Results and Discussion: Within a singular GP surgery, n1 = 7 patients with T2DM and raised BMI (>30) had begun treatment with a GLP-1 agonist in 2024 (86% initiated onto Semaglutide). Comparatively, n2 = 15 patients, were deemed eligible and enrolled on the T2DR programme. Analysis showed that patients who started treatment with a GLP-1 agonist had a maximal weight reduction of 17% and maximal weight gain of 10% across an average of 123 days. In contrast, patients completing the 12-week T2DR course experienced a maximal weight reduction of 21%. No patient gained weight while on this programme. On review of improvements with HbA1c, the GLP-1 agonist caused a maximal reduction of 11 mmol/l in HbA1c. The total meal replacement programme achieved a drop in HbA1c by 59 mmol/l.

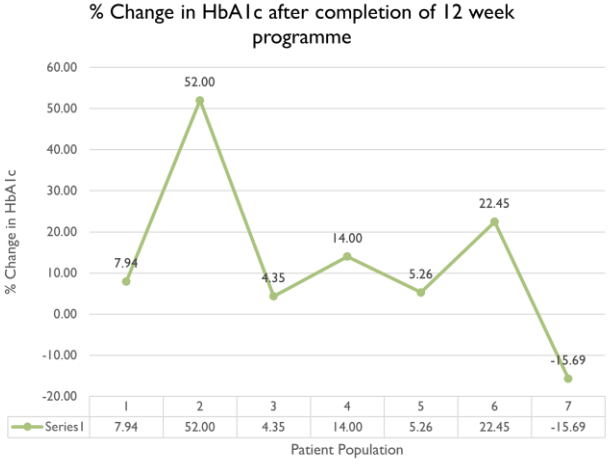
References

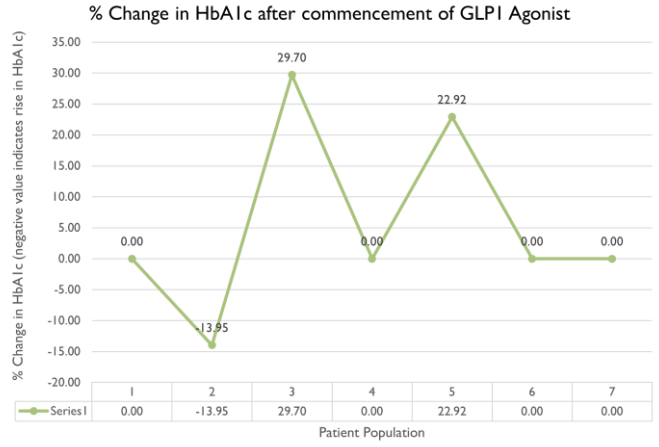
Wilding, J P H. "The importance of weight management in type 2 diabetes mellitus." International journal of clinical practice vol. 68,6 (2014): 682-91.
NHS ‘soups and shakes’ diet study shows one third of people with type 2 diabetes enter remission.

Results









Conclusion

Conclusion: GLP-1 agonists have gained significant media attention as an effective weight loss treatment. This study suggests that the T2DR programme may offer a more accessible and sustainable alternative, delivering faster and more substantial weight loss and HbA1c control. Further research is needed to evaluate the long-term impact of T2DR, including weight maintenance and HbA1c changes as patients transition back to a regular diet, as well as a comparison with long-term GLP-1 agonist therapy

How serious are "Serious Non-Specific Symptoms (SNSS)"?: Evaluation of the introduction of a local SNSS Pathway, and the pick-up rate of cancers, within this population?

Maxfield, D; Hickey, A; Ade-Onojobi, T; Sinha, R; Painter, JE; Dunn, S

South Tyneside and Sunderland NHS Foundation Trust

Introduction

- The NHS Long Term Plan aims for an extra 55,000 patients to survive a minimum of 5 years following a cancer diagnosis from 2028 through earlier detection.
- "SNSS" pathways were developed to aid referral of patients with vague, but concerning symptoms, that may not fit a pre-existing cancer referral pathway (1).
- Within our SNSS pathway, GPs refer for urgent CT Chest, Abdomen and Pelvis, which is reviewed in a weekly MDT
- Patients are either discharged back to their GP with advice, or referred on to appropriate cancer pathways.
- Benign disease is highlighted to GPs for further action.
- To date, there is little published within the UK, although one Danish study detected a cancer pick-up rate of 11-20% (2).

Aims and Methods

- Retrospective audit of all patients referred via our local SNSS pathway between February 2023 and September 2023.
- Electronic notes were reviewed
- We looked at referral indications, inappropriate referrals, cancer pick-up rate, primary site, metastatic vs. non-metastatic disease and incidence of benign pathology.

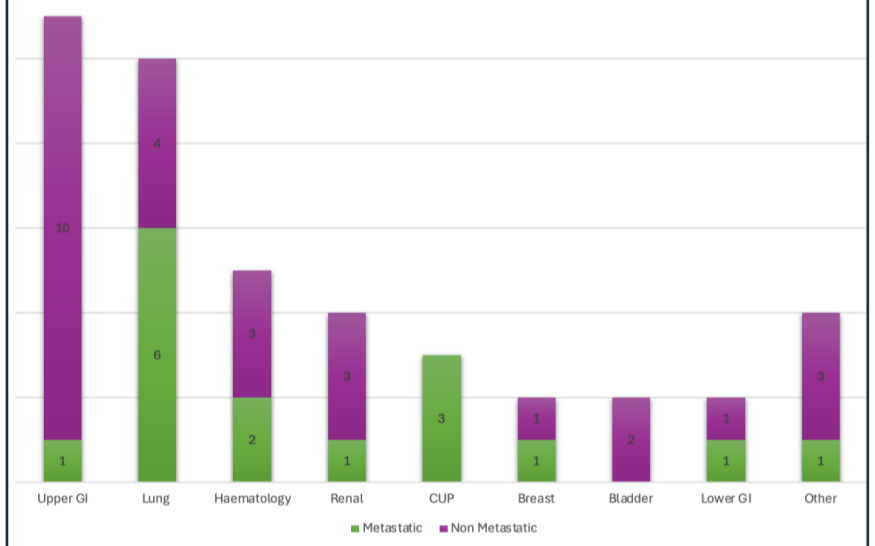
Results

- 502 patients were reviewed over 30 MDT meetings
- Patients were equally split between sex (Male 45%)
- Average (mean) age of referral was 71 years old
- The most common referral symptom amongst patients was weight loss, 74.1% (See Table 1)
- Overall cancer pick up rate was 8.6%, most commonly being of an Upper GI primary (Figure 1)
- Metastatic disease was present in 37.2% of patients (Figure 2)
- Almost 6% of referrals were inappropriate, meeting pre-existing cancer referral pathway criteria (according to NICE)
- Excluding these patients, cancer pick up rate remained at 8.4%.
- Incidental benign pathology was identified in 65% of patients.

Table 1: Percentage of referrals per symptom, and cancer diagnosis within this symptom sub-group

Symptom	Referrals	Cancer Diagnosis
Weight Loss	74.1%	7.5%
Fatigue	22.5%	8%
Abdominal Pain	20.7%	6.7%
Anorexia	13.9%	17.1%
Pain (Elsewhere)	13.1%	13.1%
Anaemia	7.2%	16.7%
Change of Bowel Habit	6.8%	11.8%
Night Sweats	6.4%	6.3%
Nausea/Vomiting	5.8%	13.8%

Figure 1: Incidence of Metastatic vs. Non-Metastatic disease, depending on cancer primary



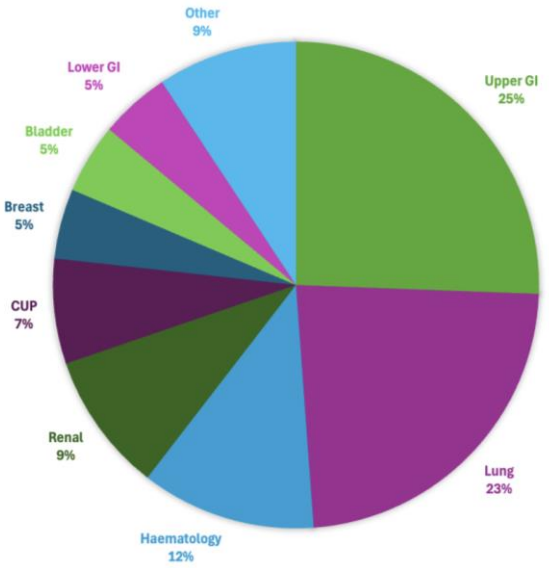


Figure 2: Incidence of cancers based on primary site of diagnosis

Conclusions/Discussion

- Overall cancer-pick up rates in our audit, were similar to existing "two week wait" suspected cancer pathways (~7%).
- This pathway presents as a valuable tool for GPs, in picking up patients with vague but concerning symptoms where high incidences of cancer still exist.
- Areas for improvement include the number of inappropriate referrals, potentially highlighting a lack of awareness of pre-existing cancer referral pathways.
- Further national analysis of long-term patient outcomes, and effectiveness of SNSS pathways, including 5-year overall cancer survival rates, is recommended given this is such a novel pathway.

References

1. NHS Cancer Programme: Faster Diagnosis Framework (2019) , www.england.nhs.uk/cancer/faster-diagnosis [accessed 21 March 2025]
2. Grønnemose, R.B., Hansen, P.S., Worsøe Laursen, S. et al. Risk of cancer and serious disease in Danish patients with urgent referral for serious non-specific symptoms and signs of cancer in Funen 2014–2021. Br J Cancer 130, 1304–1315 (2024). https://doi.org/10.1038/s41416-024-02620-y

Optimisation of COPD Exacerbation Management and Follow-up: A Clinical Audit

University College London Hospitals NHS Foundation Trust

Authors: Dr Eloise Rogers, Dr Begum Bingor, Dr Maryama Warfa, Dr Maria Fotiou, Dr Rawan Elkalaawy, Dr Ahmed Hossain, Dr Sinem Sahin, Dr Zahra Jahangir, Dr Amir Jehangir

INTRODUCTION

Chronic obstructive pulmonary disease (COPD) exacerbations are the second most common cause of emergency hospital admissions, often leading to repeated presentations and poor patient outcomes.[1] Evidence-based guidelines (NICE, GOLD, and BTS) provide recommendations for the management of COPD exacerbations including assessment, diagnosis, acute and long-term management, and appropriate follow-up.[2-4]

This audit aims to assess compliance with current guidelines in the management and follow-up of COPD exacerbations at University College Hospital (UCH), London, to identify areas requiring an intervention for improvement.

METHODS

A retrospective analysis of COPD exacerbation cases presenting to ED and AMU in UCH was conducted over a two-month period. 37 patients were initially identified for analysis. Data on pre-admission, inpatient management, and discharge practices were collected from electronic patient records and benchmarked against national guidelines. Once areas of poor compliance were identified, educational sessions were designed and presented to resident doctors to highlight these areas. Additionally, an electronic "COPD checklist" smartphrase was created and presented to the resident doctors to serve as a prompt within documentation (Figure 1). A re-audit was conducted over a two-week period, identifying 20 cases for analysis to assess the impact of the intervention.

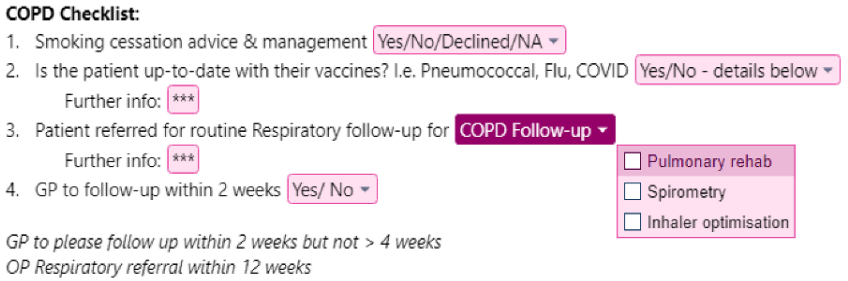


Figure 1: "COPD checklist" smartphrase. *Created to help remind doctors of the three target areas of poor guideline compliance (smoking cessation, vaccination status and outpatient referral)*

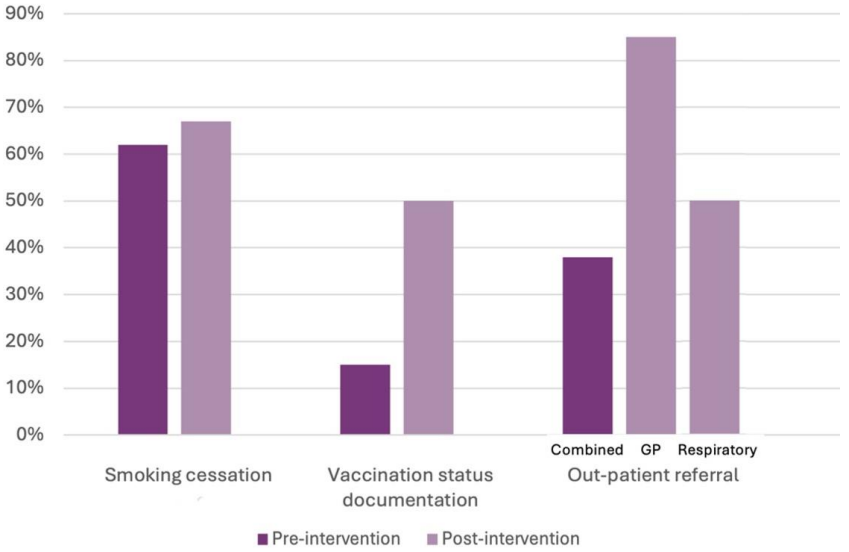


Figure 2: Pre intervention and post-intervention audit results. *Chart demonstrates post-intervention improvements in guideline adherence in the areas of smoking cessation advice/referral, vaccination status and follow-up referrals.*

RESULTS AND DISCUSSION:

The first cycle of data collection revealed poor compliance in 3 principal areas. Smoking cessation advice/referral was offered in 62% of cases, vaccination status was documented in 14%, and outpatient follow-up referrals were requested in 38%. Following intervention with educational sessions and smartphrase introduction, smoking cessation advice/referrals increased to 67%, vaccination status documentation to 50%, GP follow-up referrals to 85%, and respiratory follow-up referrals to 50% (Figure 2). The "COPD checklist" smartphrase was adopted in 35% of cases.

The cause of the initial poor compliance is likely multifactorial but could include a lack of awareness of national guidelines in resident doctors and inconsistent documentation. Literature shows that providing educational interventions contributes to continuing professional development and improves patient outcomes.[5] Whilst adherence to the smartphrase use remained suboptimal, adherence to documentation of its components in accordance with guidelines significantly increased during the re-audit period following educational sessions.

Limitations of this audit include case identification through search criteria due to varied terminology for respiratory conditions, a short re-audit period, inconsistent documentation amongst clinicians and often restricted access to full pre-admission patient information.

CONCLUSION

COPD exacerbations are frequently encountered in acute care settings, but guideline adherence remains challenging. This audit demonstrates that targeted interventions such as staff education and structured checklists are effective ways to standardise documentation and improve compliance with COPD guidelines. The marked improvements observed at UCH are likely indicative of gains achievable across other UK hospitals.

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Enhancing Confidence and Skills in Ultrasound-Guided IV Access: A Quality Improvement Project

Tariro Chikwanha, Elpis Pola, Dawood Sohail ,Suneeta Teckchandani

NHS Chesterfield Royal Hospital NHS Foundation Trust

Introduction

Ultrasound-guided intravenous (USG-IV) access is **an essential skill**, particularly for patients with difficult venous access. Studies show that USG-IV **improves first-pass success rates, reduces patient discomfort, and minimizes complications** [1,2]. Despite its benefits, many clinicians lack confidence and experience with the technique.

Aims

- Increase the confidence and proficiency in USG-IV cannulation, for resident doctors, physician associates, and medical students.
- Assess the impact of a hands-on ultrasound training program on healthcare professionals' confidence and skill in IV access.

Methods

Didactic Teaching
- A presentation covering ultrasound principles, machine operation, and IV cannulation techniques.

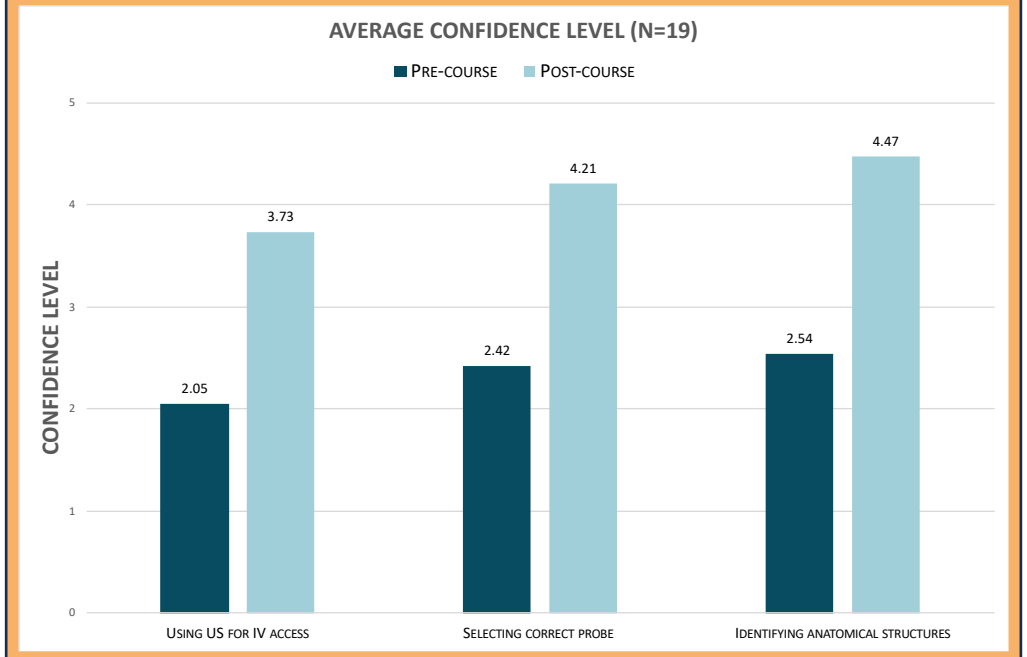
Hands-On Training
- Supervised practice using ultrasound models to develop technical skills.

Assessment: Participants completed pre- and post-training questionnaires using a Likert scale to measure confidence in:

❑ 1. **Using ultrasound for IV access**
❑ 2. **Selecting the correct probe**
❑ 3. **Identifying anatomical structures**

Results

- Participants: 23 attendees divided over 2 sessions
- Overall **increase confidence level across all three assessment** parameter
- Baseline Confidence: beginner-novice level before training, mean confidence score 2.05 rising to 3.73 ***(Graph 1)***
- All participants improved from their individual perceived baseline confidence level after training .
- Qualitative Feedback: Participants valued the hands-on practice, with many expressing increased confidence in applying USG-IV techniques in clinical settings



Graph 1

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Discussion

Clinical Relevance & Impact

Improving USG-IV skills has direct benefits for patient care, including:

- Higher Success Rates: Reducing failed IV attempts and patient discomfort.
- Fewer Central Line Insertions: Minimizing risks of infection and complications.
- Better Resource Utilization: Decreasing the number of IV cannula packs used due to improved first-pass success.

Limitations :

Due to the resident doctors rotating it is difficult to get a full impact of the teaching sessions being put into practice in a clinical setting.

Next Steps

- Continue training new cohorts and assess long-term confidence retention.
- Compare IV cannulation success rates before and after training.
- Advocate for integrating ultrasound training into standard medical education.

Conclusion

This project demonstrates that **targeted ultrasound training significantly improves confidence and skill** in IV access. Ongoing evaluation will help refine teaching strategies and support broader implementation in clinical practice.

Efficiency in Stress Echo service delivery without compromising on diagnostic accuracy – QIP on the need for advice of cessation of rate controlling medication prior to Dobutamine Stress Echocardiography

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Background:

Stress Echocardiography (SE) has been identified as an established non invasive cardiac imaging for the detection of suspected myocardial ischaemia.

SE protocols are variable across hospitals and countries in the recommendation of the cessation of rate controlling medication (RCMx) prior to SE. There are recommendations advising the cessation of beta-receptor blockers (BB) and rate controlling calcium-channel blockers(CCB) 48 hrs prior to SE to improve diagnostic accuracy of the test.

However, this approach may have implications for the efficient management of SE waiting lists and the abrupt cessation of these medications could lead to a hemodynamic rebound effect, potentially precipitating exacerbated angina or hypertension complications.

Method:

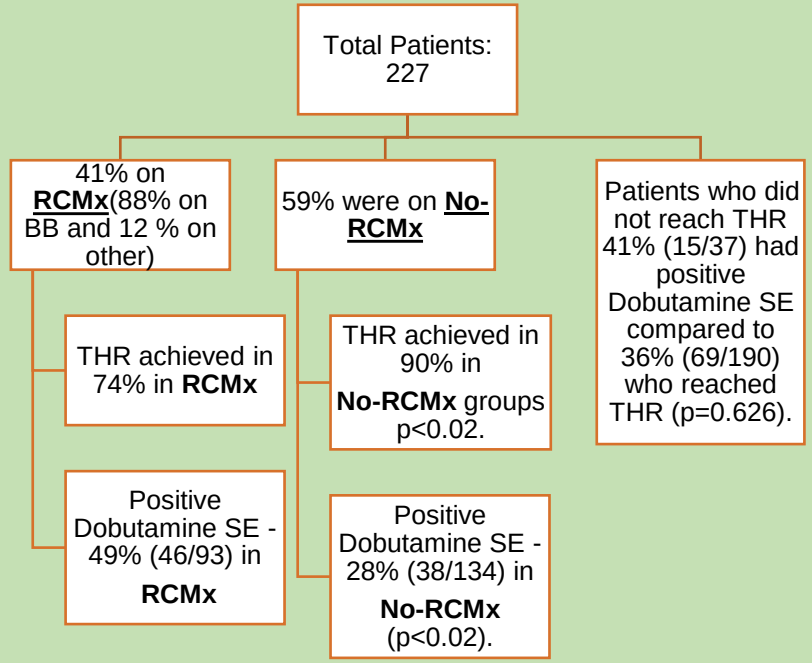
Sample Size
- 227 consecutive patients - Dobutamine Stress ECHO from Jan 2022 to Jan 2023

Protocol
- Dobutamine
- IV atropine (max 1.2 mg)
- Top up handgrip exercise – at cardiologist's discretion

Outcome – in the two groups RCMx and No RCMx
- DSE outcome (positive vs negative),
- target (85% of maximum age predicted) heart rate (THR) and the achieved peak HR
- We analysed the patients' characteristics and 12 months outcome of a combined MACE of death, non-fatal MI, stroke, admission with angina, unplanned revascularisation

Results:

	Patients ON RCMrX				Patients with NO- RCMrX			
	Total	THR achieved	THR not achieved	p	Total	THR achieved	THR not achieved	p
n	93	69 (74%)	24 (26%)		134	121 (90%)	13 (10%)	
Age		71 (62.5-77.0)	66 (60.5-71.5)	0.077		68 (55.8-75.0)	58 49.8-67.5	0.045
Male Sex	54	41 (54.2)	13 (59.4)	0.653	57	50(41.3)	7(53.8)	0.385
Hypertension (%)								
DM	38	27 (39.1)	11 (45.8)	0.565	28	26(21.5)	2(15.4)	0.607
Smoker	16	11 (15.9)	5(20.8)	0.584	28	27(22.3)	1(7.7)	0.218
Obesity	39	33 (47.8)	6 (25.0)	0.051	42	36(29.8)	6(46.2)	0.226
FH	17	13 (18.8)	4 (16.7)	0.812	36	35(28.9)	1(7.7)	0.101
Medications								
BB	82	62(89.9)	20(83.3)	0.394	1	1(7.7)	0(0.0)	0.002
Rate controlling CCB	6	4(5.8)	2(8.3)	0.663	0	0(0.0)	0(0.0)	1
ACE-I/ARB	56	41(59.4)	15(62.5)	0.791	42	37(30.6)	5(38.5)	0.56
Anti-platelet	61	47(68.1)	14(58.3)	0.385	52	47(38.8)	5(38.5)	0.979
Nitrate	35	28(40.6)	7(29.2)	0.32	29	26(21.5)	3(23.1)	0.895
Other antianginals	11	9(13.0)	2(8.3)	0.534	6	6(5.0)	0(0.0)	0.411
DSE parameters								
No. of pts with Positive for ischaemia	46	35(50.7)	11(45.8)	0.68	38	34(28.1)	4(30.8)	0.839
No. of pts with Biphasic response (viable - ischaemic)	23	18(26.1)	5(20.8)	0.607	16	12(9.9)	4(30.8)	0.027
No. of pts with Viable non-ischaemic	2	1(1.5)	1(4.2)	0.429	11	10(8.26)	1(7.7)	0.943
WMSI at rest median(IQR)		1	1	0.478		1	1	0.092
WMSI at peak median(IQR)		1.06	1.03	0.853		1	1	0.393
% of THR achieved median(IQR)	89	89 (87.0-92.0)	79.5 (74.0-82.0)	<0.001	89	89 (87.0-93.3)	84.0 (80.5 84.0)	<0.001
HR at rest		69 (59.0-79.0)	61.5 (56.0-76.0)	0.092		74 (64.8-81.3)	68 (61.5-81.0)	0.252
MACE (death, non-fatal MI, unplanned revascularisation, Stroke, Admission with angina)	16	8(11.6)	8(33.3)	0.015	6	4(3.3)	2(15.4)	0.045



Conclusion:

This retrospective analysis of Dobutamine Stress Echocardiography (DSE) data demonstrated comparable efficacy in patients with and without rate-controlling medications (RCMx) during evaluation for suspected coronary artery disease (CAD). The findings indicate that patients undergoing Dobutamine SE while on RCMx can proceed without compromising test accuracy, while also avoiding the adverse effects associated with discontinuing RCMx, thereby enhancing the overall safety and tolerability of the procedure.

Digitizing the On-Call Medical Team's Patient List System: A QIP

DR FAHAD-BIN ZAHID, ST6 ACUTE INTERNAL MEDICINE

BACKGROUND

The paper-based referral system was inefficient and prone to error. To improve handovers, I developed a simple digital solution using SharePoint and Excel.

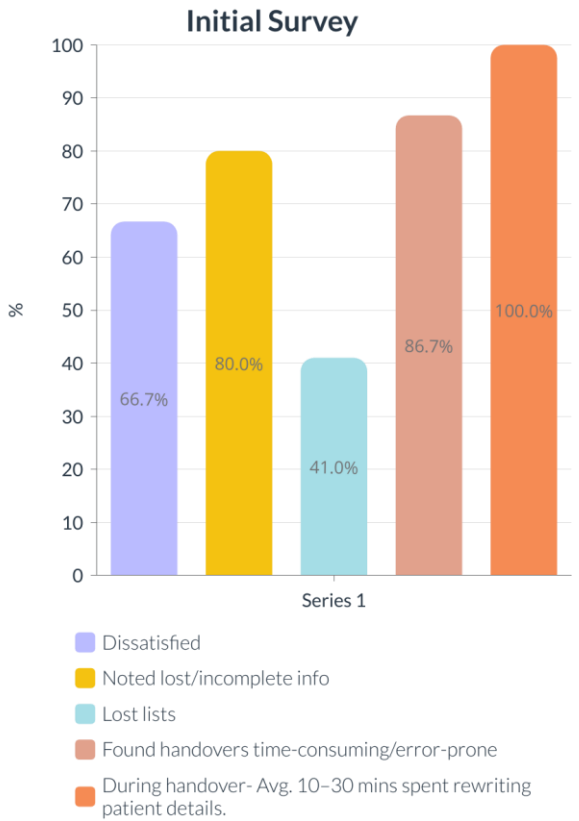
AIM

To implement a cost-effective digital patient list that enhances safety, efficiency, and sustainability in on-call care.

METHODOLOGY

- Excel-based patient list
- Hosted on Share Point
- Accessed via Microsoft teams
- NHS email

BASELINE ISSUES WITH PAPER-BASED SYSTEM



PDSA CYCLES

Cycle 1: Improved prioritisation by removing the "low" category, highlighted SDEC patients, and reminded staff to regularly update MSS.

Cycle 2: Removed low-use columns, enhanced post-take tracking, added clerking doctor details, and improved spreadsheet navigation.

Cycle 3: Created a login video guide, addressed timestamp issues, and securely archived past lists in the W-drive.

Cycle 4: Replaced clerking time column with MSS status, finalised column structure, and highlighted C56 ward patients.

Cycle 5: Introduced automatic timestamping and published clear usage guidelines.

EVALUATION

- Clear information
- Paperless
- Time-saving
- Colour coding
- Accessible.

RESULTS

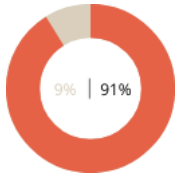
1. Efficiency:

Handover time cut by 13.5 mins;

73% saw improved workflow.

2. Sustainability: 100% paper use eliminated.

3. Satisfaction: 91% preferred the system; 73% rated usability 8–10.



4.Equality: No adverse impacts; improved accessibility for dyslexic users.

SUMMARY

Method: Used PDSA to develop a live Excel list on SharePoint with real-time updates and MS Teams access.

Engagement: Co-designed with clinicians and the Digital Innovation Team, using existing tools at no cost.

Impact: Reduced handover time, improved usability and satisfaction and eliminated paper use.

Outcome: Safer, clearer, and more efficient handovers with secure digital archiving.

.

THE IMPORTANCE OF BONE HEALTH IN PARKINSON'S DISEASE PATIENTS

A Project focused on improving investigation and management in Hinchingbrooke Hospital

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Royal College of Physicians

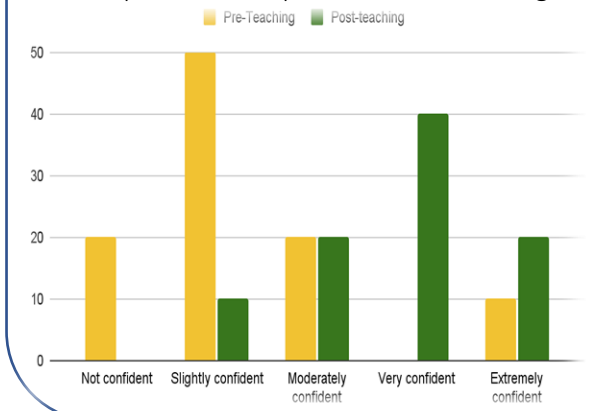
NHS North West Anglia NHS Foundation Trust

Background

Parkinson's disease (PD) significantly worsens bone health, increasing the risk of osteoporosis and fractures due to several risk factors including reduced bone mineral density, postural instability, polypharmacy and increased fall risk (1). Currently there are no existing NICE guidelines detailing investigation and management of osteoporosis in PD patients (2).

The aim was to improve awareness and investigation by ensuring bone health testing and utilising FRAX scores for fracture risk evaluation and management.

Graph showing confidence levels in diagnosing osteoporosis in PD patients after teaching



Overall results post interventions

25% improvement in vitamin D testing on admission

35.7% improvement in bone profile testing on admission

No improvement in use of FRAX scoring tool

Data collection	Intervention 1	Intervention 2
The project comprised of three cycles. Baseline data were collected on patients' mobility, assistive device use, fracture history, osteoporosis testing, and current calcium and vitamin D supplementation.	The first interventions focussed on education. Teaching sessions were held to educate resident doctors about bone health in PD and posters were created and dispersed to promote bone health testing.	The next intervention focussed on creating individualised treatment plans with recommendations to clinicians for vitamin D testing, FRAX score calculations, and DEXA scans.

RESULTS

Baseline data showed significant gap in vitamin D, bone health testing and the use of FRAX score	An 18% improvement in bone health testing, but no progress in Vitamin D testing or use of FRAX tool	Further 18% rise in bone health testing and 44% rise in Vitamin D testing. No improvement in use of FRAX tool

Conclusions:

Education sessions were successful in improving awareness and confidence in diagnosis osteoporosis in PD patients

The use of personalized treatment plans were the most successful intervention in increasing investigations for osteoporosis

The next intervention will focus on improving use of the FRAX tool

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Parental Awareness of Minimising Added Sugar Intake during Complementary Feeding

Florence Chang Jia Xuan[1], Mrs Rachael Hocking[2], Mrs Emma Hingston[3], Dr David Tuthill[4]

Cardiff University[1], Department of Nutrition and Dietetics of Children's Hospital for Wales[2], Dental Hospital of Wales[3], Children's Hospital for Wales[4]

Introduction

To maintain oral health the NHS recommends children aged under 4 years old to avoid any food and drinks with added sugar. We audited parental awareness of added sugar intake during complementary feeding.

Methods

A survey was created with 21 questions covering the child's demographics, advice parents were given, source of information, importance of minimising sugar, use of store-bought baby food, identifying food with added sugar and dental questions. A pilot survey was done with 5 parents to achieve clarity and the revised survey was used in person by one administrator (FC).

Results

128 parents with children under 5 years old were approached, of these 12 declined, 15 did not complete the survey and 1 could not speak fluent English. Of the remaining 100 children:

- 50 were male and 50 were female.
- 38% of the children were the first child.
- Ages were: < 1 year old = 21, 1-year-old = 20, 2-year-old = 19, 3-year-old = 22 and 4-year-old = 18.
- 33% were breast fed, 33% were formula fed, 32% combination fed and 2% selected other methods.

Complementary feeding

Most parents were given advice on when to start (80%).

- 31% started <6 months.
- 63% followed the recommended age to start complementary feeding at 6 months old.
- 6% started >7 months.

Fig. 1: Survey question on baby products containing added sugar

Most parents (89%) failed to identify the products with added sugar from Fig. 1.

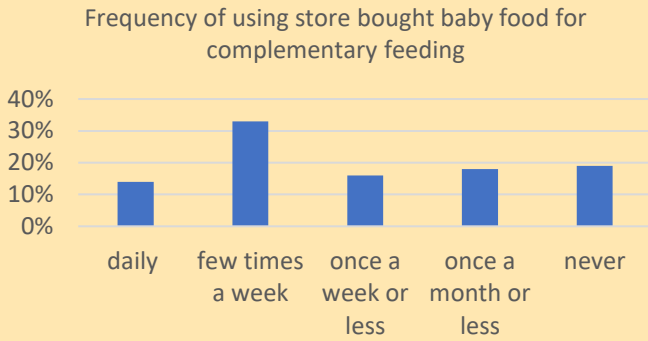

Fig. 2: Bar chart of frequency of using store bought baby food for complementary feeding

Only 25% of parents felt they had all the information needed about complementary feeding. 55% of parents said their main source of information about complementary feeding is health visitors, followed by websites and online resources (22%).

Sugar intake when introducing solids

- Most parents described added sugar as "extra artificial sugar not originally present in food". Half (43%) said reducing sugar intake was a very important factor to them.
- Almost all (90%) stated they were aware of "added sugar" and that they should avoid it during complementary feeding.
- Some parents (14%) use store bought baby food daily whilst 33% used it a few times a week.

Conclusion

- Parents with multiple children have better complementary feeding knowledge
- Most parents claimed to know what added sugar is and to avoid it during complementary feeding, however most are unable to recognize products with added sugar.
- Parents had a wide variety of sources of information about complementary feeding.

A Case of Fibrillary Glomerulonephritis Necessitating Multidisciplinary Care

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1 - Ipswich Hospital, East Suffolk and North Essex NHS Foundation Trust
2 - Department of Histopathology, Cambridge University Hospital

Introduction

- 58-year-old male with renal insufficiency & rapidly progressive cardiac dysfunction **without** an underlying precipitant.
- Recurrent hospitalisations for congestive symptoms with pulmonary oedema secondary to left ventricular systolic dysfunction (LVSD).
- Challenges in managing a patient with FGN.

Background

- Fibrillary glomerulonephritis (FGN) is a rare glomerular disease with significant systemic impact.
- Associations – Malignancy, autoimmune diseases (RA, SLE, Sjogren's, and thyroiditis), or Hepatitis C[3].
- FGN is widely, not universally recognised to be distinct from immunotactoid glomerulonephritis (ITG)[4].

Clinical Presentation

- Nausea, vomiting & generalised weakness.
- History of alcohol dependency & cannabis use.
- Vital signs – within normal physiological limits.
- Blood results on presentation:
  - Urea 67.1 mmol/L
  - Cr 2502 µmol/L
  - K+ 7.5 mmol/L
- Chest X-Ray – **clear lung fields.**
- Critical care for haemofiltration.
- Prepared for native kidney biopsy.
- ANA, ANCA, and anti-GBM – **Negative**.
- Complement levels – **Normal**.
- Serum electrophoresis – **No monoclonal bands**.
- Hep B, Hep C, HIV, CMV, EBV, Adenovirus – **Negative**.
- Following 6 months, admissions with breathlessness complicated by **large pleural effusions.**
- Maintained on haemodialysis (HD).
- Progressive LVSD on interval echocardiograms – (**40% to <20% in 6 months**).

Biopsy

- Congo red stain, negative in the glomerulus (Fig 1).
- DNAJB9 immunostaining, positive in glomerulus (Fig 2).
- IgG4 immunostaining, strongly positive in glomerulus (Fig 3).

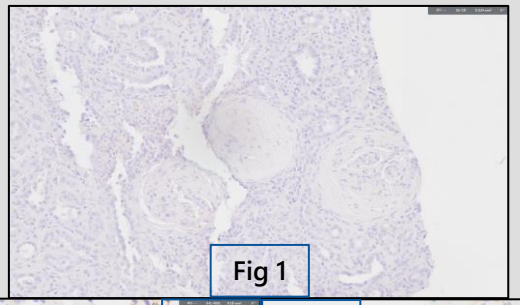

Fig 1

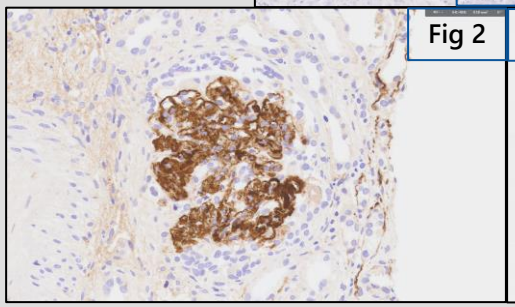

Fig 2

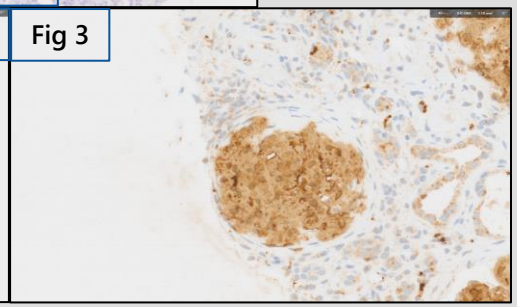

Fig 3

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Treatment & Prognosis

- 1st Line – RAAS modifiers/ Haemodialysis/BP control[3].
- Immunosuppression– **Inconsistent**, no proven benefit[6].
- IVIG/Plasmapheresis – Limited Data.
- Renal Tx – Recurrence 20-50%, favourable outcomes[3].
- Nearly **half** of patients – ESRF[3].
- Median survival rate - 2-5 year[3].

Outcome & MDT

- Cardiology – Referral to Complex Heart Failure clinic in tertiary centre, 4 pillars of heart failure treatment. Gadolinium limited use of Cardiac MRI.
- Respiratory – Long term oxygen therapy, lower target saturations.
- Vascular – Arteriovenous fistula for HD.
- Dietician – High calorie supplements, vitamins/mineral supplements, low potassium/phosphate diets.
- Community – Physical rehab
- Palliative care – Symptom management, psychological support, Hospice referral.
- Mental Health – Support with "panic attacks", chronic illness counselling.

Discussion

- DNAJB9 immunostaining allows for rapid, accurate diagnosis on light microscopy[5].
- Highlights importance of recognising alternative causes of rapidly progressive LVSD in differentials.
- FGN & ITG are both non-amyloid glomerulopathies characterised by randomly-arranged Congo red-negative fibrils, however ITG is always DNAJB9-negative[5].
- **Cardiac biopsies have not been reported** in either ITG nor FGN patients with concomitant cardiac failure.
- Extrarenal manifestations are mechanistically hypothetical.
- Is the LVSD a phenotypical extension of the FGN?
- Suggestive of a systemic phenotype beyond isolated renal pathology.

TRENDS IN DEATHS FROM ALCOHOLIC LIVER DISEASE OVER THE PAST DECADE IN ENGLAND AND WALES: A GROWING CONCERN

Presented by Gopika Biju Pillai, Co-Authors: Dr Vedamurthy Adhiyaman, Prof Peter Hobson

Background

Deaths from Alcohol Liver Disease are steeply ascending in England and Wales, despite persistent, multifaceted government policies aimed at reducing consumption. Although ALD related mortality has historically shown a male preponderance, there is a sharp increase among females as well.

Methods

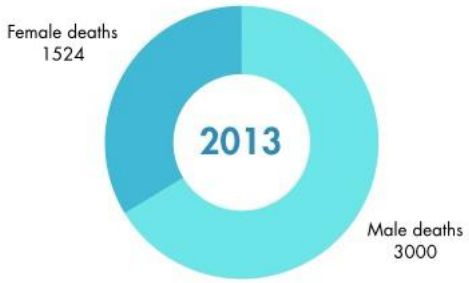
Data on deaths due to ALD was extracted from 2013-2023 using ICD code K.70 from Office of the National Statistics, to compare the trends over time and the difference between men and women over the time.

Trends over the decade:Key Points

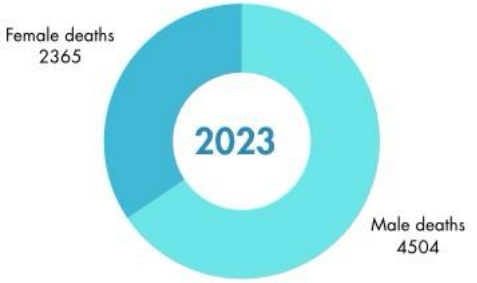
Deaths due to ALD(Alcohol Liver Disease) has raised with a notable acceleration of 50% over the past decade.

Although men are twice as likely to die from ALD as compared to women, it is worrying that the rate of increase among women in the past decade is higher.

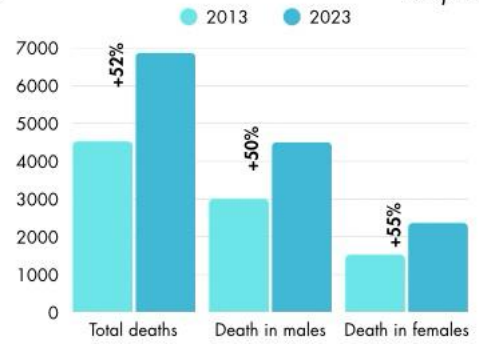
There is evidence of targeted alcohol marketing towards women, perpetuating gender stereotypes.



Graph 1



Graph 2



Graph 3

Conclusion

- **Risk Analysis**:Alcohol poses a greater risk to women's physical health, even at lower rates of consumption.
- **Public Health Implications**:Early detection through screening recommended, along with risk stratification and youth education. There is a need for gender specific and targeted interventions and awareness, including policies like increasing taxation, price regulation and restrictions on advertising.

"REG REFLECTIONS": BUILDING A CULTURE OF COLLABORATIVE WORKING THAT TRANSCENDS CLINICAL SPECIALISM

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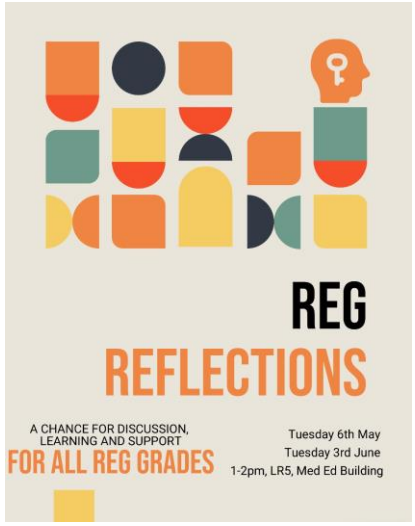
BACKGROUND

Registrars form the backbone of hospital care, often bearing significant responsibility in high-pressure environments. This role is inherently stressful and can lead to feelings of isolation, particularly within rotational resident doctors. Evidence shows that wellbeing of doctors has a direct relationship on patient outcomes[1]. Furthermore, collegial relationships are essential in fostering a culture of professionalism, safety, and quality within healthcare[1].

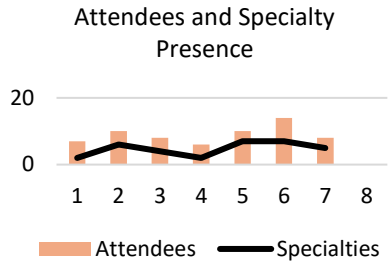
Spurgeon and Klaber[2] highlight that developing a culture of learning and feedback in ward settings is critical to both personal growth and effective teamwork. Leadership within medicine requires collaborative efforts to deliver and enhance services, which is dependent on the development of interpersonal relationships and professional networks.

This initiative explores the impact of hosting semi-structured registrar-led meetings. These were designed to focus on pastoral elements of registrar training to improve communication, collaboration, and overall workplace culture among middle-grade doctors in a busy district general hospital (DGH).



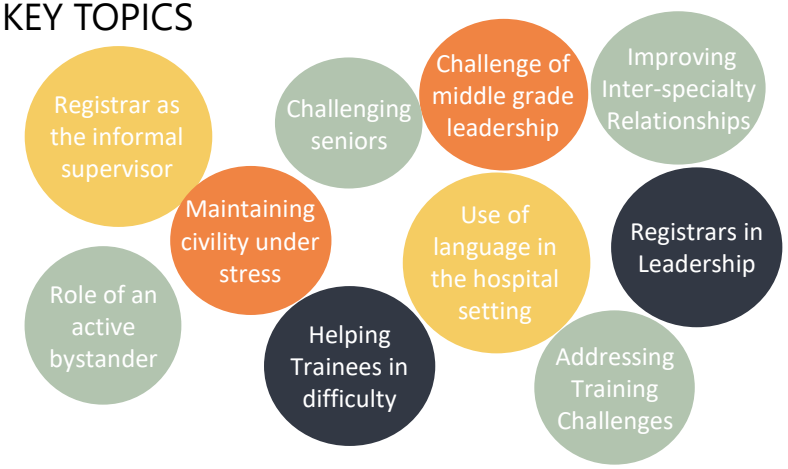
METHODOLOGY

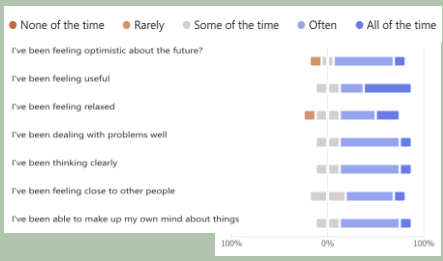
A cohort study of registrar grade doctors at Barnet Hospital, London. The intervention was monthly semi-structured meetings open to registrar grade doctors of all specialties. They were facilitated by the Chief Registrars to enable semi-structured discussions on key themes including; registrars in leadership, the use of language in clinical settings and training challenges (see below).



Data was collected via attendance numbers, informal discussions and structured surveys, utilising the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMBS).

KEY TOPICS





RESULTS

- Challenges faced by registrars transcend clinical specialism
- Dedicated space for discussion resulted in improved sense of wellbeing amongst registrar doctors, 100% surveyed felt it reduced sense of isolation in the workplace
- Dedicated safe space for group discussion allowed registrars to voice concerns and seek peer support (>87%)
- "RegReflections" improved cross-specialty collegiate working and reduced incidence of incivility (>87%)
- Group discussion highlighted importance of middle-grade leadership in shaping positive workplace culture
- RegReflections showed a quantifiable increase in staff wellbeing using the SWEMBS (increased optimism, closeness and feeling relaxed)

CONCLUSION

"RegReflections" has displayed that simple, targeted interventions can result in significant improvement in the working lives of senior decision makers in the clinical hospital setting. The promotion of collegial working to reduce friction between specialty teams has shown to be a beneficial method of improving wellbeing among residents and has a subsequent beneficial impact on patient outcomes.

The initiative has addressed the professional isolation of registrars, improved communication and teamworking, and promoted a more compassionate leadership ethos.

By creating an inclusive and supportive environment, registrars feel better equipped to navigate the challenges of their roles. This ultimately enhances patient care and safety [3]. Our work suggests similar initiatives could be easily implemented elsewhere to strengthen professional relationships, improve interdisciplinary communication, and support leadership development within clinical training.

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Benign Combined Myelolipoma and Adrenocortical Adenoma with Mild Autonomous Cortisol Secretion in an Adrenal Incidentaloma - A Case Report

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INTRODUCTION

Adrenal incidentalomas are increasingly being identified due to the widespread use of cross-sectional imaging. We present a unique case of **co-occurrence of two distinct adrenal tumors (adrenal collision tumour)**: a **myelolipoma** and **a mild autonomous cortisol secreting (MACS) adrenocortical adenoma.**

CASE DETAILS

A **67-year-old female** was referred to the endocrine clinic following the **incidental detection of a left adrenal mass** on CT imaging performed as part of a targeted lung health check.

Background:

Chronic back pain, Irritable bowel syndrome (IBS), 50-pack-year smoking history

Clinical Assessment:

- **BMI:** 24.1kg/m^2
- No signs of Cushing's syndrome
- **No metabolic comorbidities** (hypertension, diabetes, dyslipidaemia)

Endocrine Evaluation

- **Overnight Dexamethasone Suppression Test (ONDST):** Cortisol 97 nmol/L (consistent with MACS)
- **ACTH:** 15 ng/L
- **24-hour Urinary Free Cortisol:** Normal
- **Plasma Metanephrines:** Normal

Management and Outcome

- Case discussed at the **Adrenal MDT**
- **Laparoscopic left adrenalectomy** recommended due to uncertain nature and malignancy risk
- **Procedure performed uneventfully** with perioperative steroid cover due to potential risk of adrenal crisis
- **Postoperative short synacthen test:** Normal adrenal function
- **Postoperative ONDST: N**ormal (cortisol 19 nmol/L)
- Hydrocortisone safely discontinued and **discharged from endocrine clinic**

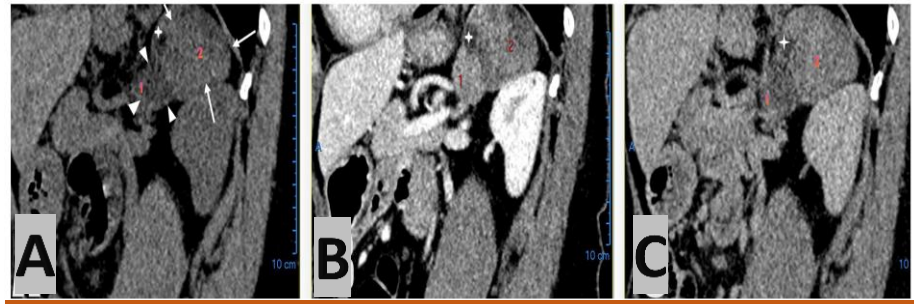

Figure 1 (A-C) Adrenal washout study with images presented in an oblique sagittal plane. Pre contrast phase (A) shows a mixed attenuation adrenal mass showing the adenoma component (1, arrowheads) with a density of < 10HU, and a larger component (2, arrows) showing presence of macroscopic fat (star), correlating with gross pathology specimen (2A). Subsequent portal venous phase (B) and delayed 15-minute phase (C) show washout of contrast from the adenoma (1) and the non-enhancing macroscopic fatty component of the otherwise heterogeneous myelolipoma.

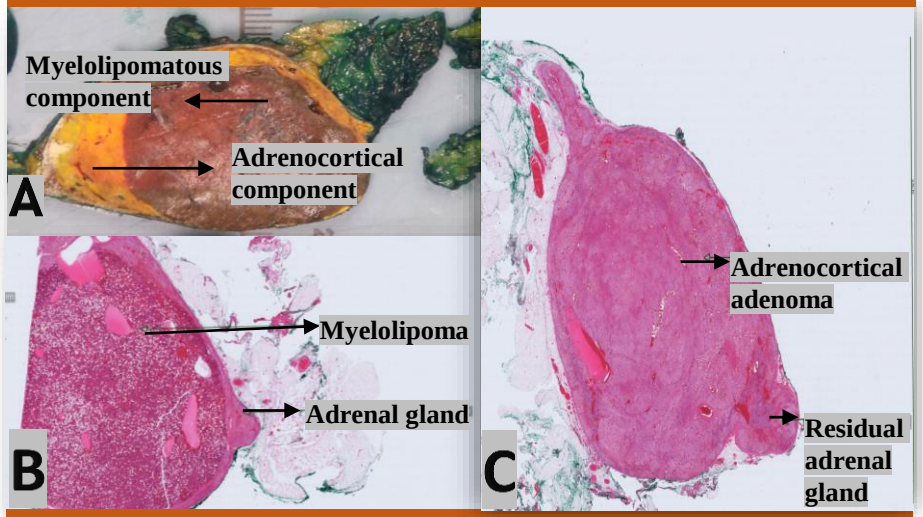

Figure 2 (A-C) Histopathology of the adrenal tissue showing a benign combined myelolipoma with adrenocortical adenoma (adrenal collision tumour)

DISCUSSION

- **Adrenal myelolipomas** are rare, benign, and typically non-functional tumors composed of adipose and hematopoietic tissue, often found incidentally.
- **Adrenocortical adenomas** may be functional or non-functional; in this case, the adenoma exhibited **mild autonomous cortisol secretion (MACS)**.
- **MACS** is linked to increased risks of hypertension, hyperglycemia, obesity, dyslipidemia, fractures, cardiovascular events, and mortality.
- **Adrenal collision tumours** are extremely rare, with very few cases reported.
- This case highlights the **complexity of adrenal pathology** and the importance of a **multidisciplinary approach** for accurate diagnosis and management.

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NHS South Tees Hospitals NHS Foundation Trust

NHS North Tees and Hartlepool NHS Foundation Trust

UNDELIVERABLE BY DESIGN? HOW EXCESSIVE INTERNAL MEDICINE COMMITMENTS ARE COMPROMISING GROUP 1 SPECIALITY TRAINING ACROSS THE UK

Findings and Implications from a 3-Year Audit on the Crisis Facing Group 1 Specialty Training in A Large UK Deanery

Dr Hasaan Rafique, Dr Sadaf Hasaan, Dr Neil Fisher

BACKGROUND – THE CRISIS

- In 2022, the Shape of Training reforms were introduced.
- **The aim:** to balance generalist breadth with specialist competencies.
- All Group 1 specialities lost one year of training in favour of an extra year of IM (Internal Medicine).
- IM and speciality curricula introduced a **75:25 time split between specialty and IM** for all Group 1 medical specialties.
- **The reality:** this balance is not being delivered.
- Our 3-year deanery-wide audit warns stakeholders of training time being systematically diverted from specialty development to IM service provision.

METHODS – MAPPING TRAINEE TIME

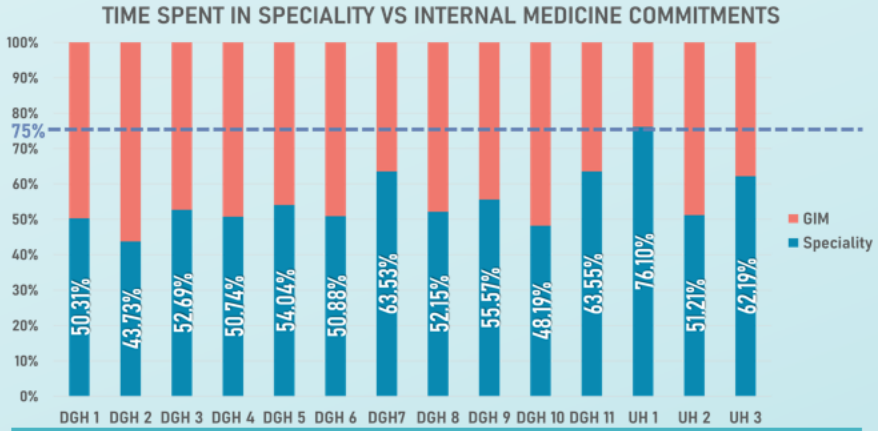
- Complete annual rotas analysed: **All 14 hospitals in the deanery** (11 DGHs, 3 university hospitals) - each year from 2022-2024.
- **IM time:** Acute unselected take, GIM ward cover, mandatory IM clinics & IM teaching.
- **Specialty time:** All specialty activity.
- Data adjusted for leave.
- Validated with medical staffing departments.

THE EYE-OPENING RESULTS

4 → 2 YEARS

- No DGH met the 75:25 training target in any year
- Only 1 university hospital achieved the benchmark.
- In 2024: **Mean specialty time: 55.4%** Mean IM time: 44.6%.
- **Training time lost: 9.5 weeks/year overall.**
- DGH deficit: 10.5 weeks/year.

⚠ **Over 4 years, trainees lose the equivalent of 2 full years of focused specialty training.**



THE IMPLICATIONS

- With this consistent shortfall in specialty training time, skill dilution risks becoming the norm — not the exception.
- ⚠ **Many trainees will require:**
  - **Time out of programme (OOPE)**
  - **Training extensions**
  - **Post-CCT fellowships** — as a necessity to reach minimum standards.
- This raises serious concerns about the deliverability and sustainability of the current dual training model.

OUR NUMBERS ECHO THE VOICES

Gastro (BSG survey): As of 2022, Only 22% achieved colonoscopy accreditation (↓ since 2018)

- Over 70% say GIM significantly impedes specialty training
- Just 10% feel 4-year training is realistic
- 84% feel unready for consultancy at CCT

Cardio (BJCA survey):

- 87% expect to need at least one post-CCT fellowship.
- Endocrinology, nephrology, and respiratory trainees all report reduced specialty time in national surveys.

GMC's National Training Survey and the RCP:

- ⚠ Trainees are burning out, GIM satisfaction is low, many are seeking career breaks or alternative routes.
- **We're asking trainees to do more in less time, while also covering more rotas.**
- ⚠ Ongoing NHS funding cuts may reduce LED posts, increasing reliance on specialty trainees for service delivery.

RCP 2023 Workforce Census:

- 52% of consultant physician posts (Acute medicine: 58% unfilled; Gastroenterology: 47%; Geriatric medicine: 44%).

⚠ **We face a systemic mismatch: too few trainees, trained too shallowly, to fill too many jobs.**

INTERNATIONAL PARITY UNDERMINED

UK clinicians at risk of falling behind global peers

Country	Time	IM
	5 years	✗
	3 years	✗
	≈2 years	✓

REFORMS ARE NECESSARY

- We are not just losing training time.
- ⚠ We are risking the quality and readiness of the next generation of consultants,
- ⚠ This will ultimately affect patient safety.

This is not just unsustainable

- Stakeholders should act now:
  - Increase National Training Numbers (NTNs) to reduce rota burden
  - Enforce the 75:25 specialty:IM split
  - Introduce ringfenced specialty immersion blocks
  - Expand the non-training workforce (e.g. SAS, ACPs, LEDs, Trust fellows)
  - Decouple training from service delivery

Citations

THINK DNAR: A QIP

I.Potter, Cardiff and Vale University Health Board

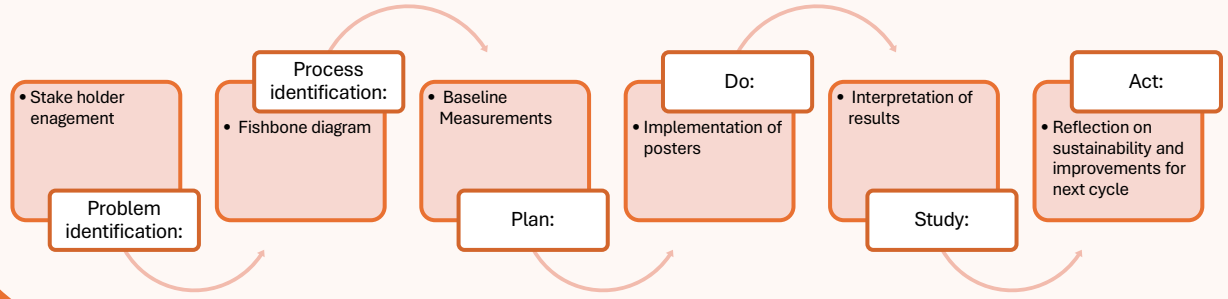
Background:

- Advanced care planning (ACP) is the process of making decisions about future care.[1,2]
- In Wales, there are no consistently used ACP documents.
- Patients with no documented ACP are at increased risk of unwanted investigations and unnecessary hospital admissions.[2,3]

Aims:

- Improve the communication of resuscitation discussions had in hospital to GPs.

Method:



Results:

- A similar number of people had DNARs (Do Not Attempt Resuscitation orders) - 45% compared to a previous 44%
- More patients had DNAR decisions communicated in their DALS (40% compared to 26% previously).

Reflections:

Strengths:

A dynamic PDSA design

A reflexive approach

Next time:

Promote increased sustainability through education as opposed to prompts

Conclusions:

- Ongoing work is needed to continue to improve communication of resus status to GPs.
- A second PDSA cycle is ongoing using teaching as the intervention

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Standardising the Administration of Joint Injections Across the Wolverhampton NHS Trust – A Service Improvement Project through the Lens of Medical Education

Dr. Hirushi S. Jayasekera (Project Lead)[1], Dr.Tamaraudubamo Agunbiade[1], Dr. S. Venkat Chalam[1] (Project Supervisor)

The Royal Wolverhampton NHS Trust

BACKGROUND

The Rheumatology Junior Doctors' forum (JDF) highlighted that doctors were keen to perform steroid injections but limited by individual levels of experience, confidence and access to guided learning opportunities. There is a clear gap in knowledge around decision making on when/ when not to inject and type of steroid to use. Upskilling doctors in this area showed potential to enhance service development by reducing patient waiting lists and improving professional competency.

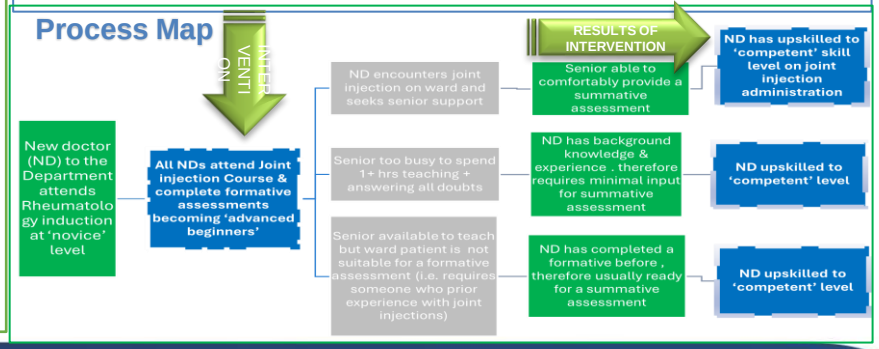
AIM:

To standardize the practice of joint injections across the Trust by empowering doctors with the skill-set, knowledge and confidence required for safe practice in line with Trust values and guidelines

- ✓ **S (Specific):** Improved doctors' Dreyfus learning level from novice to competent
- ✓ **M (Measurable):** Assessed learning quantitatively (DOPs) and qualitatively (confidence levels).
- ✓ **A (Achievable):** Implemented four interventions—lectures, small group teaching, interactive sessions, and one-to-one procedural teaching with manikins, delivered by four Rheumatology doctors experienced in Intra-articular injections
- ✓ **R (Relevant):** Ensured safe practice in line with Trust values, all candidates achieved recognition of skill in portfolios, upskilling doctors could potentially reduce patient wait times
- ✓ **T (Time-Bound):** Completed within 6-month timeframe with structured interventions.

METHOD:

A Doctors' Survey identified knowledge gaps and learning needs, followed by the recruitment of teachers/Registrars. Driver diagrams were used to break down tasks, while process mapping determined the best intervention points. Consultant insight, PDSA discussions, and Fishbone analysis guided course design, supported by regular MS Teams meetings. Room booking, advertising, sponsorship, and equipment were arranged. Following implementation, feedback collection, post-course discussions, and feedback analysis were conducted. Improvement radars assessed progress, and Poral diagrams identified areas for further enhancement. Findings were presented at the Rheumatology Departmental Meeting to drive continued improvements.



RESULT HIGHLIGHTS:

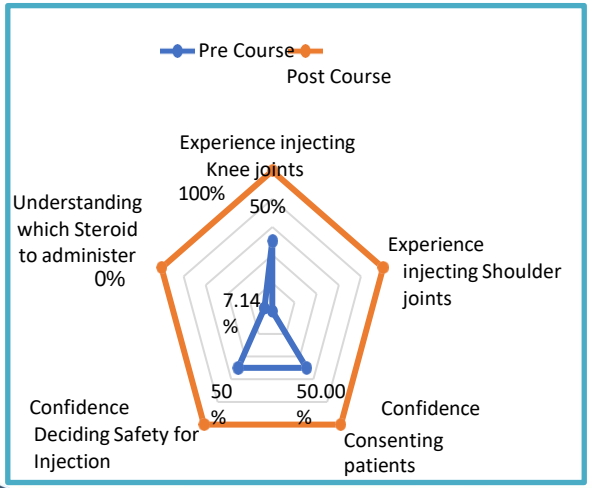
Experience with Joint Injections:
- 50% were novice at joint injections amongst which 0% had ever injected a shoulder.

Confidence in Consenting Patients:
- Pre-Course: Only 14.29% strongly agreed to have confidence. Post-Course: 100% confidence in consenting

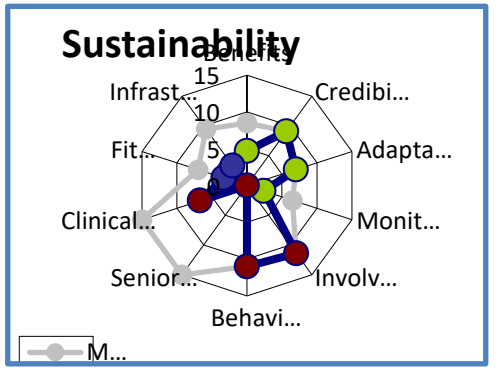
Understanding Medications for Joint Injections:
- Pre-Course: 64.29% had only heard medication names, 28.57% unsure of evidence-based practice. Post-Course: 100% confidence rate

Confidence in Deciding if Safe to Inject the joint:
- Pre-Course 42.9% were not confident in making these decisions, post course 100% improvement (42.86% strongly confident, 57.14% confident).

IMPROVEMENT RADAR:



SUSTAINABILITY MEASURES



CONCLUSION

This service improvement project successfully enhanced confidence and upskilled the competency levels of all doctors in attendance

Participants demonstrated improved skills in obtaining consent, understanding injection safety, and selecting appropriate medications, while also gaining formal portfolio recognition.

QIP sustainability analysis highlighted project strengths in evidence credibility, adaptability, and training.

As a result, the intervention was integrated into the Rheumatology Departmental Induction, ensuring ongoing training and service enhancement for the department

Acknowledgments: Dr. Ajibade Adenitan, Dr. Saima Almas

[1]*The Royal Wolverhampton NHS Foundation Trust*

An Audit on the Death Certification Process in Wales

Dr. Indrajit Nair
Dr. Vedamurthy Adhiyaman

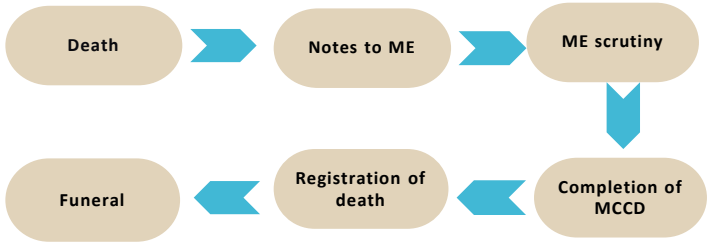
Bwrdd Iechyd Prifysgol
Betsi Cadwaladr
University Health Board

Introduction

Independent medical scrutiny and reforms to death certification became statutory in England and Wales in September 2024. Currently, all deaths are reported to the Medical Examiner Services (MES) for them to be scrutinised by an independent Medical Examiner (ME). This process has led to delays in securing death certificates and there have been reports of long waiting times before funerals could take place, causing tremendous anguish to families.

Methods

We did the initial audit in July 2024 during which MES was not statutory and not all deaths were scrutinised. We calculated the number of days it took for each step of death certification, from death to funeral, to be completed. We then re-audited in February 2025, and compared the data.



MCCD = Medical Certificate of Cause of Death

Figure 1: Steps involved in the death certification process

Results

Steps	Average No. of Days (Range)	
	July 2024	Feb 2025
Death to availability of notes	1.6 (1-3)	2.3 (1-9)
ME scrutiny	1.4 (0-4)	5.6 (1-8)
ME scrutiny to completion of MCCD	2.1 (0-6)	1.9 (0-5)
Delays due to mistakes in MCCD	Did not collect data	3 (1-7)
Date of death to registration	5.1 (3-10)	10.75 (6-15)

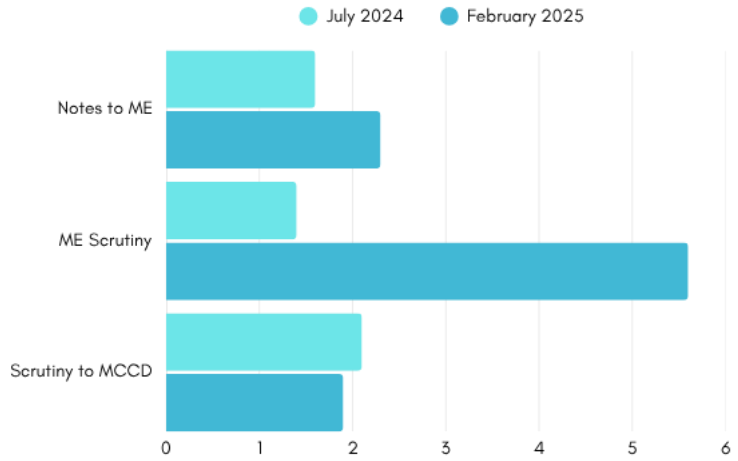
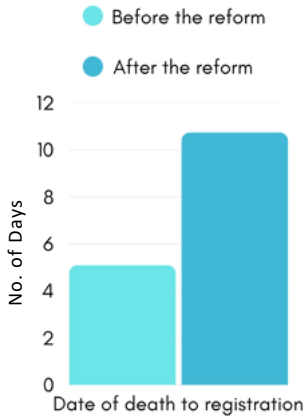


Figure 2: Comparing the delay in each step



Interpretation of Results:

- **Delay in ME scrutiny has risen by a staggering 300% after the September 2024 reform.**
- **Delay from the date of death to the registration of death has risen by 110%.**

Figure 3: Comparing the total delay

Discussion

Our results show that there are considerable delays following the implementation of the statutory system. There are delays in every step in the process and the longest delay was for ME scrutiny. This confirms the media reports about bereaved families having to wait for a long time for funerals. To minimise the delay, we should address the issues in every step. Notes should be made available immediately after death, clinicians should propose the cause of death before ME review, ME scrutiny should be timely and proportionate, and MCCDs should be completed without delay. These issues should be addressed in order to make the death certification process more efficient and streamlined.

Embracing Innovation to Drive Positive Change to Clinical Practice in Stroke Care

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University Hospitals of North Midlands NHS Trust

Background & Rationale

The introduction of new technologies into clinical practice is essential to addressing unmet medical needs and improving patient outcomes. Clinicians bear the responsibility of identifying these gaps and ensuring that proposed solutions are both safe and effective. The National Health Service (NHS) prioritizes the adoption of innovations that either offer superior alternatives to existing treatments or cater to patient populations for whom current options are inadequate[1].

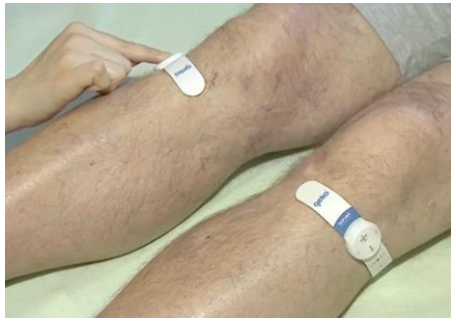
Case Study 1: AI-Enhanced Stroke Diagnosis

One such example is the Royal Stoke University Hospital's successful integration of artificial intelligence (AI) decision-support tools to enhance stroke care. By significantly reducing the time required to process and interpret brain scans, AI enables clinicians to make faster treatment decisions, thereby improving access to life-saving interventions such as thrombolysis and mechanical thrombectomy. This case underscores the critical role of leadership in implementing change within clinical practice.

Case Study 2: Neuromuscular Electrostimulation (NMES) for VTE Prevention

A particularly impactful instance of innovation addressing an unmet need is the adoption of a neuromuscular electrostimulation (NMES) device to prevent venous thromboembolism (VTE) in immobile stroke patients. VTE is a significant risk for individuals with reduced mobility, and existing preventive measures, such as Intermittent Pneumatic Compression (IPC) sleeves, are not viable for approximately 30% of acute stroke patients due to discomfort or contraindications[2].

To address this gap, Dr. Indira Natarajan and his team conducted a real-world 1,000-patient observational pilot study to evaluate the efficacy of a neuromuscular electrostimulation (NMES) technology. The NMES device stimulates a nerve in the leg to activate the calf and foot muscle pumps, increasing blood flow in the deep veins of the calf, thereby reducing the risk of VTE[3]. Results showed a 2.4% incidence of VTE in patients treated with standard of care, compared to a zero VTE incidence in patients prescribed the NMES device alone[4].



Implementation Strategy & Multidisciplinary Collaboration

The successful adoption of this technology was facilitated through leadership and a structured, multidisciplinary approach involving key stakeholders. Governance bodies, including Directorate, Divisional, and Trust Governance, ensured regulatory compliance. The hospital pharmacy department incorporated the NMES device into treatment protocols, while the stroke unit's multidisciplinary team collaborated on study design, patient recruitment, and data collection.

Training programs were implemented to familiarize staff with the technology, and a database was established to monitor patient outcomes and assess long-term efficacy. The observed success of the NMES intervention has prompted its expansion to additional stroke centres across the UK[5],[6] and internationally.

Conclusion: A Model for NHS-Wide Innovation

The Royal Stoke Hospital's experience highlights several key factors in the successful introduction of clinical innovations: identifying unmet clinical needs, rigorously evaluating new technologies, fostering multidisciplinary collaboration, and systematically integrating novel solutions into routine practice. This case serves as a model for broader NHS adoption of transformative medical technologies, demonstrating how leadership and evidence-based practice can drive meaningful improvements in patient care and healthcare system savings.

The dissemination of successful interventions across healthcare settings ensures that innovative solutions continue to address critical gaps, ultimately enhancing health outcomes on a larger scale.

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MDPODVT0784

Evaluation of 4AT Delirium Screening Compliance in Pre- and Post-Operative Hip Fracture Patients: An Audit

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Introduction

- In 2024, around **70,000 people** in England, Wales, and Northern Ireland **sustained hip fractures**, making this a major burden on the healthcare system.
- **Delirium is one of the most critical complications, leading to increased mortality and length of stay (LOS)**, with two-thirds of patients showing signs preoperatively.
- **Early detection using the 4AT (Rapid Clinical Test for Delirium)** pre- and post-operatively is essential to identify at-risk patients, improve recovery, and reduce hospital stays.

Aims

I. **Primary:** Assess the consistency of pre- and postoperative 4AT assessments and identify contributing factors to delirium.

I. **Secondary:** Determine if early 4AT assessments are associated to lower delirium rates and align with the National Hip Fracture Database (NHFD) target of 66% non-delirious patients.

Methods

Conduct an audit of emergency hip fracture patients aged +65 admitted to Broomfield Hospital of Mid and South Essex Trust from 11 Sept to 11 Oct 2024

Delirium rates were analysed in relation to 4AT completion and contributing factors

Patients with incomplete records or elective surgeries were excluded

Missing post-op 4AT assessments were conducted by the audit team of medical students

4AT RAPID CLINICAL TEST FOR DELIRIUM

Items
1. Alertness
2. AMT4 (Age, DOB, Place, Year)
3. Attention (Months backwards)
4. Acute Change in Cognition

Results

Pre-Operative 4AT Completed

Post-Operative 4AT Completed

Sample: 40 patients, average age 84 (range: 67–96)

A&E Stay: Average of 10.75 hours (range: 4–21)

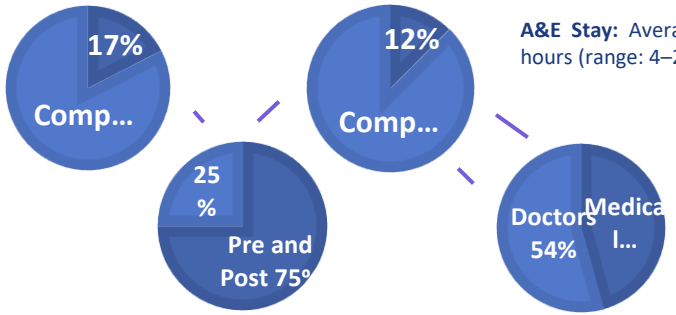


Figure 1. Completeness of 4AT assessment

Contributing Factor	Finding
No Fascia Iliaca Block (FIB)	17.5% (7/40)
Significant Comorbidities	77.5% (31/40)
Frailty Score ≥5	65% (26/40)
Not Consented for Delirium Risk	92.5% (37/40)
Inadequate MCA Completion	45% (18/40)
No Visible Clock/Calendar	77.8% (28/36)

Table 1. Key Factors to Pre and Postoperative Delirium

Discussion

- ✓ **4AT Compliance:** 75% of patients had pre- and post-operative 4AT assessments, although 46% were completed by the audit team **(Fig.1).** Replacing AMTS with 4AT in A&E would provide a more consistent baseline.
- ✓ **Delirium Rates:** Post-operative delirium at Broomfield (17.5%) is lower than the national average (34%), indicating effective prevention strategies, such as timely surgery and effective pain management (e.g. FIBs) **(Table 1).**
- ✓ **Consent and Documentation Gaps**: Only 3 patients consented to delirium risk, highlighting a need for better education. Also, the lack of MCA documentation suggests inconsistent capacity evaluations **(Table 1).**
- ✓ **Secondary Factors:** Additional risks such as polypharmacy (62.5%), constipation (67.5%), infections (37.5%), and prolonged NBM periods (17.5%) underscore the need for holistic multidisciplinary management.
- ✓ **Environmental Improvement**s: Enhancing the hospital environment by adding visual aids such as clocks and calendars could reduce delirium risk.

Conclusion

Broomfield Hospital demonstrates strong adherence to the NHFD and NICE standards. Key factors include effective delirium management, early surgery, pain control, and early mobilisation. However, improvements are needed in pre-operative assessments, patient consent and orientation aids to continue and further reduce delirium risk.

Recommendations

- Standardise the use of 4AT assessments and ensure proper documentation;
- Improve dementia care with “This is Me” sheets and minimise A&E stays;
- Enhance ward environments with visible clocks and calendars for orientation.

Complex Lupus Management: When Multiple Organs Demand Precision

Dr. Hirushi S. Jayasekera [1], Dr. Aymen Askari[2], Dr. Sourabh Chand[1]
[1]The Shrewsbury and Telford Hospital NHS Trust; [2]The Robert Jones and Agnes Hunt Orthopaedic Hospital

Introduction

Systemic Lupus Erythematosus (SLE) is a complex autoimmune disease with a wide spectrum of severity, ranging from mild manifestations to life-threatening organ damage[1–2] (*Figure 1.0*).

The Systemic Lupus Erythematosus Disease Activity Index 2000 (SLEDAI-2K) is a widely used tool to assess disease activity. A score above 12 indicates severe disease.[4] However, studies estimate that only 15–20% of patients present with severe manifestations at diagnosis.[5]

One of the most serious complications of SLE is lupus nephritis, which is classified into six classes by the International Society of Nephrology/Renal Pathology Society (ISN/RPS), ranging from Class I (minimal-mesangial lupus nephritis) to Class VI (advanced-sclerosing lupus nephritis).[6]

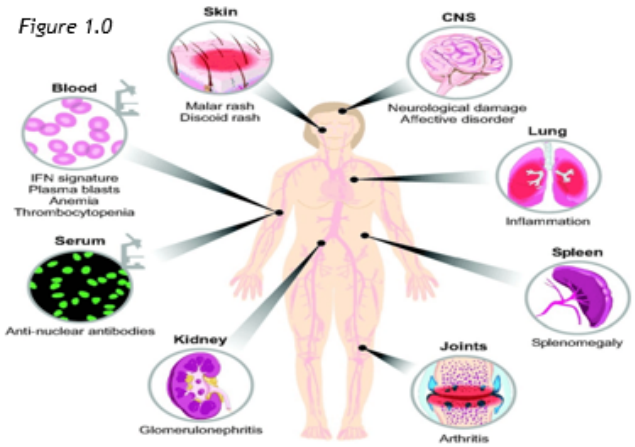
Methodology

A 62-year-old female presented with flu-like symptoms followed by a malar rash, mouth ulcers, fatigue, alopecia, and pancytopenia. She was diagnosed with SLE with lupus nephritis confirmed by renal biopsy, and SLE on skin biopsy. Management required significant consideration due to high disease activity (SLEDAI 16) complicated with pancytopenia, liver, renal and skin involvement.

Results

- Hypocomplementemia (C3 0.38 g/L, C4 0.03 g/L)
- Pancytopenia (WBC 1.2 × 10^9/L, platelets 126 × 10^9/L)
- Elevated Ferritin (5490 µg/L),
- Positive dsDNA
- Skin biopsy was consistent with SLE
- Renal biopsy confirmed lupus nephritis (ISN/RPS Class I)
- CT-TAP imaging showed axillary lymphadenopathy without malignancy

Figure 1.0



Mild SLE (Non-organ-threatening) SLEDAI<6

- Hydroxychloroquine (HCQ)
- Methotrexate (MTX)
- Short courses of NSAIDs for symptom control
- Aim to avoid/reduce steroids - Low-dose prednisolone (≤7.5 mg/day) if needed

Moderate SLE (SLEDAI 6-12)

- Methotrexate (MTX)
- Azathioprine (AZA)
- Mycophenolate mofetil (MMF)
- Ciclosporin / Calcineurin inhibitors
- Belimumab or Rituximab (for refractory cases)
- Prednisolone up to 0.5 mg/kg/day - IM or IV methylprednisolone if needed

Severe SLE (Organ-threatening: Renal, Neuropsychiatric, etc.) SLEDAI>16

- Mycophenolate mofetil (MMF) or Cyclophosphamide (CYC) for lupus nephritis & severe disease
- Belimumab or Rituximab (if refractory)
- IVIG or Plasmapheresis for severe complications
- High-dose steroids: - IV methylprednisolone or oral prednisolone (up to 1 mg/kg/day)

Figure 1.1- Summary of BSR Lupus guideline

Discussion

Treatment options for Lupus were discussed between the Renal and Rheumatology teams (*Figure 1.1- 1.3*) SLEDAI scoring and renal biopsy results were key elements driving management decisions. Therapeutic options were systematically evaluated to balance efficacy and safety.

- Azathioprine, suitable for mild renal involvement, was ruled out because of liver dysfunction.[9]
- Mycophenolate mofetil (MMF), effective for lupus nephritis, was excluded due to its potential to worsen pancytopenia.[8]
- Cyclophosphamide, typically used for severe SLE, was contraindicated due to its hematologic and hepatic toxicity.[3]
- Tacrolimus was considered for renal SLE, given the biopsy Class of I, but was unsuitable for non-renal lupus without MMF.[10]
- Belimumab, an FDA-approved agent with steroid-sparing effects and a favourable safety profile, was considered but deemed challenging due to its slower onset of action and approval barriers.[7]
- Hydroxychloroquine (300 mg daily) and corticosteroids (40 mg prednisolone) were ultimately chosen as the safest and most effective initial therapy.

Class	Histology	Management
I	Minimal mesangial	No treatment; monitor only
II	Mesangial proliferative	± Low-dose steroids if proteinuria; monitor
III	Focal (<50% glomeruli)	Induction: steroids + mycophenolate or IV cyclophosphamide Maintenance: mycophenolate or azathioprine
IV	Diffuse (≥50% glomeruli)	Same as Class III but more aggressive
V	Membranous	Nephrotic: mycophenolate + steroids Non-nephrotic: ACEi/ARB ± monitor
VI	Sclerotic (>90% glomeruli)	Supportive care; no immunosuppression

Figure 1.2 -Biopsy ISN/RPS Class & Rx recommendations

Therapeutic Option	Pros (Considerations for Use)	Cons (Reasons Against Use)
Mycophenolate mofetil (MMF)	Effective for lupus nephritis	Risk of worsening pancytopenia
Azathioprine	Suitable for mild renal involvement	Unsafe due to liver dysfunction
Cyclophosphamide	Effective for severe systemic lupus erythematosus (SLE)	Hematologic and hepatic toxicity
Tacrolimus	Can be considered for renal SLE (Class I biopsy)	Unsuitable for non-renal lupus without concurrent MMF
Belimumab	FDA-approved, steroid-sparing, favourable safety profile	Slower onset of action and potential approval/access barriers
Hydroxychloroquine + Prednisolone	Safe and effective; good initial control with steroid-sparing agent	None significant; selected as initial therapy

Figure 1.3- Multidiciplinary Discussion summary

Conclusion & Key Points:

1) **When treating multi-system lupus, it is important to remember that interventions targeting one organ system may inadvertently impact another.[3]**
2) **Treating multisystemic lupus requires understanding the degrees of individual organ involvement to determine immunosuppressive needs.[8]**
3) **Management decisions should balance efficacy and toxicity, guided by interdisciplinary input[6] and renal biopsy findings to inform immunosuppression.[10]**

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12. https://www.creative-biolabs.com/journal-outputs/body/systemic-lupus-erythematosus.htm

Leveraging Colonoscopy Findings to Predict Panenteric Capsule Endoscopy Outcomes with FIT as a Triage Tool - Interim Analysis of the CLEAR IDA Multicentre Study

Kiara Mc Donnell (presenting author), Ian Io Lei, Nicola O'Connell, Michael Adu-Darko, Jessiya Parambil, Vishnupriya Suresh, Jessie Newville, Kirsten Chaplin, Deekshi Siyambalapityage, Asad Khan, Usman Muhammad, John Emil, Merali Abbas, Zia Kanji, Omar Khalil, Hamza Alam, Amelia Bennett, Hannah Soanes, Adrija Bhattacharyya, Karl Frey, Rosie Meakins, Archit Singhal, George Pack, Melike Gerrits, Harry Paterson, Vincent Cheung, Sue Cullen, Imran Aslam, Chander Shekhar, Ramesh P. Arasaradnam

BACKGROUND

Colon capsule endoscopy (CCE) or pan-enteric capsule endoscopy (PCE) provides a less invasive alternative to conventional colonoscopy for patients with iron deficiency anaemia (IDA), with the added benefit of small bowel visualisation. High rates of conversion to conventional colonoscopy (CCC) following capsule procedures limit efficiency, reduce cost-effectiveness, and affect patient satisfaction.

Optimising the faecal immunochemical test (FIT) threshold may improve stratification and reduce unnecessary CCC in the IDA pathway. Small bowel investigations for patients with recurrent IDA are recommended. Capsule endoscopy has a high diagnostic yield in patients with occult GI bleeding, supporting its possible use as a first-line investigation.

AIM

To evaluate the accuracy of the FIT in predicting colorectal cancer and polyps in IDA, and to determine an optimal FIT threshold to reduce CCC and guide the cost-effective use of CCE or PCE as a first-line investigation.

METHOD

- Multicentre, retrospective observational study (n = 1531)
- 12-month period: 1st September 2023 – 1st September 2024
- Patients referred on the 2WW cancer pathway for iron deficiency with or without anaemia
- Inclusion: patients who had OGD + CT colonography or colonoscopy
- Exclusion: non-IDA, unfit for colonoscopy, opted out of national audit data collection

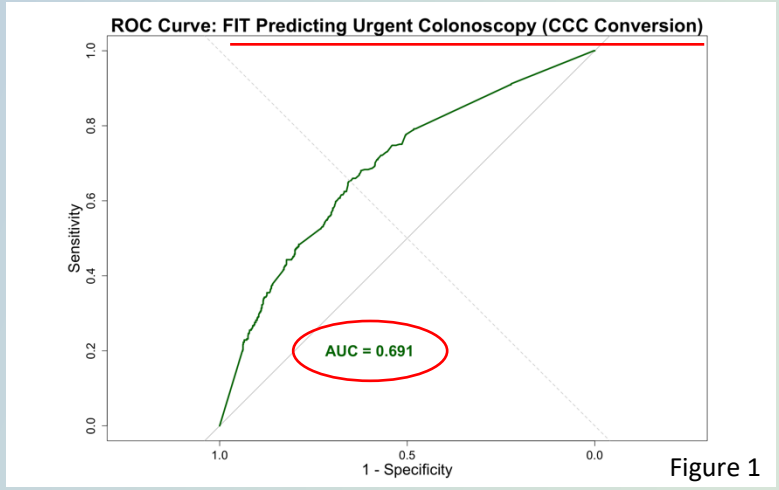

Figure 1

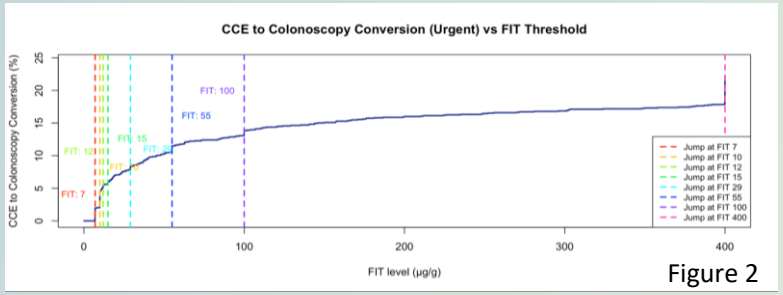

Figure 2

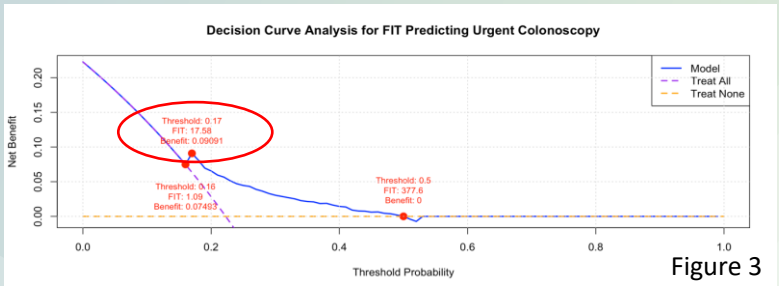

Figure 3

RESULTS

- 1531 patients – 18% of IDA patients did not have FIT
- 71.8% colonoscopy and 24.8% CT colonography
- 1.8% of patients had an incomplete colonoscopy
- Only 1.6% had subsequent small bowel capsule endoscopy
- 13.8% had advanced polyps and 6.3% had colorectal cancer (CRC)
- The diagnostic accuracy of FIT in predicting CRC, polyps, and CCC yields AUCs of 0.78, 0.58, and 0.69 respectively
- Threshold-based analysis identified FIT = 15 µg/g as the lowest level at which CCC rates significantly increased
- Maximum net benefit at FIT = 17.6 µg/g (decision curve)
- FIT = 9 µg/g most cost-effective (simplified model)
- FIT threshold of 10 µg/g could cost a net loss of –£294.4 per patient

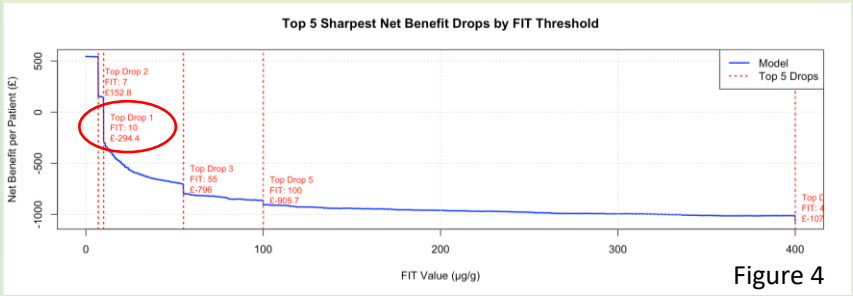

Figure 4

CONCLUSION & IMPLICATIONS

While FIT is a suboptimal predictor of colorectal cancer and polyps (CCC), optimising FIT thresholds may enhance cost-efficiency, improve patient selection, and guide the appropriate use of CCE or PCE in patients with IDA. Local threshold selection should be tailored to local colonoscopy availability and waiting times.

Systematic Meta-Review: Diagnostic Accuracy of Colon Capsule Endoscopy for colonic neoplasia with umbrella meta-analysis.

Ian Io Lei, Ioanna Parisi, Anirudh Bhandare, Francisco Porras Perez, Thomas Lee, Chander Shehkar, Mary McStay, Simon Anderson, Angus Watson, Abby Conlin, Rawya Badreldin, Kamran Malik, John Jacob, Andrew Dixon, Jeffrey Butterworth, Nicholas Parsons, Anastasios Koulaouzidis, Ramesh P. Arasaradnam; CESCAIL study group

Introduction:

colon capsule endoscopy (CCE) has increasingly contributed to the diagnostic workload for colonic diseases, serving as a second-line investigative modality in endoscopy services. Recent systematic reviews and meta-analyses provide compelling evidence supporting the diagnostic accuracy of CCE in polyp detection. However, scepticism persists and remains one of the primary barriers to widespread implementation.

Aims:

To conduct a systematic review and umbrella meta-analysis of existing systematic reviews and meta-analyses to evaluate the diagnostic accuracy of CCE for polyp and CRC detection.

Methods

PUBMED, EMBASE, and MEDLINE from January 1, 2006, to December 31, 2024

Systematic reviews with or without meta-analyses evaluating the diagnostic performance of CCE in polyp and CRC detection.

Diagnostic accuracy encompassed sensitivity, specificity, diagnostic odds ratios (DOR) and area under the curve (AUC) for detecting polyps and CRC.

Exclusion: use of Small bowel capsules.

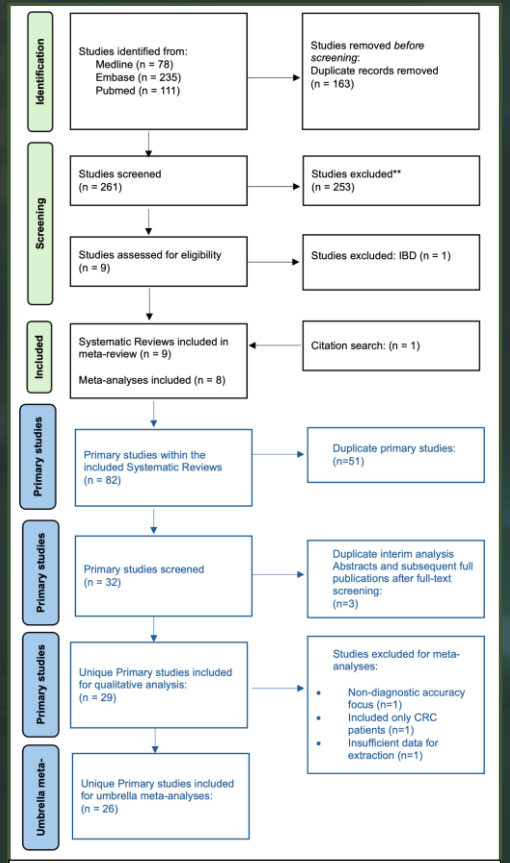

Figure 1. PRISMA Flow Chart

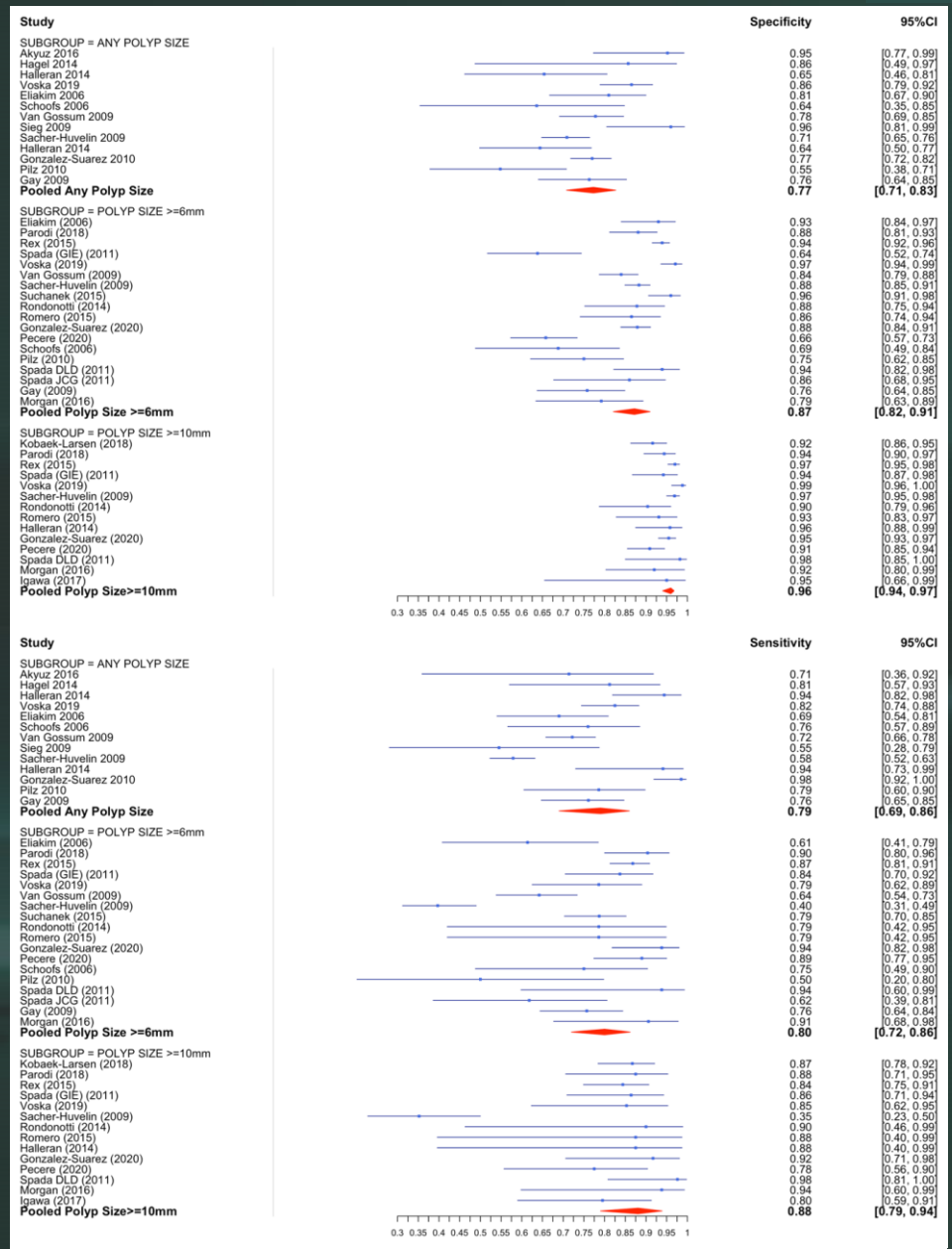

Figure 2. Forest plot of the sensitivity and specificity of polyp detection

Results

- 9 systematic reviews including 28 unique primary studies with 3472 participants.
- Only 81 patients were diagnosed with CRC (sensitivity= 96 (95% CI: 0.73–1.00). Only 2 CRCs were missed after excluding incomplete procedure.
- The pooled per-patient sensitivity and specificity for polyps of any size were 0.79 (95% CI: 0.69–0.86) and 0.77 (95% CI: 0.71–0.82), respectively, with an AUC of 0.81 (95% CI: 0.47–0.96).
- For polyps ≥6mm, the pooled sensitivity, specificity, and AUC were 0.80 (95% CI: 0.72–0.86), 0.87 (95% CI: 0.82–0.91), and 0.81 (95% CI: 0.48–0.95), respectively.
- Detection of clinically significant polyps (≥10mm) showed a sensitivity of 0.88 (95% CI: 0.79–0.95), specificity of 0.95 (95% CI: 0.92–0.97), and AUC of 0.95 (95% CI: 0.72–0.99).

Discussion:

CCE2 demonstrated a high sensitivity of 0.90 for any polyp size and 0.87 for polyps ≥6mm, both of which showed low heterogeneity (P >0.05, I^2 <25%). For CCE-2, the AUC for detecting polyps ≥6mm increased to 0.92 while maintaining a high AUC of 0.94 for polyps ≥10mm compared to CCE1 model. This improvement was primarily driven by a statistically significant increase in sensitivity, with a relative sensitivity CCE1/CCE2 of 0.76 (95% CI: 0.67–0.86, p <0.001).

High missed lesion rate in colonoscopy may lead to overestimating CCE false positive rates and underestimating its true diagnostic accuracy.

Conclusion

This reaffirms the high sensitivity, specificity and diagnostic accuracy of CCE2 in detecting polyps' size ≥6 and colorectal cancer.

Spironolactone for treatment of hyperandrogenic symptoms of polycystic ovary syndrome - A systematic review

Irene Karderinis, Xinrui Ma, Telma Martins Viveiros, Neha Deshpande, Sophie Clarke, Vikram Talaulikar, Bassel Wattar

Introduction

Polycystic ovarian syndrome (PCOS) is a common endocrine disorder in women of reproductive age, often presenting with hyperandrogenic symptoms[1]. The combined oral contraceptive pill is the current mainstay of treatment[2], but there are many side effects and contraindications. Spironolactone, an off-label anti-androgen, is frequently used, though its efficacy remains uncertain[3-4].

This review evaluates the effectiveness of spironolactone compared to other non-hormonal treatments for hyperandrogenism in PCOS.

Methods

Comprehensive literature searches were conducted across MEDLINE, EMBASES, PUBMED and SCOPUS. Abstracts were screened against inclusion and exclusion criteria.

Studies were assessed for risk of bias using using Cochrane Risk of Bias assessment tool 2.0 by two reviewers, a third reviewer was recruited when discrepancies occurred.

Meta-analysis was conducted using a random-effects model, reporting as standardised mean differences and 95% confidence intervals.

Results 1: Risk of bias

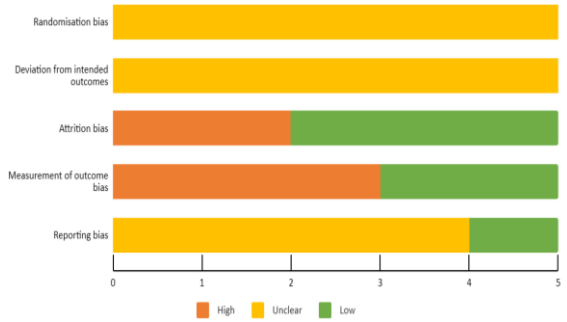

Figure 1: Risk of bias for the trials evaluating spironolactone use for PCOS that were included in the systematic review (n = 5)

Results 2 & 3: Spironolactone vs metformin & spironolactone + metformin vs metformin

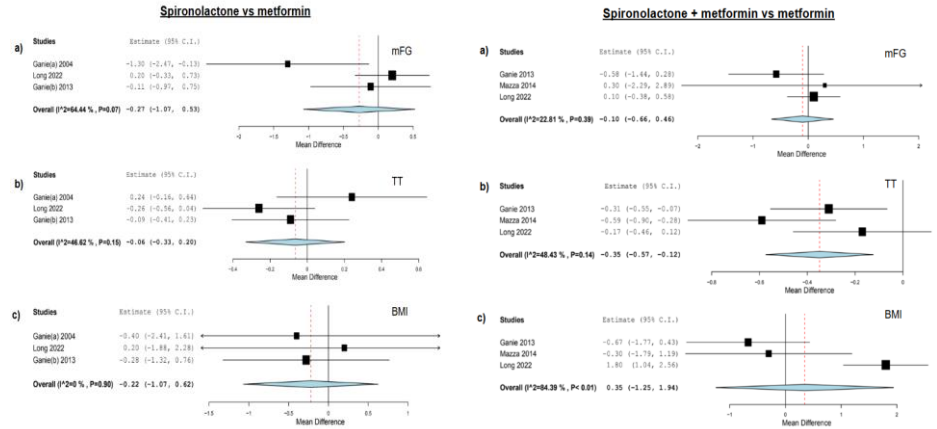

Figure 2: Forest plots comparing Spironolactone alone to metformin across and Spironolactone with metformin compared to metformin (n=3). Outcomes compared are: a) modified Ferriman-Gallwey score (mFG), b) total testosterone (TT) and c) BMI. Values are expressed as standardised mean difference (SMD) and 95% confidence interval (C.I.)

Results

Electronic search identified 3378 potential relevant citations. After the final review, in total 5 RCTs were included in our final review - of these, 3 studies were used for the purpose of meta-analysis.

Summary of findings

- The overall quality of the studies included in this systematic review was moderate
- In spironolactone vs metformin and in spironolactone + metformin vs metformin: No significant differences were noted between the two medications for improvement in hyperandrogenism, total testosterone levels and BMI

Conclusion

Currently, there is a lack of randomised evidence available that supports the use of spironolactone, either alone or in combination with metformin, for women with PCOS. Additional trials are necessary to determine its benefits before routinely recommending it as a treatment.

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Effectiveness of NEWS 2 in identifying acute deterioration in older adults.

Dr Isaac Akinduro, Dr Rishi Patel, Dr Janahan Ragunathan | Bolton NHS Foundation Trust, U.K

Bolton NHS Foundation Trust

Background

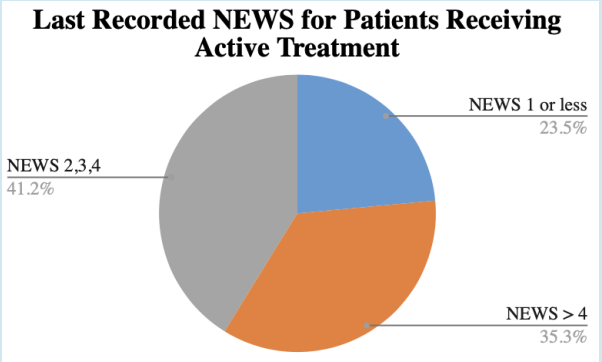
- NEWS 2 (National Early Warning Score) was developed to assist the early detection of clinically deteriorating patients
- Validation came from studies involving the general adult population, with limited focus on older frailer adults
- Objective: evaluate the effectiveness of NEWS 2 in identifying acute deterioration amongst older adults in a hospital setting.

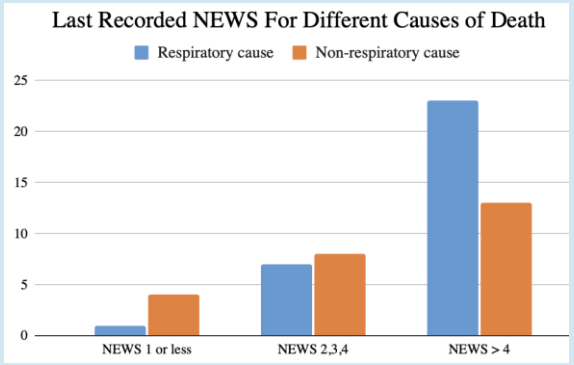
NEW score	Clinical risk	Response
Aggregate score 0–4	Low	Ward-based response
Red score Score of 3 in any individual parameter	Low–medium	Urgent ward-based response*
Aggregate score 5–6	Medium	Key threshold for urgent response*
Aggregate score 7 or more	High	Urgent or emergency response**

Method

- Retrospective review of the notes and electronic vital signs of a randomised selection of 100 patients aged 80 and over who died whilst inpatients in a district general hospital.
- Extracted data: age, clinical frailty score, cause of death, hours between last NEWS 2 and death.
- Chi-squared analysis was carried out for statistical significance.

Results





Conclusions

A significant proportion of older adults who died in hospital had a last recorded NEWS 2 score that was deemed ‘low clinical risk’. This effect was more notable in patients who had a documented ‘non-respiratory’ cause of death than a ‘respiratory’ cause of death.

This study highlights that low NEWS 2 scores are not necessarily reassuring in an older hospital population. The authors would suggest that these scoring systems should not be relied upon solely to exclude deterioration and the broader clinical picture remains crucial when making decisions regarding both escalation of care and advance care planning

Whilst this study was focused on older adults in a hospital setting this raises questions as to the applicability of NEWS 2 scoring in community/virtual frailty settings.

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DVT - Is it really an SDEC pathway?

A retrospective review of SDEC DVT demand and outcomes across Surrey Heartlands ICS

Kitchlew, Jalal; Clayden, Natalie; King, Natalie; Subbian, Visalakshi; Niven, William; Baker, Kelly; Lisk, Radcliffe

Ashford and St Peter's Hospitals NHS Foundation Trust; Surrey and Sussex Healthcare NHS Trust; Royal Surrey NHS Foundation Trust

Introduction

Deep vein thrombosis (DVT) is a prevalent condition requiring timely intervention to prevent life-threatening complications. Few patients require admission, so DVT management in SDEC consumes valuable resources for minimal bed-day savings.[1-2]

Aims

To review the current demand and practices of different DVT pathways across three acute trusts in Surrey Heartlands ICS

To standardise pathways, reduce demand and create internal capacity within SDEC

Materials and Methods

A retrospective review of DVT referrals to SDEC from January 2025 was conducted, reviewing the following:

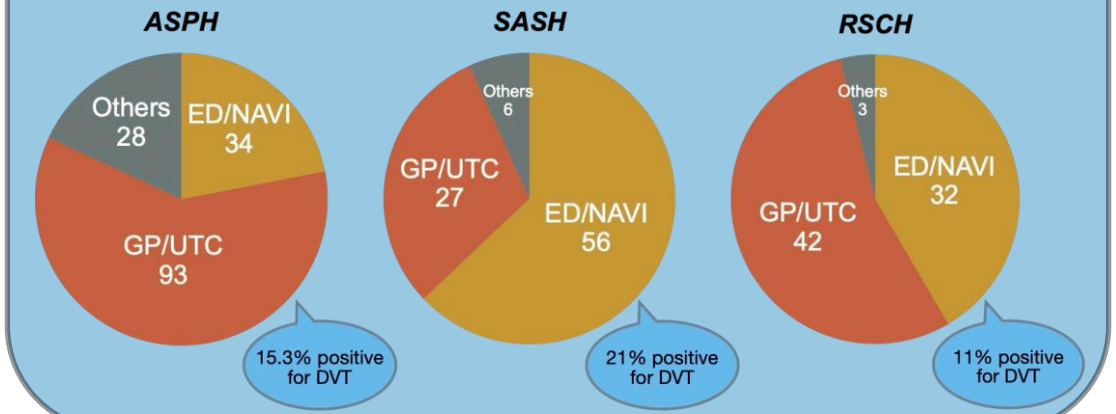
- Source of referral
- Pre-referral Well's score
- D-Dimer
- Number of scans/rescans and scan outcomes

ASPH	SASH	RSCH
In Hours All GP and ED patients with lower limb pain and swelling go to SDEC GP can send patient to ED front door or direct to SDEC **Out of Hours** Assessed in ED with Well's score and d-dimer if necessary. Referred to medical registrar who can add to SDEC TCI list for next-day scan and review	**In Hours** GP and/or ED telephone SDEC to book dedicated scan slot- SDEC team book the scan for GP patients but ED are asked to request the scan **Out of Hours** ED refer to medical SpR and the SDEC team book the slot next day and contact the patient ED have point of care d-dimer	**ED walk in flow** Seen by minors and referred to DVT slot - scan first then review in SDEC after scan **ED heralded** Seen or advised to attend by GP. Reviewed in minors then referred to DVT slot followed by review in SDEC after scan **GP direct** Referred in for a scan slot then seen in SDEC after

DVT pathways in respective trust

Results

	ASPH	SASH	RSCH
Total no. of referrals	150	89	77
Source of referral			
ED/NAVI	34	56	32
GP/UTC	93	27	42
Others	23	6	3
Well's Score with referral			
% ED/NAVI	2.6	73	
% GP/UTC	6	70	
% Others	0.6	33	
% Total	9.3		
Total documented	14/150*(9%) *only notes, not requests	62/89 (70%)	65/77 (84%)
D-Dimer with referral			
% ED/NAVI	6.7	94	
% GP/UTC	2	40	
% Others	0	0	
% Total	8.7		57
Total documented	122/150 (81%)	72/87 (83%)	44/77 (57%)
No. of scans (% of total referrals)	74.7	100	83
% Positive rate of scans			
ED/NAVI	29.4	21	15.6
GP/UTC	14.0	18	2.3
Others	21.7	0	33
Total	15.3	21	11
% Total rescanned	0	23	32
% Positive 2nd scan	0	0	0



Conclusion/Discussion

Most scans for suspected DVT are negative due to referral practices not following NICE guidance. Patients have multiple interactions across primary and secondary care providers through this process, incurring significant costs and time, potentially leading to a poorer experience and clinical risk if the wait for a scan while on anticoagulation exceeds 24 hours. Admissions for DVT are rare, with only certain positive cases requiring further review in secondary care.

Recommendations

- Clinician education on the value of robust Well's scoring and clear documentation for referrals for scans could reduce scan burdens
- Quantitative Point of Care Test (POCT) for D-Dimer to reduce inappropriate referrals
- Consideration of DVT as a one-stop CDC pathway condition for community-based workup closer to the patient's home to free-up capacity within SDEC to deliver admission avoidance.[3]

References

1. NHS England. Same day emergency care. https://www.england.nhs.uk/urgent-emergency-care/same-day-emergency-care/ [Accessed: 25 February 2025].
2. NHS England. SAMEDAY strategy. https://www.england.nhs.uk/long-read/sameday-strategy/[Accessed: 25 February 2025]
3. Darzi A. Independent Investigation of the National Health Service in England. *Department of Health and Social Care* London: Department of Health and Social Care, 2024

A3 Project Title: Acute Medicine Discharge Lounge Utilisation QI

1. Background:

Length of stay in the Adult ED department above 6 hours is associated with increased 30-day mortality (Jones et al, 2022). In order to reduce ED length of stay of medical patients, AMU must have capacity to admit medical patients. The current 4 hour performance for AMU is approx. 20% for this financial year. The NHS 4 hour target is 78% (NHS England, 2025).

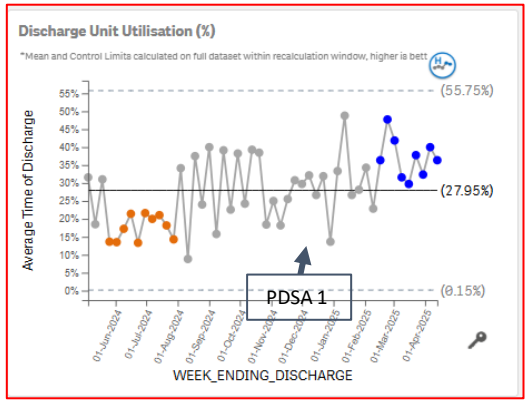
Problem Statement:

- AMU capacity currently sits at 98% daily with an average discharge time of 15:24. Therefore, there is limited capacity to admit patients through the ED within 4 hours. In order to reduce the average discharge time, AMU should transfer all eligible patients to the discharge lounge once discharge is agreed. This will create capacity earlier in the day for medical referrals and reduce overcrowding within the ED department. The current discharge utilization for AMU is 19% and discharge by noon is 13%.

Organisational and Strategical alignment:

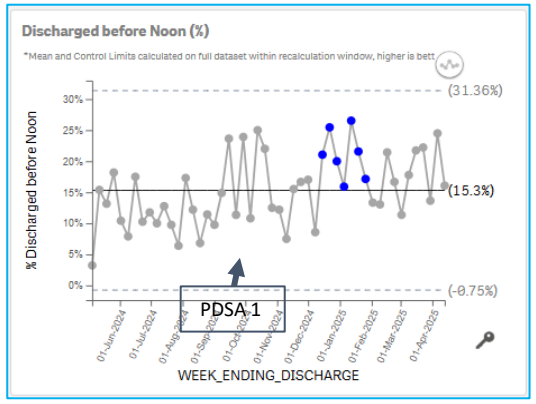
The Trust aim is to discharge 33% of patient by midday, to ensure patients can flow through the hospital safely.

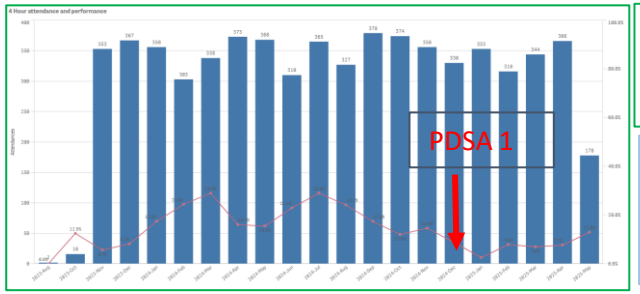
2. Current State: -



AMU Discharge Lounge utilisation improved from 19% to 27%

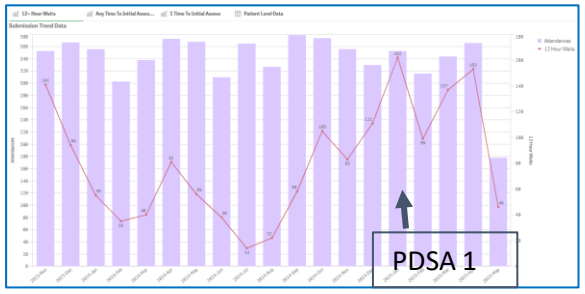
AMU Discharge before Noon improved from 13% to 15%





AMU 4 hour performance is approx. 20% (April – Nov 2024)

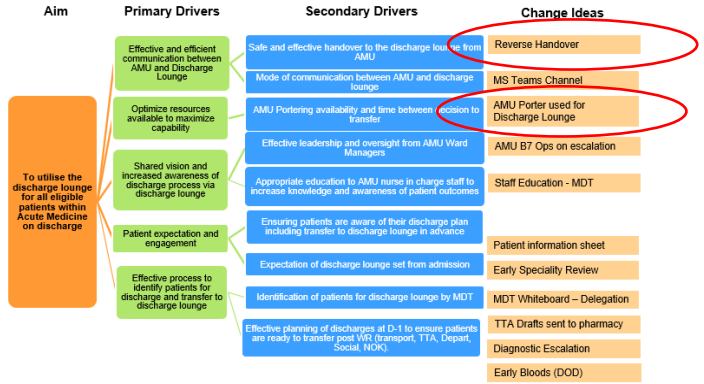
AMU Patients waiting over 12 hours in ED is 56 per month since April 2024.

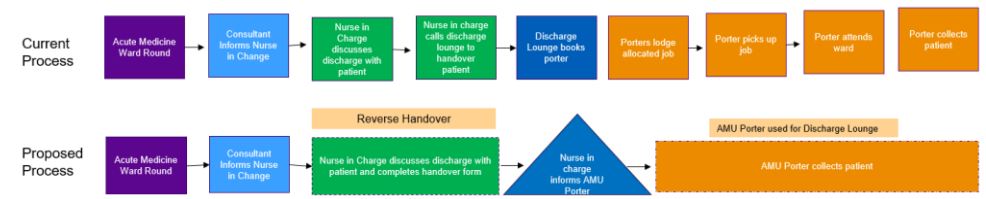


3. Vision: AMU SMH to increase discharge lounge utilisation to reduce ED length of stay, thus improving patient experience and outcomes.

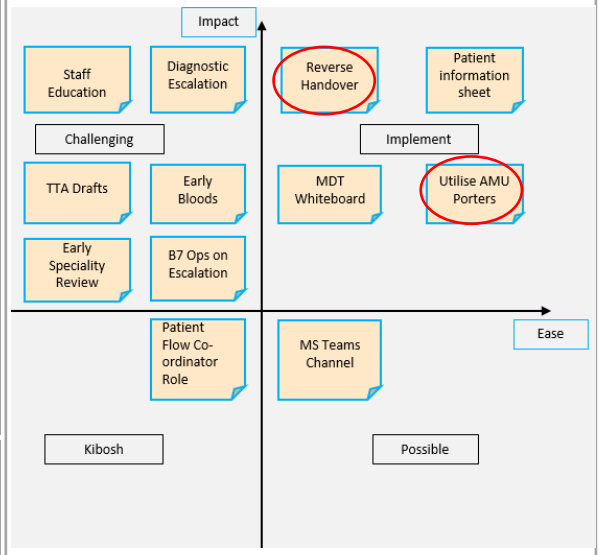
SMART Aim: AMU to increase average Discharge Lounge utilisation to 40% for AMU within 6 months.

Driver Diagram:





5. PICK / Change ideas / Future State:



7. Primary Measurements for Improvement:

Outcome Measure:

- Discharge Lounge Usage (%) ↑↑

Balancing Measures:

- Discharge by Noon (DBN %) ↑
- 4 hour performance (AMU) ↑
- 12 hour performance (AMU) ↑

Initial Outcome / Analysis

- PDSA 1 found to be effective in improving all outcome and balancing measures.

The Kings Fund (2024). *What's Going on with A&E Waiting Times?* [online] The King's Fund. Available at: https://www.kingsfund.org.uk/insight-and-analysis/long-reads/whats-going-on-with-ae-waiting-times.

Jones, S. Moulton, C., Swift, S., Molyneux, P., Black, S. Mason, N. Oakley, R. and Mann, C. (2022). Association between delays to patient admission from the emergency department and all-cause 30-day mortality. Emergency Medicine Journal, [online] 39(3), pp.168–173. doi:https://doi.org/10.1136/emermed-2021-211572.

Project Authors – James Larsen, Nasrin Moatamedi, Kaenat Mulla, Shahin Barati, George Tharakan (St Mary's Hospital, Imperial College Healthcare NHS Trust).

Factors predicting conversion from Colon Capsule Endoscopy to Conventional Optical Endoscopy - findings from the CESCAIL Study

Ian Io Lei, Ioanna Parisi, Anirudh Bhandare, Francisco Porras Perez, Thomas Lee, Chander Shehkar, Mary McStay, Simon Anderson, Angus Watson, Abby Conlin, Rawya Badreldin, Kamran Malik, John Jacob, Andrew Dixon, Jeffrey Butterworth, Nicholas Parsons, Anastasios Koulaouzidis, Ramesh P. Arasaradnam; CESCAIL study group

CESCAIL study

Introduction:

During the COVID-19 pandemic, colon capsule endoscopy (CCE) was implemented in the UK as an alternative investigation modality to colonoscopy. Challenges with CCE include suboptimal capsule excretion rates, inadequate bowel cleansing, and the need for additional biopsies and interventions, leading to further endoscopic procedures. Understanding the factors influencing Conversion rates from CCE to Conventional endoscopy (CCC) will aid the process of pre-procedural patient selection, ultimately enhancing patient satisfaction by ensuring the proper test is administered to the right patient.

Aims:

To identify pre-procedural factors (predictors) that are associated with:

1. Colonic (including rectal) pathology
2. Bowel cleansing/bowel preparation
3. Rate of capsule battery depletion before excretion
4. The ultimate CCC rates

Methods

This is a sub-analysis that used data from the CESCAIL study: a multicentre diagnostic accuracy study (from November 2021 to Jan 2025) comparing polyp detection using the machine learning algorithm AiSPEED™ against the standard human reader review.

Statistical analysis included the Least Absolute Shrinkage and Selection Operator (LASSO) regression followed by univariate and multivariate logistic regression.

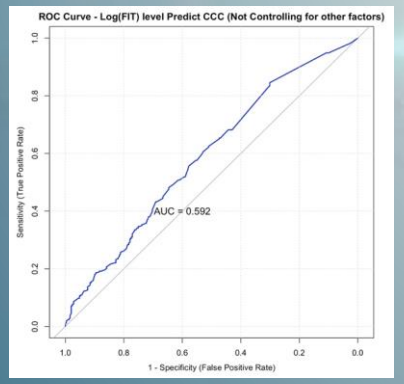


Figure 1. Receiver Operating Characteristic (ROC) curves for Log(FIT) level in predicting conversion rates (CCC)

Results

- 720 participants recruited under the NHS England CCE referral criteria through the LGI symptomatic (with a f-Hb ≤100 µg/g) or post polypectomy surveillance pathways.
- The CCC cases were 326 (54.1%), within which colonoscopy accounted for 198 (32.9%) of follow-up investigations, followed by flexible sigmoidoscopy at 128 (21.2%).
- Pathology detected during CCE alone accounts for 145 cases (24% of all CCE procedures), making it the primary contributor to CCC.
- The accuracy of f-Hb test in predicting CCC: AUC = 0.59 (95%CI 0.55-0.64). (see Figure 1)
- Table 1 summarises the statistically significant factors predicting CCC and all intra-procedural outcomes, including capsule battery depletion before excretion, bowel cleansing quality, and pathology detection (polyp size and number).

Table 1. LASSO, Univariate and Multivariate analysis of factors predicting CCC and Intra-procedural Factors

Factors associated with CCE to further endoscopy procedure conversion

Factors (n=247)	LASSO coefficient	Univariate analysis			Multivariate analysis with LASSO variables		
		Odd ratio	95% CI	p-value	Odd ratio	95% CI	p-value
Log(f-Hb)	0.0081	1.47	1.20-1.81	<0.001***	1.48	1.18-1.86	<0.001***
Smoking	-0.2925	1.5	1.05-2.17	0.034*	1.44	1.01-2.11	0.047*

Factors associated with Incomplete Capsule Excretion

Factors (n=385)	LASSO coefficient	Univariate analysis			Multivariate analysis		
		Odd ratio	95% CI	p-value	Odd ratio	95% CI	p-value
Age	-	0.99	0.97-1.00	0.010**	0.99	0.96-1.01	0.209
Sex - Male	-	2.13	1.36-3.38	0.001**	2.22	1.10-4.58	0.024*
Creatinine	-	1.01	1.00-1.03	0.035*	1.00	0.98-1.02	0.796

Factors associated with Bowel Cleansing

Factors (n=338)	LASSO coefficient	Univariate analysis			Multivariate analysis		
		Odd ratio	95% CI	p-value	Odd ratio	95% CI	p-value
Age	-	0.99	0.97-1.00	0.020*	0.99	0.97-1.01	0.272
Sex - Male	-	1.46	1.05-2.04	0.023*	1.72	0.93-3.22	0.084
Diabetes	-	0.54	0.31-0.93	0.028*	0.40	0.18-0.87	0.022*

Factors associated with Significant Pathology (Polyp >=10mm or >=5 polyps)

Factors (n=221)	Linear regression Polyp Size			Linear regression Polyp Number		
	Regression coefficient	95% CI	p-value	Regression coefficient	95% CI	p-value
Alcohol	0.27	-0.58 to 1.11	0.628	0.79	0.41 to 1.16	0.023*
Smoking	0.88	0.13 to 1.64	0.301	0.76	0.42 to 1.09	0.025*
Psychological conditions	0.57	-0.37 to 1.51	0.632	1.05	0.63 to 1.47	0.013*
Antidepressant (Yes)	2.16	1.18 to 3.13	0.028*	-0.47	-0.90 to -0.04	0.278
Beta Blocker	-4.55	-6.22 to -2.88	0.008**	-0.72	-1.46 to 0.02	0.339
Haemoglobin	0.02	-0.01 to 0.04	0.460	-0.02	-0.04 to -0.01	0.046*

Abbreviations: CI, Confident Interval, f-Hb, faecal haemoglobin; FIT, faecal immunochemical test; LASSO, least absolute shrinkage and selection operator.

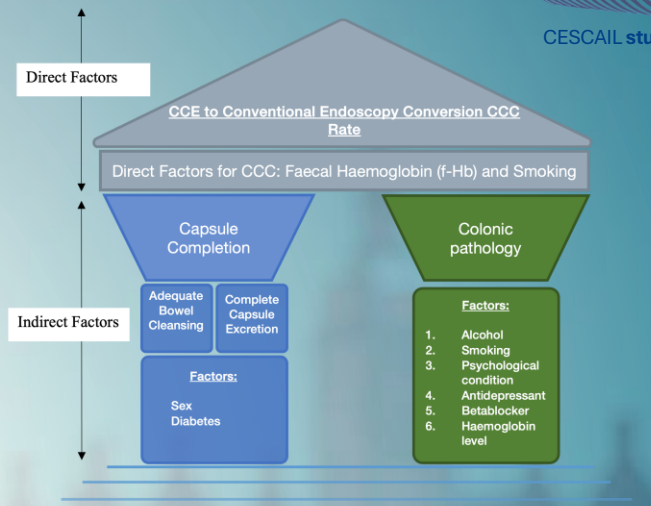


Figure 2 Summary of all the factors associated with different pillars that support the overall CCC

Discussion:

-High f-Hb and smoking directly increase the risk of CCC by elevating the likelihood of advanced polyps and colorectal cancer.

-Female sex, older age, and diabetes reduce completion rates and bowel preparation quality, indirectly contributing to CCC.

-Beta-blockers are linked to smaller polyp size, while antidepressants, psychological conditions, alcohol, and smoking are associated with increased polyp size or number.

-f-Hb is a weak predictor of CCC, with an AUC of only 0.59. To meaningfully reduce CCC rates, the f-Hb threshold would need to be lowered substantially—limiting its practical utility.

-Factors like education level, private care, and past poor prep were not considered.

Conclusion

Further research on larger datasets with additional predictors, including the emerging serum markers for colorectal cancer, is needed to develop a robust CCE Conversion Scoring System for better patient selection to reduce further investigation rate.

Normal Creatinine-Kinase Levels in Post-COVID Myositis: Insights into Localised Muscle Involvement

Dr. Hirushi S. Jayasekera [1], Dr. Aymen Askari[2], Dr. Mahmoud Elshehawy [1],Dr. Johnson Olarewaju [1]
[1]The Shrewsbury and Telford Hospital NHS Trust; [2]The Robert Jones and Agnes Hunt Orthopaedic Hospital

Introduction

SARS-CoV-2 (COVID-19) has been increasingly implicated in post-infectious inflammatory complications, including varied presentations of inflammatory myopathies.[1,2] Most literature highlights severe, systemic muscle involvement requiring immunosuppression, whereas localized myositis with normal creatine kinase (CK) levels remains underrecognised.[3]

This case presents a rare instance of localized paraspinal and proximal thigh myositis post-COVID-19, where CK levels remained normal, despite significant muscle involvement.

Methodology & Results

A 41-year-old previously healthy male presented with severe diffuse back and leg pain, muscle cramps, and low-grade fever for two weeks after confirmed COVID-19 infection. Examination revealed proximal thigh weakness (MRC Grade 3/5) and tenderness without neurological deficits. Despite progressively worsening weakness, his Creatinine Kinase levels remained normal. Extensive workup led to a diagnosis of localised post-viral myositis, managed successfully without immunosuppression—highlighting the importance of clinical vigilance even when CK is normal.

Symptom Onset (2 weeks post-COVID):	Initial Hospital Assessment:	Investigations:	Diagnosis & Management:	Managed conservatively with:	Clinical Outcome:
• Diffuse back and leg pain • Muscle cramps • Low-grade fever • Proximal thigh weakness (MRC 3/5) • No neurological deficits	• Elevated inflammatory markers (CRP, WBC, neutrophils) • Normal CK • Mildly raised ALP and GGT • Empirical IV antibiotics (Piperacillin-Tazobactam) started	• **MRI Lumbar & Sacral Spine**: Diffuse oedema in posterior paraspinal muscles *(Figure 1.0)* • **CT Thorax-Abdomen-Pelvis Imaging**: Oedema in paraspinal and proximal thigh muscles • **Autoimmune screen**: ANA weakly positive, ENA/ANCA negative • **Echocardiogram**: Normal • **Blood cultures**: No growth • **EMG**: Myopathic pattern in right shoulder	• Diagnosis: Localised post-viral myositis • Infection excluded → Antibiotics stopped	•Simple analgesia •Vitamin D •Supportive Treatment **•No immunosuppression required**	• Resolution of fever • Significant improvement in muscle pain • Normalisation of inflammatory markers

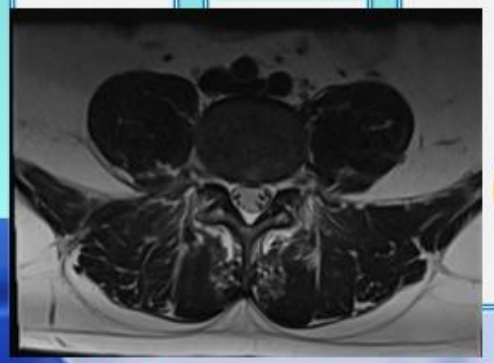


Figure 1.0 – MRI Spine Lumbar and Sacral:'Diffuse ill-defined oedema of the posterior paraspinal muscles with no sizable collections

Report Conclusion: 'Findings most in keeping with paraspinal myositis. Given the history of recent COVID infection, (suggestive of) COVID-related myositis'.

Discussion

Normal CK Differentials:

Amyopathic Dermatomyositis (ADM):	Skin signs key (e.g., Gottron's, heliotrope rash) — absent in this case.
Inclusion Body Myositis (IBM):	Older age, asymmetric weakness, slow onset; CK often normal.
Polymyalgia Rheumatica (PMR):	Stiffness (not weakness), raised CRP/ESR, rapid steroid response.
Post-viral Myalgia/Myositis:	Common post-COVID; may resolve with simple supportive care.
Neuromuscular Junction Disorders:	Fluctuating weakness without myalgia or systemic symptoms.
Metabolic/Endocrine Myopathies:	Chronic, systemic features (e.g., thyroid, vitamin D-related).

KEY LEARNING POINTS:

- **Differentiate from ADM: Look for skin signs — absent here — to rule out amyopathic dermatomyositis.**
- **MRI + Viral History = Diagnostic Clarity: Combine imaging and recent infection history to confirm myositis and exclude systemic/infectious causes.**
- **Early Rheumatology Matters: Enables targeted work-up and prevents over-treatment with unnecessary immunosuppression.[2]**
- **Supportive Care Works: Simple analgesia and vitamin D can suffice in managing post-viral myositis, as seen in this case.**

References
Saha A, Ahmed S. Diagnosis and imaging in COVID-19 induced myositis. *Rheumatol Adv Pract*. 2023;7(2):rkad041.
Oldroyd A, Lilleker J, Chinoy H, et al. British Society for Rheumatology guideline on management of paediatric, adolescent and adult patients with idiopathic inflammatory myopathy. *Rheumatology*. 2022;61(4):1420-31.
Jones C, Brigden A, Alwan NA. Muscle weakness post-COVID: a practical guide for primary care. *Br J Gen Pract*. 2024;74(749):573-6.

Diagnostic Accuracy of Computer Aided Detection (CADe) Assisted Reading Versus Clinician Reading for Polyp Detection in Colon Capsule Endoscopy: A Multicentre Study

Ian Io Lei, Nicholas Parsons, Cristiana Huhulea, Hagen Wenzek, Elizabeth White, Pablo Laiz, Charlie Noble, Alexander Robertson, Anastasios Koulaouzidis, Ramesh P. Arasaradnam, CESCAIL study group.

Introduction:

In the UK, the COVID-19 pandemic highlighted the need for alternatives to colonoscopy, leading to the adoption of colon capsule endoscopy (CCE) as a non-invasive alternative. However, CCE has not fulfilled its potential in alleviating the burden on GI services. Limitations such as lengthy reading times, reader fatigue, inability to perform biopsies or therapeutic interventions, and challenges with bowel preparation and completion rates have impaired its adoption in clinical practice. In recent years, artificial intelligence (AI) has revolutionised the field of capsule endoscopy. However, its use remained limited in colon capsule endoscopy.

Aims:

To evaluate the diagnostic accuracy of AI-assisted detection of polypoid lesions in CCE compared to standard CCE readers, using an expert panel as the gold standard across multiple UK centres with real-world clinical data.

To assess the impact of AI-assisted reading on CCE reading time compared to the standard manual analysis.

Methods

720 participants were recruited across 14 tertiary and secondary centres in the UK. AiSPEED™ is the AI algorithm used in polypoidal lesion detection. AI-assisted arm versus Standard clinician arm

Both the CCE referral threshold (FIT ≥ 100 µg/g) and the criteria for follow-up colonoscopy were based on NHS England and ESGE guidelines.

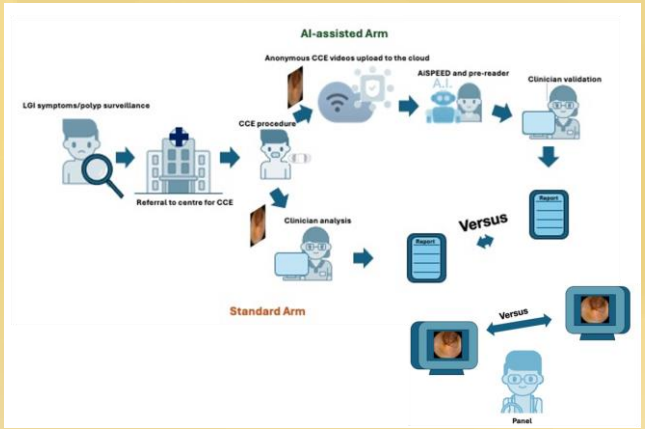


Figure 1. The standard arm and the AI-assisted arms in the study

Table 3: Per-Patient Outcome Summary (3 different endpoints) (n = 673)

Clinical outcome	Presence or Absence of Polyp (Per-Patient)			Polyp size≥ 6mm or ≥3 Polyps (Per-Patient)			Polyp size≥ 10mm or ≥5 Polyps (Per-Patient)		
NHS England Guideline (12, 13)	Colonoscopy (Tier 1-3) vs no follow-up (Tier 4)			Polyp size≥ 6mm or ≥3 polyps (Tier 1-2) vs Polyp size <6mm or <3 (Tier 3-4)			Urgent Colon (Tier1) vs Other Outcome (Tier 2-4)		
ESGE guidline (11)	-			ESGE 2012 guideline: Colonoscopy vs 5-year surveillance			-		
Performance measures (%) (DTComPair)	Standard Arm (95% CI)	AI-assisted Arm (95% CI)	P value (McNemar's)	Standard Arm (95% CI)	AI-assisted Arm (95% CI)	P value (McNemar's)	Standard Arm (95% CI)	AI-assisted Arm (95% CI)	P value (McNemar's)
Sensitivity	0.88 (0.85, 0.91)	0.96 (0.95, 0.98)	<0.001***	0.87 (0.84, 0.90)	0.96 (0.94, 0.98)	0.004**	0.90 (0.87, 0.93)	0.96 (0.93, 0.98)	0.004**
Specificity	0.99 (0.97,1.00)	0.96 (0.93,0.99)	0.058	0.99 (0.98,1.00)	0.96 (0.94,0.99)	0.035*	0.97 (0.95,0.99)	0.97 (0.96,0.99)	0.81
PPV	1.00 (0.99,1.00)	0.98 (0.97, 0.99)	0.071	1.00 (0.99,1.00)	0.98 (0.97, 0.99)	0.043*	0.97 (0.96,0.99)	0.98 (0.96, 0.99)	0.72
NPV	0.76 (0.71-0.82)	0.91 (0.88,0.95)	<0.001***	0.80 (0.75-0.85)	0.92 (0.86,0.95)	<0.001***	0.90 (0.87-0.93)	0.95 (0.93,0.97)	0.004**
Diagnostic accuracy	0.91 (0.89-0.93)	0.96 (0.95-0.98)	<0.001***	0.91 (0.89-0.93)	0.96 (0.94-0.97)	<0.001**	0.94 (0.92-0.95)	0.96 (0.95-0.98)	0.017*

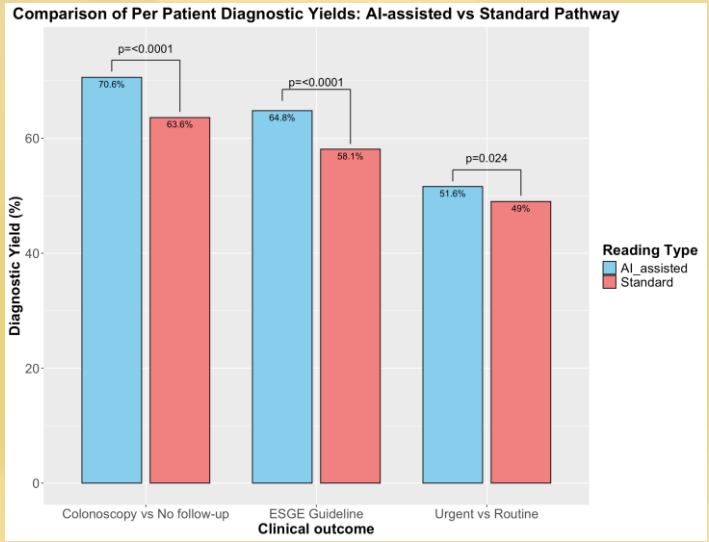


Figure 2. Per-Patient Diagnostic yields: Standard vs AI-assisted arms across clinical outcomes.

Results

- The AI-assisted arm is superior in Sensitivity, NPV, and Diagnostic accuracy across all three clinical outcomes.
- Standard arm is superior in specificity and PPV using ESGE.
- AI-assisted arm demonstrated statistical superiority in diagnostic yield.
- The reading time was reduced from 47.3 minutes to 8.7 minutes, a 5.4-fold reduction.
- Factors prolonging standard reading time included patient age, polyp size>10mm or presence of ≥5 polyps, video duration and right colon bowel preparation.
- The lack of full-video reviews by AI-assisted clinicians made accurate polyp counting challenging.
- AI-assisted arm detected more small polyps than large polyps.

Conclusion

AI-assisted reading using AiSPEED achieved both non-inferior and superior diagnostic accuracy in detecting polypoidal lesions compared to standard clinician reading at a per-patient clinical outcome level while significantly reducing CCE reading time.

Getting a seat at the table:

What are the factors impacting the wellbeing of internal medicine trainees and how do they view currently available support?

Dr Ruth Austin[1], Professor Indranil Chakravorty[1], Dr Dan Bailey[2]

1.St George's University Hospitals NHS Foundation Trust, 2.King's college Hospital NHS Foundation Trust

Introduction

- 32% of IMTs in South London are at high risk of burnout[1] .
- Burnout and wellbeing are intrinsically linked but there is no agreed measurement for the wellbeing of doctors[2].
- The wellbeing of doctors in training is impacted by a range of individual, organisational and wider factors[3].
- Hospital have created local wellbeing teams aiming to support staff in response to the 'NHS people promise'. There is little research into resident doctors' awareness of and views on this available support.

Methodology

- Internal Medicine Trainees across South-West London participated in focus groups to identify key factors impacting their wellbeing.
- Data on these factors, overall wellbeing and experiences of available wellbeing support were collected anonymously via questionnaire.
- Wellbeing questions underwent piloting prior to dissemination.
- Twenty-seven doctors responded to the wellbeing questionnaire across six hospitals with a response rate of 21%. This relatively low response rate of self-selecting responders is a potential limitation of this work.

Results - Measuring wellbeing

Most 'agreed' wellbeing measure

- Feeling competent
- Work is meaningful
- Sense of autonomy

Most 'disagreed' wellbeing measure

- Feeling valued
- Sense of belonging
- Good work-life balance

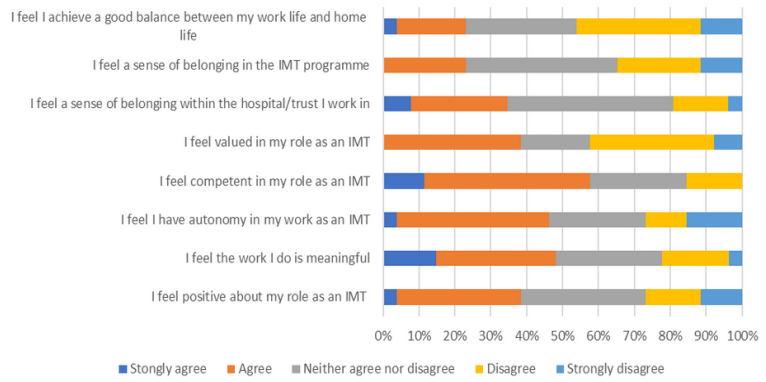


Figure 1: Wellbeing measure responses

Results - factors impacting wellbeing and views on available support

Key themes: factors negatively impacting wellbeing

- 46% do not think the physical work environment is adequately equipped to do their job.
- 48% have been unwell because of workplace stress within the last year.

1 in 3 respondents 'rarely" have an appropriate chair on which to sit on during a normal working day.

95% are 'always' exhausted at the end of an on-call shift Exhaustion is the most common reason for sick leave during or after an on-call shift.

Key themes: available wellbeing support

- 28% know how to access local psychological support.
- 52% agree they have access to appropriate peer support.

8% Agreed trust wellbeing initiatives apply to them.

72% would like someone, not directly related to their training, available to go to for wellbeing support.

Conclusion

- The majority of responding IMTs in SW London do not agree to feeling valued or a sense of belonging. There are specific issues impacting their wellbeing including the physical work environment and exhaustion related to on-call shifts.
- Future wellbeing interventions should be focused on value and belonging whilst tackling specific issues raised locally.
- IMTs do not think trust wellbeing initiatives apply to them but would like access to local support, preferably provided by a person unrelated to their training.
- The 'wellbeing fellow' is a new role aiming to bridge this gap in wellbeing provision locally through targeted projects, sign posting and near peer support. Further research is required into the impact of the new role.

References: 1. GMC National Training Survey: 2024 Results. https://www.gmc-uk.org/-/media/documents/national-training-survey-summary-report-2024_pdf-107834344.pdf [Accessed 6th March 2025].
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The potential cost of hospital bed-days saved over 6 months for management of patients with hypomagnesaemia via Same Day Emergency Care unit

Ryoon Wha Kang[1], Channa Nadarajah[1]

1. Basingstoke and North Hampshire Hospital, Acute Medicine

Introduction

The role of Same Day Emergency Care (SDEC) is to provide same day medical assessment for acutely unwell patients for diagnosis and treatment to avoid hospital admission and to reduce waiting time, hence improving their medical journey and treatment experience

Aim

What is the 6-month cost savings per hospital bed-days if patients with hypomagnesaemia were seen in SDEC rather than being admitted?

Method

- Retrospective cohort study
- 01/02 to 31/08/2024
- Trust SDEC referral criteria used
- £800 per medical bed-day advised by management team

Result

- Patients with hypomagnesaemia n= 81
- Patients admitted under Medicine n=75
- Patients managed in SDEC n=3
- Patients suitable for SDEC: 26 out of 75
- Average length of stay of the 26 patients suitable for SDEC: 4.7days
- Approximate cost saved over 6 months with SDEC involvement: **£97710**

Discussion & Conclusion

- Potential bed-days saved over 6 months: **122 bed-days**
- Management of patients with magnesium deficiency via SDEC allows effective use of resources, focused care from staff, hospital admission avoidance and length of hospital stay reduction
- Limitations of the study: short duration, small patient cohort
- Significant financial benefit to the trust
- Next step is to establish SDEC referral pathway for hypomagnesaemia
- Subsequent studies may involve analysing readmission rates and satisfaction surveys of patients with magnesium deficiency

References

Asymptomatic ocular candida: a case outside the guidance

Dr Roshnee Patel[1], Dr Lena Wragg[2], Dr Jas Virdee[2]
1 St George's University Hospitals NHS Foundation Trust 2 Croydon Health Services NHS Trust

NHS Croydon Health Services NHS Trust

Introduction

- Candidaemia carries a high inpatient mortality rate[1]
- Ruling out deep-seated infection guides both source control and treatment length[2]
- We present a case of patient who developed candidaemia and was found to have chorioretinitis in the absence of visual symptoms

Guidelines

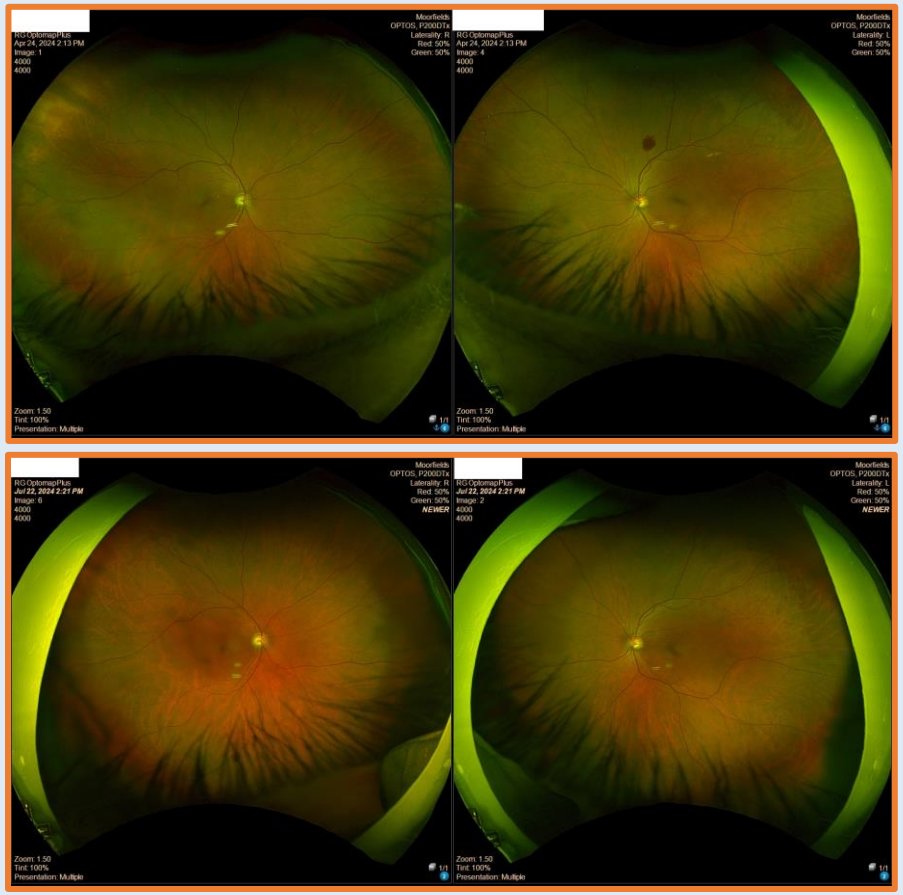
- **Royal College of Ophthalmologists:** Routine eye examination is unnecessary where patients have systemic fungal infections but are awake and asymptomatic due to the low overall prevalence of significant fungal eye disease requiring invasive treatment[3]
- **American Academy of Ophthalmology:** decisions should be made on a case-by-case basis[4]
- **Infectious Diseases Society of America:** all patients with systemic candidiasis should have an ophthalmic examination at the beginning of treatment [5]

Colour fundus photographs courtesy of Mr. Avi Gurbaxani, Consultant Ophthalmologist, Moorfields Eye Hospital, London

References: 1: Koehler, P. et al. (2019) 'Morbidity and mortality of candidaemia in Europe: an epidemiologic meta-analysis.', Clinical microbiology and infection : the official publication of the European Society of Clinical Microbiology and Infectious Diseases. England, 25(10), pp. 1200–1212. doi: 10.1016/j.cmi.2019.04.024. 2:Whitney, L. C. and Bicanic, T. (2014) 'Treatment principles for Candida and Cryptococcus.', *Cold Spring Harbor perspectives in medicine*. United States, 5(6). doi: 10.1101/cshperspect.a024158. 3:Lightman, Sue; Montgomery, Hugh; Larkin, Genevieve; McHugh, Jim; Hingorani, M. (2020) *Eye Care in the Intensive Care Unit (ICU)*. London. Available at: https://www.rcophth.ac.uk/wp-content/uploads/2021/01/Eye-Care-in-the-Intensive-Care-Unit-2020.pd 4:Breazzano, M. P. *et al.* (2022) 'American Academy of Ophthalmology Recommendations on Screening for Endogenous Candida Endophthalmitis', *Ophthalmology*. Ophthalmology, 129(1), pp. 73–76. doi: 10.1016/J.OPHTHA.2021.07.015. 5: Pappas, P. G. *et al.* (2016) 'Clinical Practice Guideline for the Management of Candidiasis: 2016 Update by the Infectious Diseases Society of America', *Clinical Infectious Diseases*. Oxford Academic, 62(4), pp. e1–e50. doi: 10.1093/CID/CIV933. 6: Oude Lashof, A. M. L. *et al.* (2011) 'Ocular manifestations of candidemia', *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America*. Clin Infect Dis, 53(3), pp. 262–268. doi: 10.1093/CID/CIR355.

The Case

- 70-year-old man admitted to a general medical ward in a District General Hospital
- **Presenting features:** Reduced consciousness after a three-day history of fever, diarrhoea and vomiting
- **Co-morbidities:** Type 2 diabetes mellitus, recent surgery for Charcot foot and a long-term urethral catheter
- **Findings:** Acute kidney injury, hyponatraemia. Blood cultures: positive for group B streptococcus & candida albicans. No source of the candida or deep-seated infection initially identified. Ophthalmology review: despite the absence of visual symptoms, bilateral chorioretinitis found suggestive of ocular candidiasis
- **Management:** Linezolid and a four-week course of fluconazole
- **Follow-up:** Three weeks after completion of treatment the chorioretinal lesions had resolved and an associated intraretinal haemorrhage was resolving



Discussion

- Candidaemia is increasing in incidence
- Candidaemia with ocular involvement warrants at least 1 month of treatment with consideration of drug used[5]
- Guidelines are contradictory as to whether to screen everyone for ocular candida
- Link between severity of candida chorioretinitis and progression to endophthalmitis yet to be established[6]

Benefits: sight preservation for the patient; evidence of deep-seated infection to guide treatment duration

Risks: Overtreatment, over-investigation, economic burden

Learning points

1. Tailor your strategy to the patient in front of you
2. All patients with visual symptoms should have an ophthalmology review
3. MDT discussion with microbiology and ophthalmology should be sought if any uncertainty about whether to investigate for deep-seated infection in the eyes

Figure 1. Bilateral retinal images prior to treatment demonstrating intraretinal haemorrhage and occasional candida (Top image)
Figure 2. Bilateral retinal images post-treatment demonstrating resolved chorioretinal lesions and resolving intraretinal haemorrhage. (Bottom image)

Acute Severe Hypertension in the Emergency and Acute Medicine Departments: Developing a Same Day Emergency Care (SDEC) Hypertension Pathway

James Steckelmacher[1,2], Barbara Onen[1], Abubaker Eltayeb[1,2], Dawud Masieh[1,2], Carmen Maniero[1,2], Dakshitha Hettiaratchi[1], Gillian Fox[1], Ajay Gupta[1,2]

[1]Royal London Hospital, Barts Health NHS Trust, London, UK

[2]Clinical Pharmacology and Precision Medicine, Queen Mary University of London, William Harvey Research Institute, London, UK

Barts Health NHS Trust

Background

- Hypertension affects approximately 1 in 3 adults in England[1]
- Approximately 50% are either untreated or uncontrolled[1]
- Leading risk factor for CVD
- Numbers of those presenting to hospital with hypertension is increasing with great variability in management[2]
- Operational Pressures Escalation Level (OPEL) 4 becoming the norm across NHS trusts
- Strategies such as SAMEDAY and novel collaborative initiatives are vital[3]

Initial Emergency Department (ED) audit

Of patients whose primary presenting issue was BP>160/90 mmHg (excluding hypertensive emergency)

- <50% screened for hypertensive mediated organ damage (HMOD)
- <40% received treatment for raised BP
- 9.2% admitted to hospital

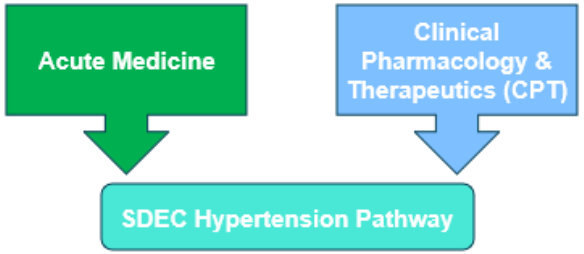
Unmet clinical need for prompt **investigation**, **treatment** and **follow-up** of patients with **acute severe hypertension**

Is there a role for **SDEC** in the **management of acute severe hypertension**?

Aims

1) ↑identification of HMOD and 2° causes
2) Early intervention of BP control
3) ↓re-attendance/admissions
4) Bridge between ED and OP clinics (wait>6 months) / GP

→ Reduce CV risk



Criteria

Any patient with 1° issue of hypertension presenting to acute services with

BP>180/110mmHg
or
BP>160/100mmHg with new HMOD

(>50% of patients from initial ED audit would be eligible)

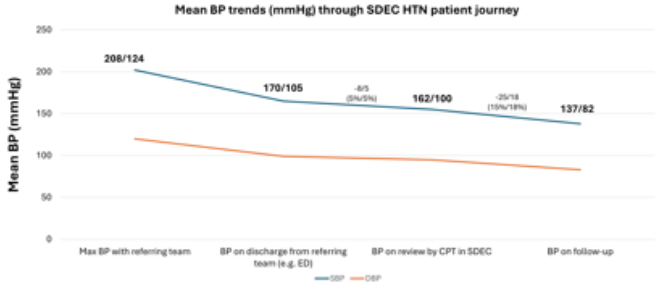
SDEC Hypertension Pathway

- Weekly '**one-stop**' **CPT consultant-supervised** service delivered by a **CPT SpR**
- Overview from **acute medicine consultant**
- Admin and nursing support from acute medicine services
- **Operations:** evaluation of 2° causes + HMOD, develop treatment regimen
- After evaluation, **destinations**: **discharged with plan to GP** or **HTN clinic referral**

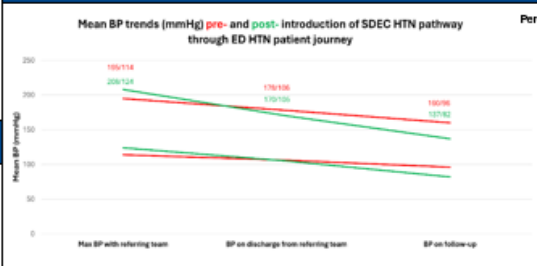
Service evaluation

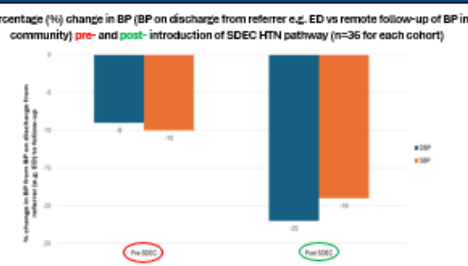
- Data collected from first 36 patients seen in the SDEC hypertension pathway.
- Mean age 46 (55% female)
- 64% had additional HMOD (e.g. renal impairment, LVH, retinopathy) or secondary cause of hypertension identified (e.g. OSA, endocrine cause)

Service evaluation results



Outcomes from SDEC pathway vs Comparative sample of 36 ED patients from initial ED audit pre- pathway





Comparison between pre- and post- SDEC hypertension pathway cohorts: ED re-attendance rate conversion to acute admission rate and reason for admission (within 6-month period from initial ED attendance)

	Pre-SDEC	Post-SDEC
Number of patients (n)	36	36
ED re-attendance rate (n/%)	8 (22)	3 (8)
Conversion of re-attendance to acute admission rate (n/%)	3 (38)	1 (33)
Reasons for admission	STEMI (1) Stroke (1) Left ventricular failure (1)	Psychosis (hypertensive emergency or CV syndrome ruled out)

Conclusions

- These preliminary findings show the **positive effect** of having **sub-specialties services working in conjunction with SDEC** to provide **alternatives pathways to admission** resulting in **improved patient care, reduction in re-admission and morbidity**.
- Further data to show long term effects will be required.
- Moving forward we plan to integrate more sub-specialist pathways into SDEC by fostering positive collaborative approaches.

References

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Decoding the Rigour of Artificial Intelligence in Colon Capsule Endoscopy: Diagnostic Accuracy of Per-Polyp Detection from the CESCAIL Study

Ian Io Lei, Nicholas Parsons, Cristiana Huhulea, Hagen Wenzek, Elizabeth White, Pablo Laiz, Charlie Noble, Alexander Robertson6, Anastasios Koulaouzidis, Ramesh P. Arasaradnam, CESCAIL study group.

Introduction:

As healthcare increasingly embraces artificial intelligence (AI), its potential to transform workflows has gathered significant attention. In CCE, AI algorithms for the automated detection of polyps have proliferated. Despite these advances, critical knowledge gaps remain. Current literature lacks granular analysis of AI-assisted performance compared to standard clinicians across clinically relevant polyp characteristics, such as size, morphology, and anatomical location. These attributes are vital as they often correlate with malignancy risk and inform the urgency of respective interventions.

Aims:

1. To assess the diagnostic accuracy of AI-assisted per-polyp detection compared to standard clinician assessments
2. To examine factors influencing AI-assisted diagnostic accuracy at the per-polyp level, including polyp size, morphology, and location, alongside patient-specific and procedural variables.

Table 3: Comparison of diagnostic yields of standard and AI-assisted readings at per-Polyp analysis (non-inferiority and superiority analysis)

Non-inferiority Analysis (Sensitivity & PPV)				
Polyp size cut-off (mm)	All size	≤5mm	6-9mm	≥10mm
Sensitivity difference (AI-ST)	0.174	0.222	0.161	0.027
P-value	<0.001***	<0.001***	<0.001***	0.003**
Non inferiority	Established	Established	Established	Established
PPV difference (AI-ST)	-0.0002	0	-0.002	0
P-value	<0.001***	<0.001***	<0.001***	<0.001***
Non inferiority	Established	Established	Established	Established
Superiority Analysis (Sensitivity and PPV)				
Sensitivity difference (AI-ST)	0.174	0.222	0.161	0.027
P-value	<0.001***	<0.001***	<0.001***	0.340
Conclusion	AI-assisted arm is superior	AI-assisted arm is superior	AI-assisted arm is superior	No superiority
PPV difference (AI-ST)	-0.0002	0	-0.002	0
P-value	0.936	N/A	0.317	N/A
Conclusion	No superiority	No superiority	No superiority	No superiority

Methods:

720 participants were recruited across 14 tertiary and secondary centres in the UK.

AI algorithm: AiSPEED™ (Artificial intelligence) for polypoidal lesion detection (pre-read). Followed by the pre-readers' analysis before the final clinician's validation.

Expert panel as the reference standard. Each polyp was matched using the polyp matching criteria. McNemar's test for proportions, non-inferiority, and superiority analyses were applied using paired contingency tables.

Table 1: Distribution of Polyps by different reading arms, Size, Location, and Morphology

Characteristics	Standard Arm		AI-assisted Arm		Panel
	Detected	Missed	Detected	Missed	Detected (all)
Left sided colon					
Hyperplastic	345 (60%)	233 (40%)	519 (90%)	59 (10%)	578 (32%)
Sessile	364 (76%)	115 (24%)	407 (85%)	72 (15%)	479 (27%)
Sub/pedunculated	59 (89%)	7 (11%)	59 (89%)	7 (11%)	66 (4%)
SSL	4 (80%)	1 (20%)	3 (60%)	2 (40%)	5 (0.3%)
Tumour	1 (100%)	0 (0%)	1 (100%)	0 (0%)	1 (0.1%)
LST	7 (100%)	0 (0%)	7 (100%)	0 (0%)	7 (0.4%)
submucosa	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Inflammatory	2 (100%)	0 (0%)	2 (100%)	0 (0%)	2 (0.1%)
Colonic Lymphoid hyperplasia	1 (100%	0 (0%)	1 (100%	0 (0%)	1 (0.1%)
Fibroepithelial polyp	1 (100%)	0 (0%)	1 (100%)	0 (0%)	1 (0.1%)
Size (left-sided)					
<=5mm	443 (64%)	260 (37%)	613 (87%)	90 (13%)	703 (39%)
6-9mm	235 (73%)	87 (27%)	281 (87%)	41 (13%)	322 (18%)
>=10mm	106 (92%)	9 (8%)	106 (92%)	9 (8%)	115 (6%)
Total (left-sided)	784 (69%)	356 (31%)	1000 (88%)	140 (12%)	1140 (63%)
Right side colon					
Hyperplastic	2 (33%)	4 (67%)	6 (100%)	0 (0%)	6 (3%)
Sessile	386 (65%)	205 (35%)	487 (82%)	104 (18%)	594 (33%)
Sub/pedunculated	33 (85%)	6 (15%)	34 (87%)	5 (13%)	39 (2%)
SSL	5 (56%)	4 (44%)	6 (67%)	3 (33%)	9 (0.5%)
Tumour	1 (100%)	0 (0%)	1 (100%)	0 (0%)	1(0.1%)
LST	6 (86%)	1 (14%)	6 (86%)	1 (14%)	7 (0.4%)
Submucosa	2 (100%)	0 (0%)	1 (50%)	1 (50%)	2 (0.1%)
Inflammatory	1 (100%)	0 (0%)	1 (100%)	0 (0%)	1 (0.1%)
Colonic Lymphoid hyperplasia	4 (100%)	0 (0%)	4 (100%)	0 (0%)	4 (0.2%)
Fibroepithelial polyp	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Size (right-sided)					
<=5mm	162 (64%)	93 (36%)	208 (82%)	47 (18%)	255 (14%)
6-9mm	160 (60%)	105 (40%)	215 (81%)	51 (19%)	265 (15%)
>=10mm	118 (83%)	25 (17%)	125 (87%)	18 (13%)	143 (8%)
Total (left-sided)	440 (66%)	223 (34%)	549 (83%)	114 (17%)	663 (37%)
Left and Right Total	1224 (68%)	579 (32%)	1547 (86%)	256 (14%)	N = 1803 (100%)

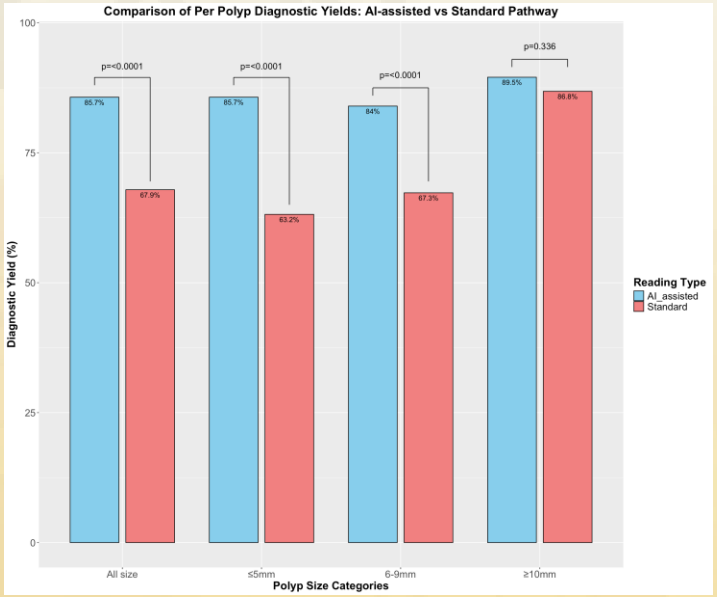


Figure 1. Per polyp diagnostic yields between the standard arm and the AI-assisted arms

Results:

- 1,803 polyps were identified in 494 patients.
- Standard arm: 1,224 polyps (67.9%) in 324 patients, while the AI-assisted arm detected 1,547 polyps (85.7%) in 437 patients.
- 722 discordant polyps between the two arms, including 448 polyps ≤5mm, 221 polyps 6–9mm, and 53 polyps ≥10mm.
- The standard arm missed 579 polyps (353 polyps ≤5mm, 192 polyps 6–9mm, 34 polyps ≥10mm), while the AI-assisted arm missed 256 polyps (137 polyps ≤5mm, 92 polyps 6–9mm, 27 polyps ≥10mm).
- The miss rate: standard arm (31.9%) compared to the AI-assisted arm (14.1%) (McNemar, p<0.001). For polyps ≥10mm, the standard arm detected 224 out of 258 polyps (86.8%), while the AI-assisted arm detected 231 out of 258 polyps (89.5%).

Conclusion:

This study highlights the strengths of AI-assisted reading with superior sensitivity, particularly for detecting smaller adenomas and hyperplastic polyps in the left colon. Future AI advancements should focus on refining differentiation between clinically significant, diminutive polyps, as well as sessile serrated polyps.

The benefit of a Frailty Clinician within the Emergency Department to eliminate corridor care

J Acharya, A Manzoor, R Lisk

Royal College of Physicians

NHS Ashford and St. Peter's Hospitals NHS Foundation Trust

Introduction

Corridor care in the National Health Service (NHS) refers to providing medical care to patients in hospital corridors due to a lack of available clinical bed space. This often occurs during periods of increased demand, such as winter months or when there are delays in patient discharges causing bed blockages in the Emergency Department (ED). It highlights the increasing pressures within the NHS, including overcrowding, staff shortages and subsequent increased demand on stretched resources.

Corridor care can negatively impact patient dignity and safety. Despite these issues, corridor care provides a broader challenge in healthcare capacity and planning. Addressing it requires systemic improvements in hospital infrastructure, patient flow management and additional resources to ensure patients receive the quality of care they deserve in a safe and supportive environment.

90% of respondents say patient safety is being compromised by corridor care

Royal College of Nursing

Methods

One such intervention made was a trial of the addition of a Frailty Clinician joining the triage nurse when taking handovers from Paramedics conveying patients to the ED.

Here the emphasis was early identification of suitable patients for referral to Frailty team direct from triage and transfer of these patients from ED to dedicated Frailty Unit to decongest the ED corridor.

The trail took place for 4 consecutive days (Tuesday-Friday) in August 2024 between 08:00 and 16:00pm.

Methods

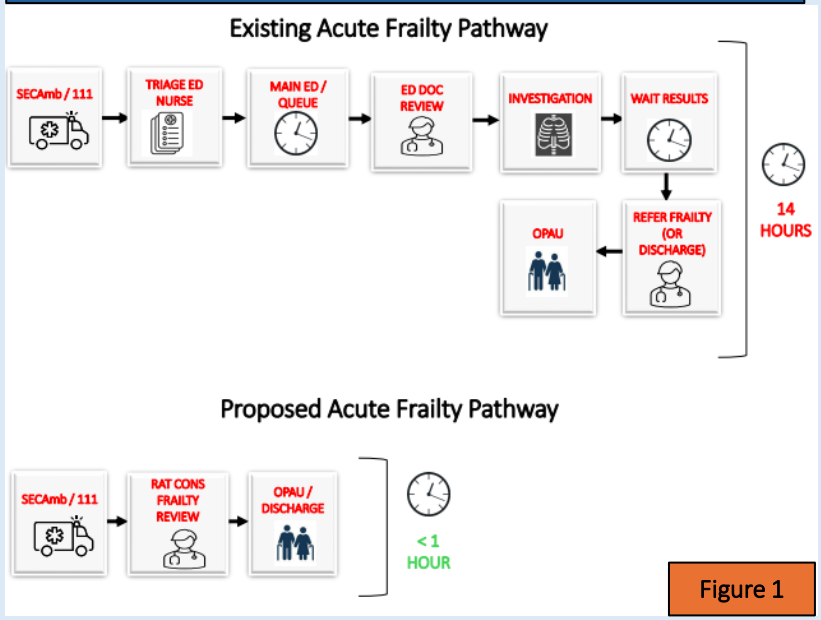


Figure 1

Results

The average number of patients seen in dedicated frailty unit increased from 7 daily to 13 daily during the trial.

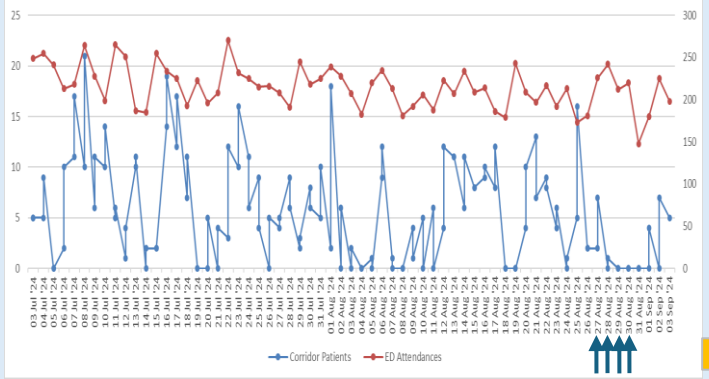
During the trial period, there were 0 patients in the ED corridor between 08:00 and 16:00pm with usual mean average 5 patients pre-trial.

ED attendances were still at a baseline average of approximately 220 patients during trial days compared to average non-trial days showing no data bias to quieter ED days in terms of patient volume during trial days.

On average 4 patients were admitted and 9 patients discharged daily from Frailty Unit during trial.

Figure 2

Patients in ED corridor (10:00 and 15:00pm) compared to total number of ED patients



Trial days

Conclusion

Data for admitting a >75-year-old patient shows average ED time at 20 hours, therefore 80 hours saved per day of patient time in ED via trial.

Average of 8hrs for >75-year-old for discharging patient from ED equates to 72 hours saved per day (SAPIT data >70-year-old).

Therefore, total 152 hours saved per day in ED.

If on average patients stay for 4 hours, this would feel like 38 patients daily NOT in the ED.

Eliminating corridor care is vital. Patients' health is compromised when treated in corridors and further exacerbated for our frail cohort for whom delays in timely interventions increases their risk of deterioration.

Frailty triage is our ambition with better staffing.

By addressing both frailty and corridor care, the NHS can ensure safer and more efficient care for all patients, ultimately leading to improved health outcomes and reduced strain on the ED.

OPTIMISING CLINICIAN WORKFLOW: ENHANCING EFFICIENCY IN SDEC (SAME DAY EMERGENCY CARE).

Bedfordshire Hospitals NHS Foundation Trust

Jayesh chopra, Yakut Khan, Shaun Trussell, Rajeev Kumar

IMPROVING THE HUMAN FACTOR IN SAME DAY CARE

INTRODUCTION

SDEC is a relatively new care model under which patients presenting to hospital can be rapidly assessed, diagnosed and treated[1].
New doctors rotating through the unit can find it challenging as the workflow differs significantly from their usual shifts and work patterns due to the emphasis on same-day assessment and treatment.

OBJECTIVE

This quality improvement project aimed to address specific workflow bottlenecks and enhance clinician confidence by creating a reference tool for matters relating to clinical practice and workflows in the Same-Day Emergency Care Department (SDEC).

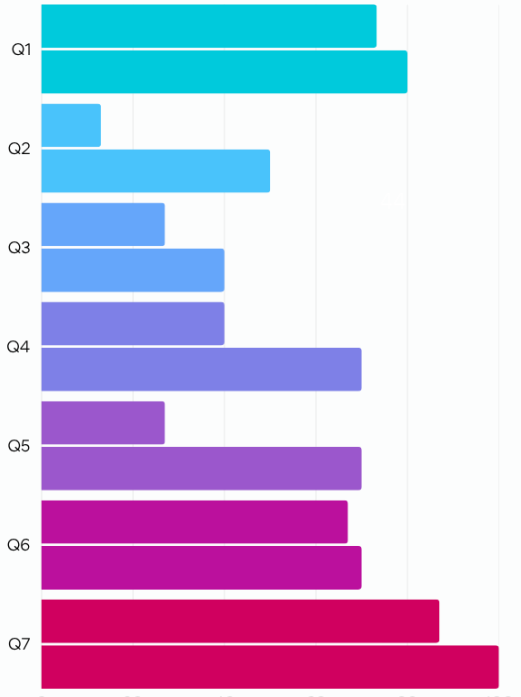
METHODOLOGY

Pre- and post implementation questionnaires were used to assess the need and impact of the SDEC guide.

The questionnaires contained objective questionnaires to gauge knowledge of workflows and subject questions to measure clinician confidence.

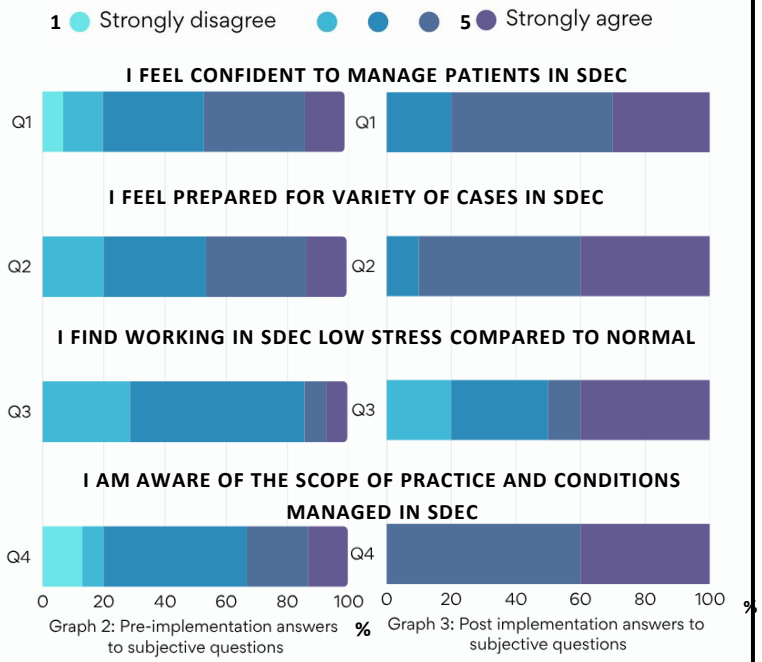
RESULTS

The data from the two surveys were compared and showed a significant improvement in not only the knowledge of protocols, but also that clinicians felt more confident whilst working in SDEC.(Guide and tabulated results in QR codes.)



Graph 1: Percentage of correct responses to workflow questions before and after guide tool release

QR code to questionnaire with results



Graph 2: Pre-implementation answers to subjective questions

Graph 3: Post implementation answers to subjective questions

CONCLUSION

The QIP and the guidetool led to increased confidence level and knowledge of workflows amongst clinicians working in SDEC.

REFERENCES: 1.SAME DAY EMERGENCY CARE HTTPS://WWW.ENGLAND.NHS.UK/URGENT-EMERGENCY-CARE/SAME-DAY-EMERGENCY-CARE/[ACCESSED 16 MARCH 2025]

QR CODE TO BEDFORD SDEC GUIDE

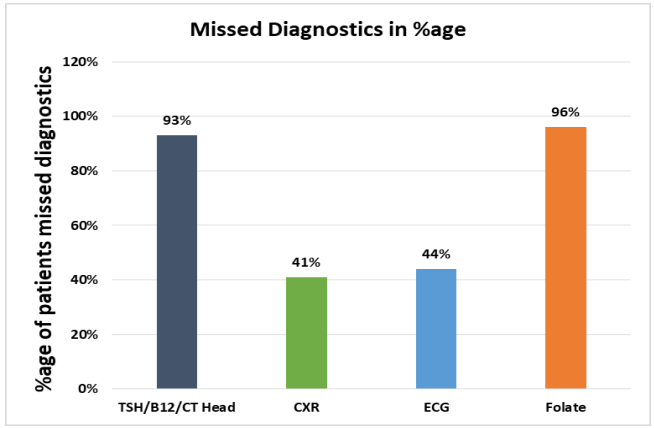
A Review of Delirium Screening Adherence in Elderly Care Settings – A Quality Improvement Project (QIP)

Jazba Yousaf, Areeba Asghar, Sami Mehdi, Faiza Khan, Shams ud Duja
Care of the Elderly Medicine Department, The Dudley Group NHS Foundation Trust

The Dudley Group NHS Foundation Trust

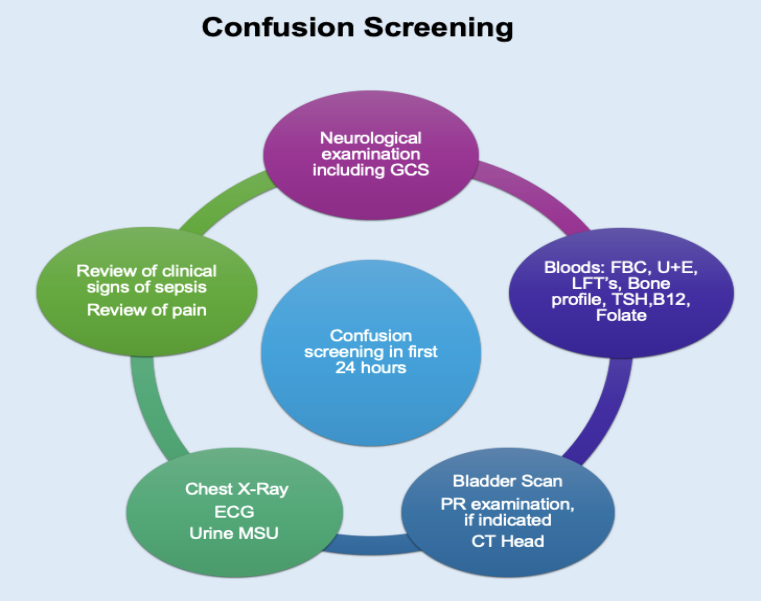
Background:

- Delirium is common but under-recognized in elderly patients., which is associated with poor outcomes if undetected.
- NICE recommends screening for[1] :
  - Aged 65 years or older
  - With cognitive impairment, dementia, or history of delirium
  - With severe illness
  - Undergoing surgery, especially hip fracture surgery
- A formal cognitive assessment and history of acute onset of symptoms are necessary for diagnosis[2].
- In patients who were delirious at the time of post-acute care admission, persistent delirium was a significant independent predictor of 1-year mortality[3].



Objectives:

- Evaluate adherence to the trust guidelines, mandating delirium screening within 24 hours of admission using structured tools such as the Confusion Assessment Method (CAM) or the 4AT.
- Identify barriers to effective screening and propose actionable strategies to enhance adherence.

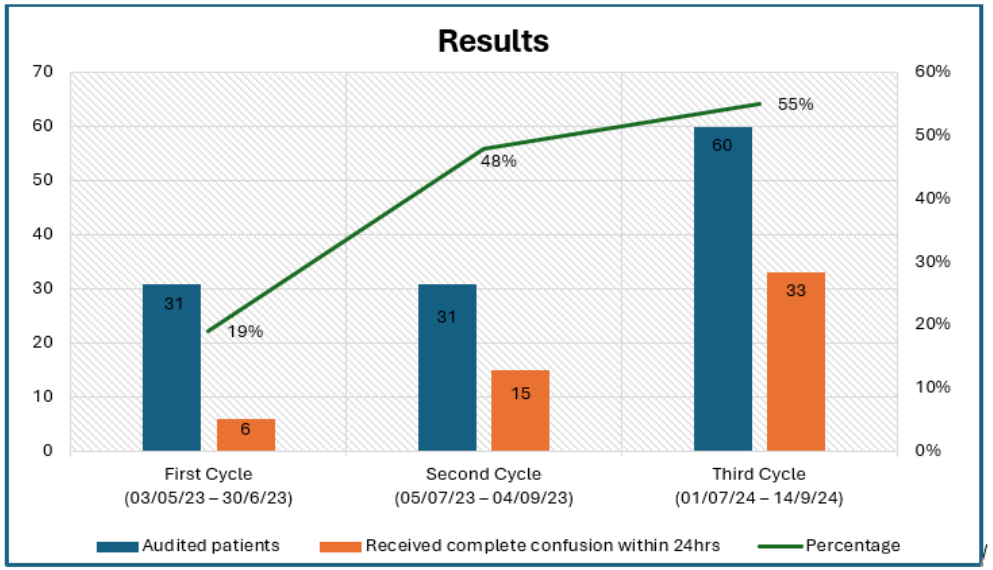


Methodology:

- Three cycles were carried out.
- Clinical notes of 31 patients with delirium were reviewed in 1st cycle, 31 in 2nd cycle and 60 were reviewed in 3rd cycle.
- Data was collected retrospectively.

Conclusions:

- Delirium screening improved but remains suboptimal.
- Critical diagnostic investigations often missed.
- Early screening can reduce mortality, hospital stays, and cognitive decline.



Graphical Representation of Compliance Rates Across Three Cycle

Conflict of Interest:

None

Recommendations:

- **Education** – Regular training on 4AT/CAM.
- **EHR Integration** – Automate prompts for screening.
- **Teamwork** – Encourage multidisciplinary collaboration.
- **Regular Audits** – Reassess and refine strategy every 6 months.

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Phantom Tumor – *Inflammatory Pseudotumour of the Liver.*

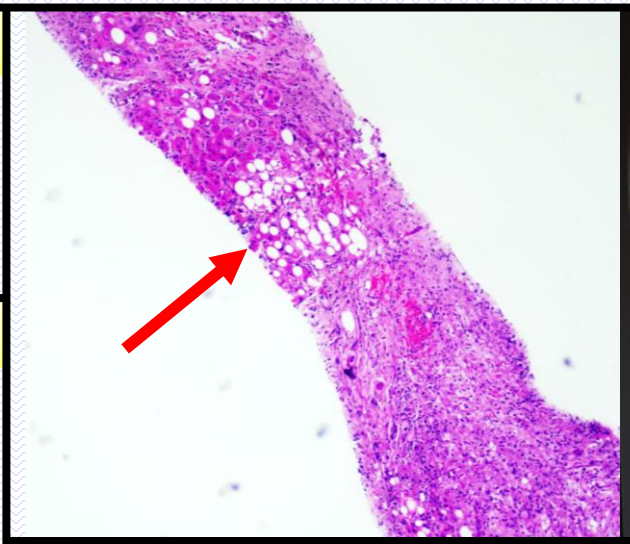
Jesheen Mann – Clinical Fellow, George Eliot Hospital NHS Trust
Akash Shukla – Head of Department, Hepatology, H.N Reliance Hospital

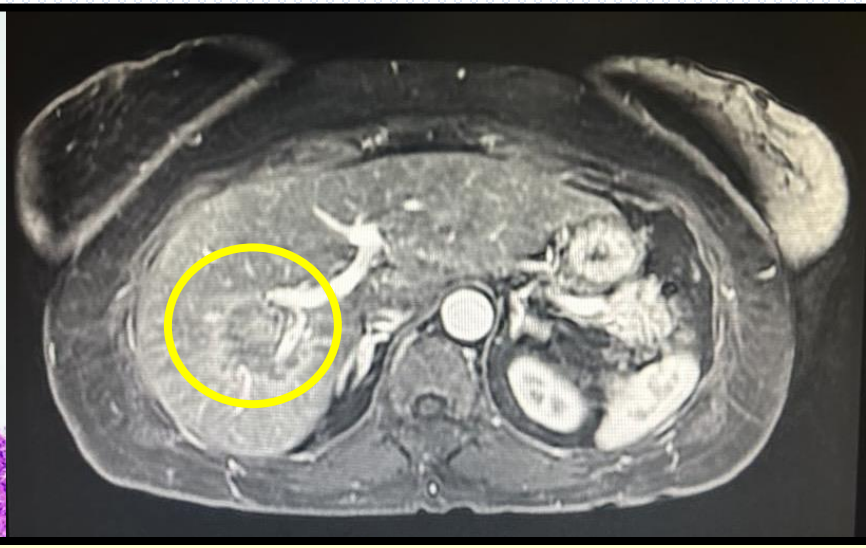
Introduction

- A rare benign lesion characterised by chronic infiltration of inflammatory cells & an area of fibrosis that closely mimics a malignant tumour.
- Inflammatory Pseudotumour (IPT) most commonly occur in the lungs. Other locations include CNS, Kidneys, Ovaries and Liver.

Case

- A 60-year-old female, with no relevant past medical history presented with intermittent fever, vague abdominal pain, and malaise.
- Tests revealed hyperbilirubinemia, leucocytosis and raised liver enzymes & inflammatory markers.
- Ultrasound & CECT showed a hypodense hepatic lesion with septations, initially suspected as a liver abscess.
- Despite empirical antibiotics, the lesion persisted and progressed.
- CA 19-9 levels were elevated raising suspicion for malignancy.
- Further evaluation with MRI demonstrated a **targetoid enhancing lesion**, prompting a CT-guided biopsy.
- Histopathology confirmed a diagnosis of inflammatory pseudotumour with **xanthogranulomatous inflammation.**
- The patient was managed conservatively with **corticosteroids**.
- Follow-up imaging at 6 months showed gradual regression of the lesion.





Discussion

- IPTs are mistaken for malignancies due to their imaging findings & nonspecific presentation.
- They typically appear as hypoechoic lesions with heterogeneous enhancement on CT and MRI.
- The definitive diagnosis relies on histopathology which reveals **mixed inflammatory infiltrates, fibrosis and foamy macrophages** characteristic of xanthogranulomatous inflammation.

Conclusion

- Hepatic IPTs are a diagnostic challenge which can closely mimic malignancies.
- They have potential for spontaneous regression and respond to corticosteroids.
- Radiologically guided liver biopsy is recommended in such cases to prevent unindicated hepatic resection.

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2. Zhao J et al. Hepatic Inflammatory Pseudotumor: An Important Differential Diagnosis in Patients With a History of Previous Biliary Procedures. ACG Case Rep J. 2019 Feb 13;6(1):e00015.
3. Rosa B et al. Ghost tumor: an inflammatory pseudotumor of the liver. Gastroenterol Hepatol (N Y). 2012 Sep;8(9):630-3.

An expedited cardiology investigation service helps to bridge the gap between emergency and outpatient care

Jun Yu Chen, Hibba Saeed, Jemimah Joseph, Mostafa Sallam, Joe Bradley and Vinay Reddy-Kolanu
Queen Elizabeth Hospital Birmingham, University Hospitals Birmingham NHS Foundation Trust, Birmingham, UK

Key concept: Expedited ambulatory ECG and echocardiogram investigations bridge the gap in cardiology care, improving diagnosis and management.

Background

- **Cardiovascular diseases** account for 25% of deaths in the UK[1]. Delays in diagnostics and management may negatively impact on patient outcomes.
- **Same day emergency care** provides a flexible management service for ambulatory patients with acute and stable presentations that do not require admission. However, patients often face **prolonged outpatient waiting lists** despite potentially higher clinical needs for earlier intervention.
- To address this gap within cardiology diagnostics, we implemented a novel **expedited cardiology investigation service** in SDEC in a major tertiary hospital.

Objectives

To investigate whether an expedited cardiology investigation service leads to timely investigation and improved patient outcomes.

Methods

- In February 2024, an expedited cardiology investigation service was introduced, offering **five echocardiography and three ambulatory electrocardiography (ECG) slots,** three times a week.
- All investigations were performed by a Band 8 cardiac physiologist.
- A retrospective analysis was conducted on all patients referred between February and March 2024.

1) **Time to investigation**
2) **Non-attendance rates**
3) **Significant findings**
4) **Subsequent management**

Results

Variables		All patients
Sex, n (%)	Female	78 (54.2)
	Male	66 (45.8)
Ethnicity, n (%)	Afro-Caribbean	7 (4.9)
	Asian	42 (29.2)
	Caucasian	89 (61.8)
	Not known	6 (4.2)
Age, median [Q1,Q3]		57.0 [36.5,71.0]

Figure 1: Baseline table.

- 144 patients: 74 had echocardiograms, 42 had ambulatory ECGs, 28 had both
- 179 booking slots: 106 echocardiograms and 73 ambulatory ECGs
- Most ambulatory ECGs were 24-hour recordings
- Patients waited a median of 6 (4–8) days. Echocardiograms had a shorter median waiting time (5 (4–7) days) compared to ambulatory ECGs (6 (4–8) days) (*p=0.028*).

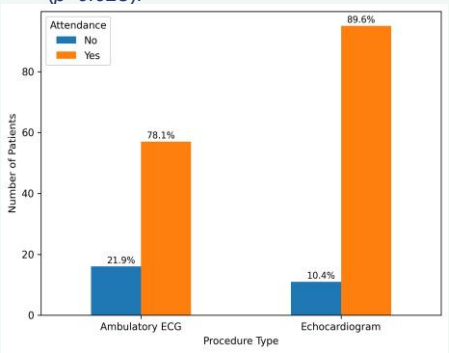

Figure 2: Attendance by procedure.

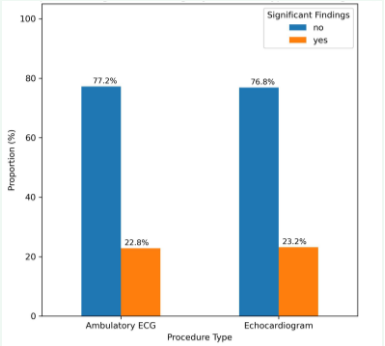

Figure 3: Proportion of significant findings by procedure type.

- Proportion of significant findings:
  - Ambulatory ECG – 22.8% (13/57)
  - Echocardiogram – 23.2% (22/95)
- Non-attendance rates:
  - Ambulatory ECG – 21.9% (16/73)
  - Echocardiogram – 10.4% (11/106)

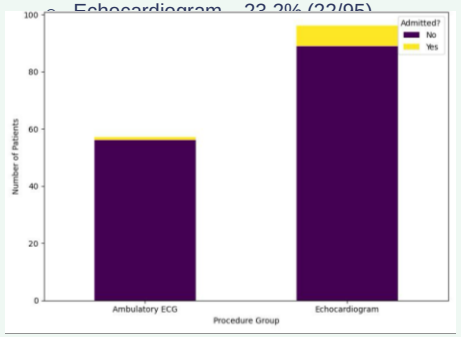

Figure 4: Admission rates by procedure.

- Admission rates:
  - Ambulatory ECG – 1 patient
  - Echocardiogram – 7 patients

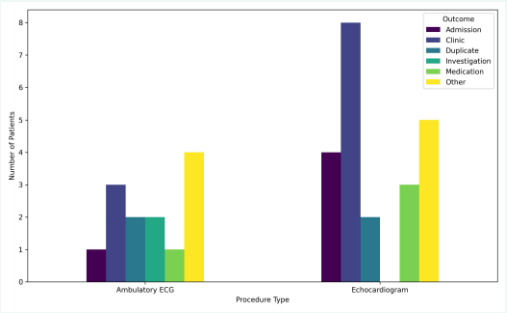

Figure 5: Outcomes in patients with significant findings by procedure.

- Cardiology investigations resulted in 22 changes: 5 hospital admissions, 11 specialist referrals, 4 new prescriptions, and 2 additional tests, demonstrating meaningful downstream clinical actions.

- In March 2024, 30.9% of NHS patients waited over 6 weeks for an echocardiogram, despite a 6-week operational standard[2,3].
- Median wait time was under 4 weeks, but delays persist.
- Our expedited service significantly reduced waiting times.
- Non-attendance wastes clinical resources, underscoring the need for improved patient engagement.

- We enabled earlier management for 22 patients with confirmed significant disease.
- Patients without significant findings were safely discharged with appropriate safety netting, avoiding unnecessary admissions.
- This service supports rapid, outpatient-based diagnostics and enables ambulatory management for cardiology patients.
- This has also been demonstrated in an emergency department in the UK[4].

Conclusions

- An **expedited cardiology investigation** service bridges emergency and outpatient care, improving patient flow.
- It facilitates safe discharge and early detection of cardiac pathology.
- A dedicated cardiac physiologist
- Future directions include referral from inpatient wards and general practitioners.

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Exceptional Outcome: **Relapsed EATL** (Enteropathy-Associated T-Cell Lymphoma CD30 Positive) Treated with **Brentuximab Vedotin** Alone, Improving **Weight** and **Albumin** in RCD Type II

Kainat Memon[1], Cathy Burton[2]
Department of Haematology, Leeds Teaching Hospitals

Introduction

-Enteropathy-associated T-cell lymphoma (EATL) is a rare, aggressive lymphoma linked to type II refractory coeliac disease (RCD II). EATL has a **very poor prognosis** with median survival of 7 month and 5-year survival in the RCD II group was only 8% after developing EATL, With 79% relapsing within 1 to 60 months of diagnosis. Malnutrition is central in the poor prognosis of RCD II.

BV is an anti antibody-drug-conjugate directed against CD30 antigen , used in treatment of Anaplastic Large cell Lymphoma.

Case Description

-**2017:** A 44-year-old male was diagnosed with type II refractory coeliac disease (RCD II) and treated with 3 cycles of Cladribine. He showed a partial response, but clonal T-cell receptor (TCR) rearrangement persisted.

-**2019**: Presented with worsening diarrhoea, falling albumin, and suspected progression to EATL. **CT and biopsy confirmed CD30-positive EATL** involving the jejunum and mesenteric lymph nodes.

-Initiated treatment with **BV-CHP** (based on the **ECHELON-2 trial**), but it was poorly tolerated and switched to **Brentuximab Vedotin** monotherapy for the final 2 cycles.

-2022: End-of-treatment CT showed no evidence of lymphoma, but persistent bowel wall thickening remained.

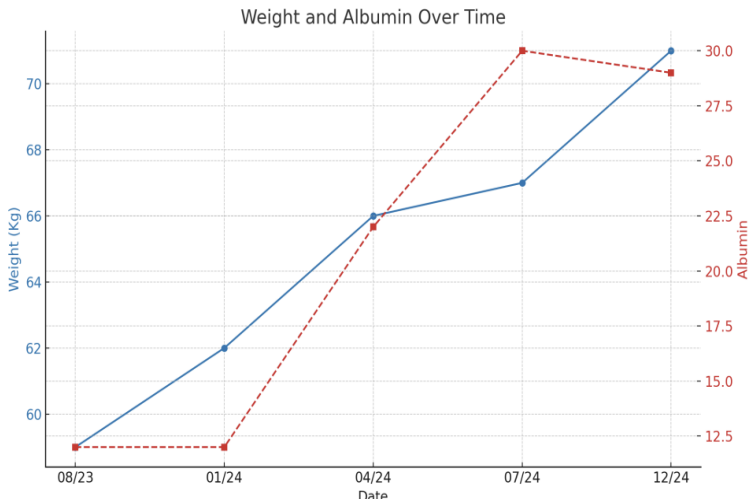
-2024: Patient relapsed with abdominal pain, diarrhoea, and weight loss**.** Retreated with B**V monotherapy** (16 cycles from January to September 2024)

Conclusion

-Following retreatment with **Brentuximab Vedotin monotherapy ,** Gastrointestinal symptoms resolved, indicating clinical remission of relapsed CD30+ EATL.

He had an excellent clinical response as demonstrated in the graph.

-The patient's nutritional status improved, contributing to his **survival** with a better **quality of life**, despite the poor prognosis typically associated with relapsed EATL.



Brentuximab started on January 2024 and completed 16 cycles in September 2024. Graph showing significant improvement in albumin level and weight.

Discussion

-Brentuximab Vedotin (BV) monotherapy resulted in **exceptional remission** in a patient with relapsed CD30-positive EATL, a rare lymphoma with a historically poor prognosis.

-The patient's marked improvements in weight and albumin played important role in survival.

-Although there are no standardised treatment protocol for this rare disease , **this case illustrate an area of research and novel treatment delivery including the role of BV in managing Relapsed EATL.**

References

Assessing the suitability of ChatGPT and DeepSeek AI for patient education on common rheumatological disorder

Amruth Akhil Alluri [1], Kalyan Kumar Reddy Annapureddy[1], Zakiya Munawara Ayub Khan[2], Krithika Venkatasubramanian[3], Maira Jalil[4], Gayathri Dantu[5]

Background

Systemic lupus erythematosus, systemic sclerosis and Dermatomyositis are common rheumatological conditions requiring effective patient education to improve understanding, treatment adherence, and outcomes. AI tools like ChatGPT and DeepSeek offer personalized, accessible, and interactive educational support. They enhance patient engagement, promote shared decision-making, and improve health literacy. ChatGPT aids in simplifying complex medical terms and offering real-time responses, while DeepSeek supports reasoning-based guidance. Despite these benefits, AI may spread misinformation and faces accessibility challenges due to the digital divide. Hence, human oversight remains essential. AI shows promise as a supplementary tool in rheumatology patient care.

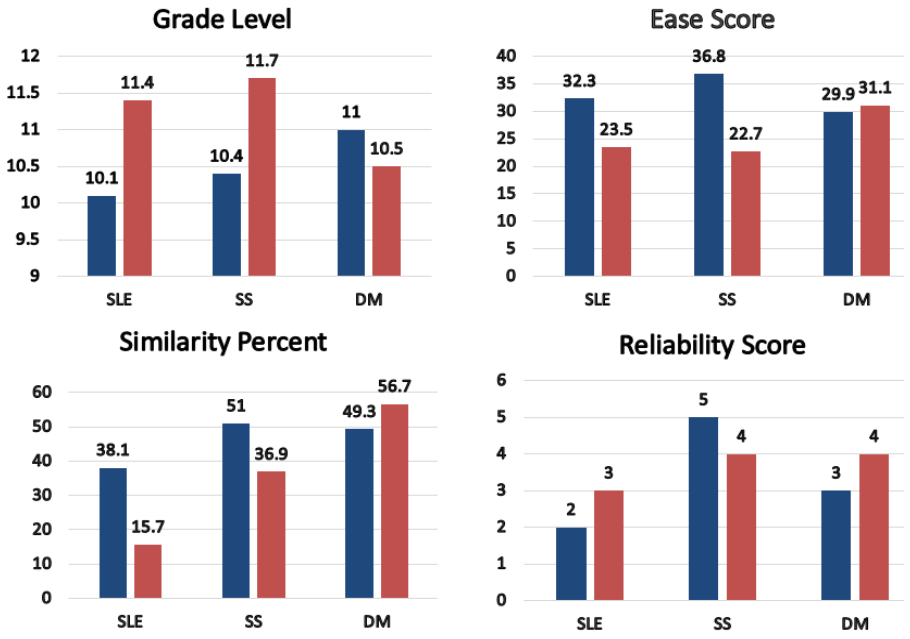
Research Objectives

To assess and compare ChatGPT and DeepSeek AI's effectiveness in generating understandable, accurate, and reliable patient education guide for three rheumatological conditions: Systemic Lupus Erythematosus, Systemic Sclerosis, and Dermatomyositis.

Methods

ChatGPT 4.0 and DeepSeek AI were asked to write a patient education guide for " Systemic Lupus Erythematosus", " Systemic sclerosis," and " Dermatomyositis". These materials were assessed using validated readability scores (Flesch-Kincaid). grade level, ease score), linguistic complexity analysis (average syllables per word, words per sentence), and similarity metrics to standard rheumatological resources. Finally, the reliability was rated using " discern score, a structured evaluation framework formed on the basis of evidence-based guidelines from the British Society of Rheumatology and the American College of Rheumatology.

Results



Graph 1 Shows: ChatGpt DeepSeek AI

SLE- Systemic lupus erythematosus, SS- systemic sclerosis
DM- Dermatomyositis

P values

Grade level- 0.193	Similarity Percent- 0.481
Ease Score- 0.097	Reliability Score- 0.742

The study shows there is no significant difference between ChatGPT and DeepSeek AI for patient education on common rheumatological disorders.

Discussions and Limitations

- **Comparable AI Performance**: ChatGPT and DeepSeek AI showed no significant differences in word count, readability scores, grade level, similarity percentage, or reliability (DISCERN) scores.
- **Room for Improved Readability**: Both tools produced content above the recommended reading level for patient education, suggesting a need for simpler, more accessible language.
- **Plagiarism Concerns**: Similarity scores were relatively high (46.13% for ChatGPT, 36.43% for DeepSeek AI), highlighting the importance of plagiarism checks for AI-generated materials.
- **Moderate Reliability**: Modified DISCERN scores (3.33 vs. 3.67) indicated moderate reliability, reinforcing the need for expert oversight to ensure clinical accuracy.
- **Study Limitations**: Limited to two AI tools, three rheumatological conditions, and an older version of ChatGPT—suggesting the need for broader, updated research

Future scope

1. Future research should include a broader range of AI platforms to establish comprehensive conclusions regarding their suitability in patient education.
2. The study evaluated only three specific rheumatological disorders, necessitating broader analyses encompassing diverse diseases to better understand the general applicability of these AI tools

The Integrated Respiratory Physician Associate fellowship: improving respiratory patient outcomes across primary care and secondary care

Kavita Desai PA-R, Dina Bateman PA-R

Supervised by Dr Onyeka Umerah, Dr Shamsa Naveed & Professor Fahad Rizvi

NHS University Hospitals of Leicester NHS Trust

Introduction

The Integrated Respiratory Physician Associate (PA) Fellowship aimed to improve asthma and COPD care by bridging primary and secondary services. Based at The Willows Practice and Primary Care Network (PCN), this pilot fellowship introduced a cross-system PA role to support disease management. Monthly multidisciplinary (MDT) meetings, with a consultant, nurse, GP, and PA, were held to optimise treatment, enable timely interventions, and reduce avoidable secondary care referrals.

Aims & Objectives

1. Demonstrate the value and impact of a cross-systems PA role, in improving respiratory care.
2. Improve coordination between primary and secondary care through structured integrated MDTs.
3. Enhance asthma and COPD outcomes via:

- Annual patient reviews
- Medication compliance assessments
- Increased referrals to pulmonary rehab and smoking cessation services

Methods

Over nine months, the PA reviewed 382 asthma and COPD patients across ~100 clinics. Data collected included appointment type, Asthma Control Test (ACT) score or Medical Research Council (MRC) dyspnoea score, referrals, medication changes, and MDT discussions. 34 patients were reviewed in seven monthly MDTs, with outcomes tracked.

Results

Figure 1: Pie chart showing percentage of patients reviewed by appointment type in primary care.

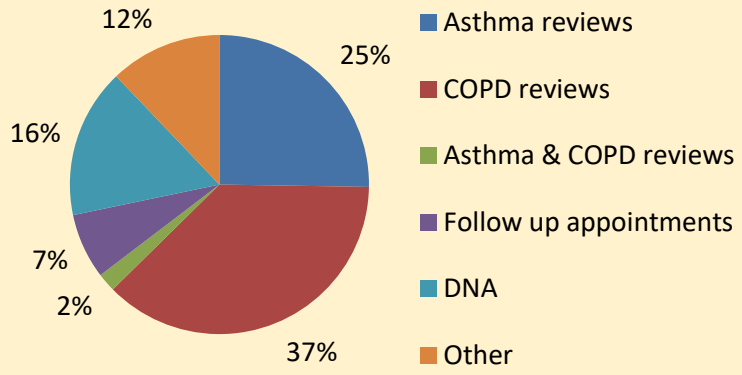
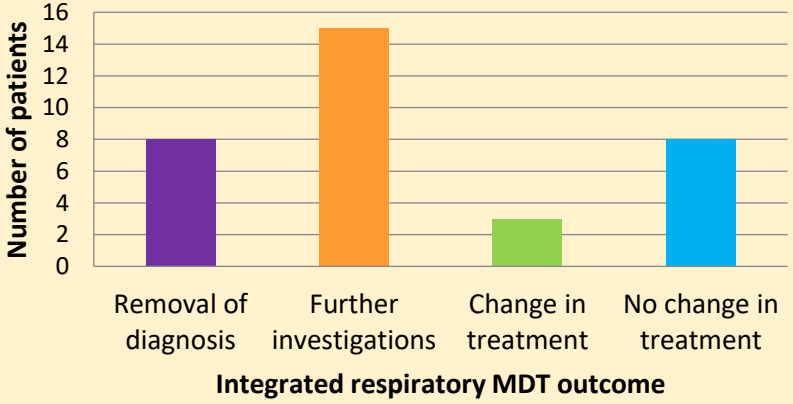


Figure 2: Bar chart showing number of patients per MDT outcome



Conclusion

Of the 34 patients discussed in the integrated respiratory MDTs, 8 had incorrect diagnoses removed and 15 were referred for further investigations. Long-term integration of a Physician Associate (PA) in respiratory care has the potential to reduce secondary care referrals and support PCNs in meeting annual Quality and Outcomes Framework (QOF) targets. Key benefits include improved coordination between primary and secondary care, optimised treatment management, and enhanced education and knowledge-sharing within primary care teams.

Discussion

Feedback from a post-fellowship colleague questionnaire indicated significant improvements in asthma and COPD outcomes due to the PA role. The PA contributed to better care coordination, more effective management plans, and improved patient follow-up. Identified challenges such as limited awareness of the PA role, continuity of care issues, and clinic booking difficulties can be addressed through continued role development, clearer pathways, and team integration.

Future scope of work

To better assess the impact of the integrated PA role, further data collection is needed, including validated patient outcome measures. Tracking emergency department admissions and exacerbation rates will also provide insights into healthcare resource utilisation and long-term patient outcomes.

Audit of Immunoglobulin Monitoring and Hypogammaglobulinaemia After B-Cell Targeted Therapy in a Paediatric Cohort in a High Immunodeficiency Disease Prevalence Region

Khadija Karim, Omar Mostafa, Alaa Samarh, Sharon Bout-Tabaku, Buthaina Al-Adba, Ahmad Kaddourah, Abubakr Imam, Ibrahim Shatat, Bajes Hamad, Mahmoud Fawzi, Ruba Benini, Ayman Saleh, Tayseer Yousif, Areeg Ahmed, Yasmin El Bsat, Bernice Lo, Mohammed Yousuf Karim

INTRODUCTION

Secondary hypogammaglobulinaemia is an under-recognised complication of B-cell targeted therapies (BCTT) in autoimmune diseases (AID) and haematological malignancy. In 2019, UK recommendations were published for hypogammaglobulinaemia in BCTT[1], while in 2022 the American Academy of Allergy, Asthma, and Immunology[2] (AAAAI) produced guidance. Both publications recommend baseline immunoglobulin G (IgG) measurements, regular post-BCTT IgG monitoring; and describe indications for Ig replacement therapy (IgRT). There is high regional prevalence of primary immunodeficiency disorders (PID) due to consanguinity and large family sizes.

AIMS

1) To describe IgG monitoring and IgRT in our paediatric cohort receiving BCTT.

2) To audit practice against 2019 UK and 2022 AAAAI guidance.

METHODS

Pharmacy records were screened for patients, aged 0-18 years, receiving BCTT at Sidra Medicine between 2016-24. Frequency and results of IgG testing were extracted and audited against monitoring guidance.

Hypogammaglobulinaemia was defined as IgG below the lower limit of age-related reference range. Values of IgG and prevalence of hypogammaglobulinaemia were recorded at baseline and during follow-up. Use and indications for IgRT were assessed.

RESULTS

- 96 patients (49 male, 47 female); median age 10 years (range 0.5-17 years).
- Pre-BCTT measurements available in 89.6%.
- Baseline IgG low in 22.1%.
- Post-BCTT measurements available in 78.1%.
- Range of follow up between 1-14 timepoints over 1-72 months.
- Adherence to guidance varied between specialties, highest in Rheumatology.
- IgRT given in 5 patients, of which 3 noted to have underlying PID, rather than secondary immunodeficiency alone. All were in Haematology-Oncology.

Table 1. Demographic and Immunological Characteristics of Patients

	Nephrology	Rheumatology	Neurology	Oncology
Patients, n (%)	41, 42.7	25, 26.0	17, 17.7	13, 13.5
Age (mean) years at BCDT Commencement	9.34	11.56	11.41	9.15
Gender (%F/M)	31.7/68.3	84.0/16.0	41.2/58.8	46.2/53.8
Baseline IgG available	35/41 (85.4%)	24/25 (96.0%)	14/17 (82.4%)	13/13 (100%)
Baseline IgG low	16/35 (45.7%)	0/24 (0%)	1/14 (7.1%)	2/13 (15.4%)
Follow-up IgG available	34/41 (82.9%)	24/25 (96.0%)	6/17 (35.3%)	11/13 (84.6%)
Follow-up low	13/34 (38.2%)	4/24 (16.7%)	1/6 (16.7%)	7/11 (63.6%)
Baseline IgG (mean) g/L	6.18	18.11	10.36	8.85
Nadir IgG (mean) g/L	6.84	10.56	7.91	5.40
Last follow up IgG (mean) g/L	8.03	12.59	9.60	7.27

Figure 1. Sankey Diagram of Pre- and Post BCTT Monitoring

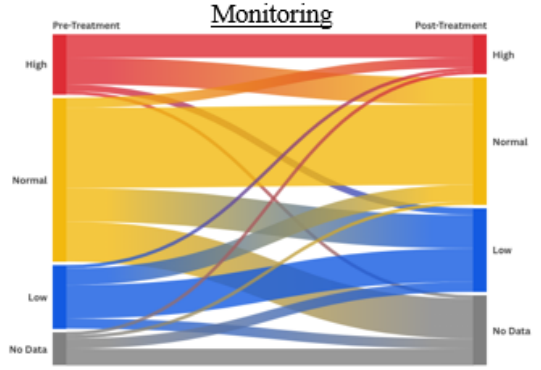
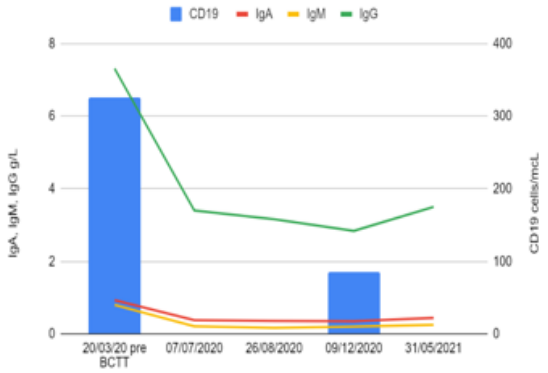


Figure 2. Example of Ig Monitoring in SLE Patient



RECOMMENDATIONS

1) Protocol-driven approach to standardise IgG testing across specialties.

2) Automation of IgG monitoring through inclusion in a combined Pharmacy-Pathology BCTT order set.

3) Clinical Immunology review if persistent hypogammaglobulinaemia or severe infections, for management of IgRT and evaluation for underlying PID.

CONCLUSIONS

Overall, baseline IgG measurements followed guidance more strictly than follow-up. Baseline and follow-up timepoints are clinically important to unmask underlying disorders, and to identify BCTT-related hypogammaglobulinaemia and PID. Variation in IgG monitoring and IgRT use between specialties indicates a pressing need for standardisation.

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Case report: Hyponatremia in Wolfram Syndrome

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Nottingham University Hospitals NHS Trust

Introduction

Wolfram Syndrome (DIDMOAD) is a rare autosomal recessive neurodegenerative disorder involving diabetes insipidus, diabetes mellitus, optic atrophy, and deafness. It may include cognitive and psychiatric symptoms.

- Prevalence: ~1 in 770,000 in the UK
- Carrier frequency: ~1 in 354 (UK), up to 1 in 100 (Europe/US)

This report highlights presentation of hyponatremia in Wolfram Syndrome.

Materials and Methods

- **29-year-old female** presented with seizure and reduced consciousness.

- **Medical history**: Wolfram syndrome, premature ovarian failure, gluten sensitivity, OCD.
- **Medications**: Desmopressin, HRT, Tresiba, closed-loop insulin pump.

- **Recent issues**: Ear infection, poor oral intake, headaches; treated with ear drops

.

- **ED findings**: Sodium 120 mmol/L, glucose 6.8 mmol/L, normal CT and inflammatory markers.

- **Initial management**: Hypertonic saline for hyponatremia; desmopressin withheld.

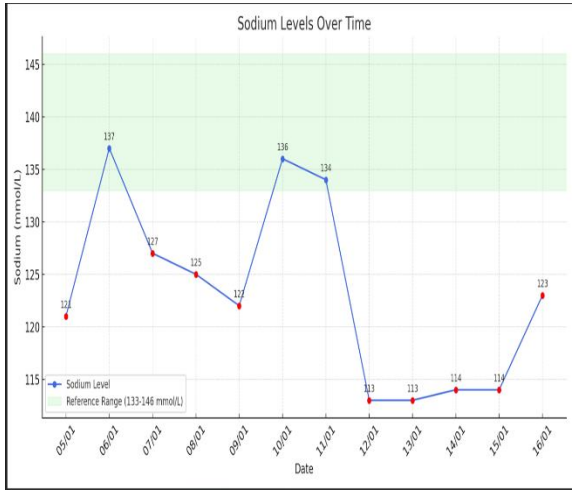
- **Complication**: Developed DKA during admission.

Inpatient management:
Both DKA and hyponatremia managed concurrently with insulin, IV fluids, titration of desmopressin based on sodium levels and strict fluid balance

Results and Discussion

Hyponatremia is a common clinical problem in patients with Wolfram syndrome that requires careful management as most patients have concurrent diabetes mellitus and bladder dysfunction[3].

Arginine Vasopressin Deficiency – a component of Wolfram syndrome, leads to polyuria. This is managed with desmopressin, which is an analogue of ADH. When administered, patients will have unsustainable ADH activity leading to inability to excrete excess water normally. This would lead to fluctuations in sodium levels, hence serum sodium levels need to be measured after 1-2 days and when levels have stabilized then measured once or twice yearly. Dose titration of desmopressin is thus crucial and requires input from endocrinologists.



Conclusion

- Hyponatremia can complicate diabetes insipidus management in Wolfram syndrome, especially with desmopressin treatment
- Proper dose titration, fluid management, endocrinology input, and patient education are essential for effective management.

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The Social Care Bottleneck: A Strategic Analysis of A&E Wait Time Reduction

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Background:

- There is a shortage of acute NHS medical care relative to growing demand.
- Missed targets on A&E waiting times
- Widely understood to be multifactorial
- Which factors should be prioritised?

Methods:

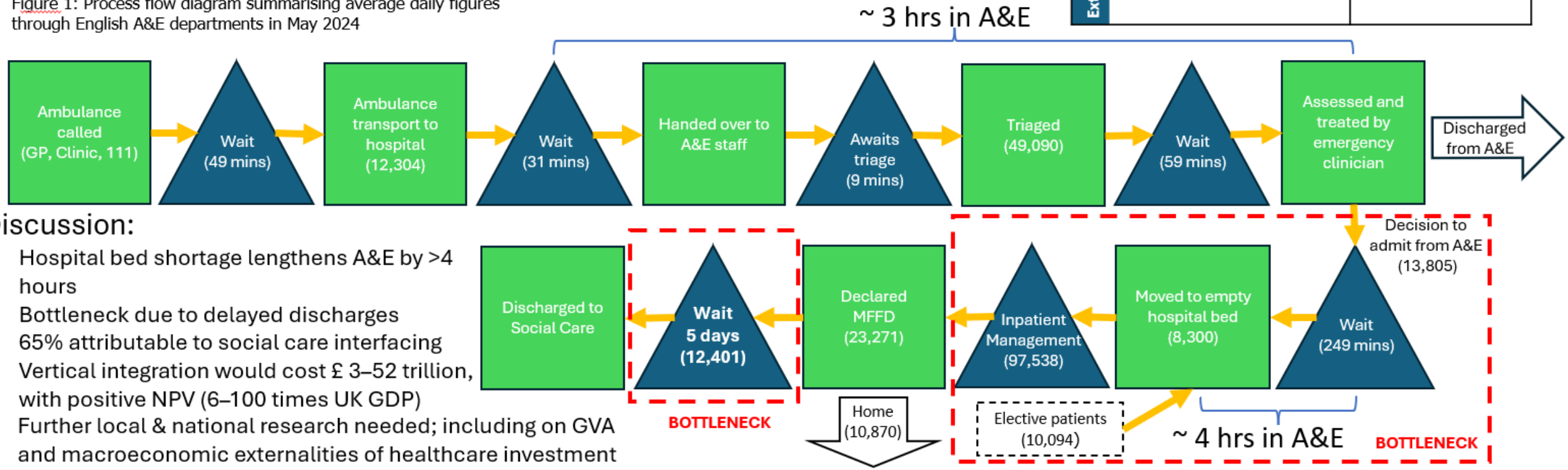
- Retrospective analysis of NHS England data from index month May 2024.
- Value chain, situation, process flow and capital budgeting analyses

Results:

Table 1: SWOT analysis grid, summarising Situation Analysis findings

	Positive	Negative
Internal	Enough junior medical staff Large number of hospitals	Senior doctor shortage Hospital bed shortage Discharge bottleneck
External	Universal brand awareness Healthcare market dominance Trainee doctor monopsony	Increasing demand Social care shortage Geographic variation

Figure 1: Process flow diagram summarising average daily figures through English A&E departments in May 2024



Discussion:

- Hospital bed shortage lengthens A&E by >4 hours
- Bottleneck due to delayed discharges
- 65% attributable to social care interfacing
- Vertical integration would cost £ 3–52 trillion, with positive NPV (6–100 times UK GDP)
- Further local & national research needed; including on GVA and macroeconomic externalities of healthcare investment

Understanding health inequalities: how does socioeconomic deprivation impact on mortality for interstitial lung disease-related hospital admissions?

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Background

- Interstitial lung diseases (ILDs) are group of disorders affecting the lung tissue, causing inflammation and/or scarring.
- ILDs have an unpredictable disease course and patients live with significant unmet needs.[1]
- Are frequently admitted to hospital due to respiratory decompensation: termed an interstitial-lung disease related admission.[2]
- Higher socioeconomic deprivation has been associated with reduced survival in a national UK ILD database.[3]

Main research question

What is the mortality associated with interstitial lung disease-related admissions?

Secondary research question

What is the impact of socioeconomic deprivation on mortality outcomes of interstitial lung disease-related admissions?

Socioeconomic Deprivation

Postcodes converted to 2019 English Indices of Deprivation Deciles (DDs) were used to determine socioeconomic deprivation status.[4]

Decile 1 = most deprived
Decile 10 = least deprived

Grouped into quintiles for analysis
(5th quintile representing DDs 1 and 2, the most deprived)

Methods

Multi-Centre Retrospective Cohort Study from real-world dataset in the North West of England

Inclusion criteria:
Adult ≥18 years old
Primary admission ICD-10 codes for ILD
between 01.01.2017 and 31.12.2019

Data obtained from:
Coding
Medical records review

Primary outcome:
Days from start of hospital admission to death

Results

740 admissions met inclusion criteria

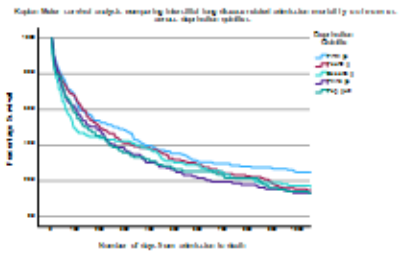
28.4% of admissions were from DDs 1 and 2, the most deprived

14.3% of admissions were from DDs 9 and 10, the least deprived

15.4% overall inpatient all cause mortality

39.2% overall 90-day all cause mortality

Primary outcome: Kaplan Meier survival analysis of mortality following ILD-related hospital admission, comparing deprivation quintiles.

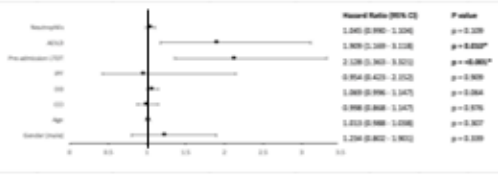


Summary results from figure 1:

Fifth quintile (the most deprived): **mean survival 602 days** (95% CI: 569 – 814 days)
Top quintile (the least deprived): **mean survival 480 days** (95% CI 342 – 618 days)

Difference in survival across groups: p = 0.061

Secondary outcome: multivariate cox regression analysis reported as hazard ratios of all-cause inpatient mortality



Summary results from figure 2:

Statistically significant association with inpatient mortality: **Pre-admission long-term oxygen use (HR 2.128)** and **experiencing an AEILD (HR 1.909)**

Deprivation deciles had a HR of 1.069, suggesting lower deprivation was associated with increased mortality risk – but did not meet statistical significance threshold.

Interstitial lung disease-related admissions are associated with universally high mortality.
In this study, higher socioeconomic deprivation was not associated with increased risk of mortality from acute interstitial lung disease-related admissions. Larger scale studies from more populations are required to validate these results.

References

1. Bramhill C, Langan D, Mulryan H, Eustace-Cook J, Russell AM, Brady AM. A scoping review of the unmet needs of patients diagnosed with idiopathic pulmonary fibrosis (IPF). PLoS One [Internet]. 2024;19(2 February):1–22.
2. Wälscher J, Witt S, Schwarzkopf L, Kreuter M. Hospitalisation patterns of patients with interstitial lung disease in the light of comorbidities and medical treatment – a German claims data analysis. Respir Res [Internet]. 2020 Dec 26;21(1):73.
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Acknowledgements and Contact Details

Thank you to the Northern Care Alliance for sponsoring the study, the NIHR for the protected research time and my colleagues who assisted in data collection to build this research project.

Interested in the final results or collaborating? Email me via the QR code.

Email me!

Lancaster University

NHS Northern Care Alliance NHS Group

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Evaluating the impact of implementing additional hours of Frailty Services in the Emergency Department

CO-AUTHORS

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NHS
South Tyneside and Sunderland
NHS Foundation Trust

INTRODUCTION

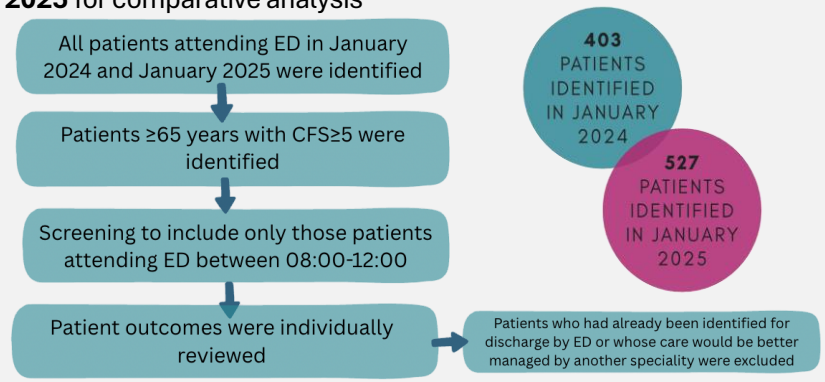
Due to the **increasingly frail** nature of the general population, **early identification** and **multidisciplinary management of frail patients** in acute care is a **national priority**[1, 2, 3]. Frailty services operate across the UK to provide these services at the **earliest opportunity in admission**. The aim was to **quantify the impact of frailty services in ED**.

THE PILOT

- Sunderland Royal Hospital have a dedicated frailty service who operate daily **08:00-20:00 on the Emergency Assessment Unit (EAU) and Emergency Department (ED)**
- They **initiate Comprehensive Geriatric Assessments** (CGA) for patients ≥65 years with a **clinical frailty score ≥5**
- Mornings are dedicated to **reviewing overnight admissions to EAU** which often results in **delays to CGAs in ED on arrival to hospital.**
- The pilot involved **additional frailty presence in ED 08:00-12:00**, alongside the existing EAU presence from December 2024-February 2025

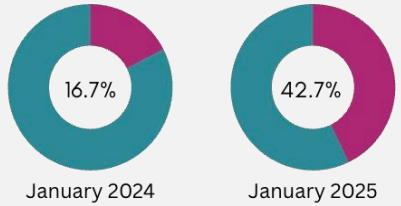
METHODOLOGY

A trust-based database was used to collect **retrospective** data in the months of **January 2024** and **January 2025** for comparative analysis

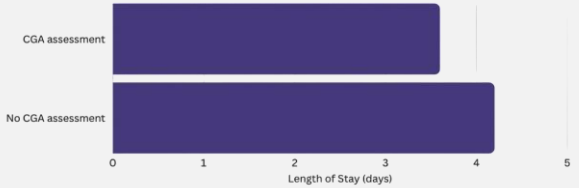


KEY FINDINGS

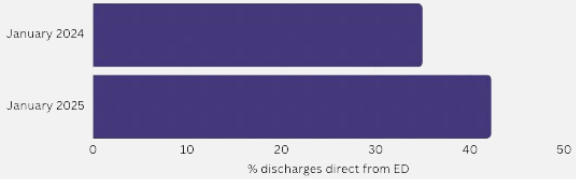
1. A **significant increase** in the **number of CGAs** performed during additional operational hours ($p<0.05$)



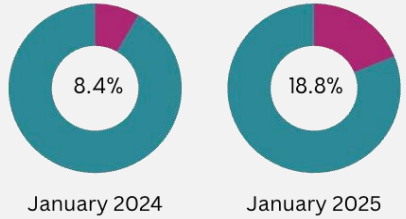
2. A **significant reduction in length of stay** for those admitted <7 days with a **CGA** compared to those without (P=0.04).



3. A **significant increase** in the **number of patients discharged directly from ED** (35.2% vs 42.4%, P=0.02)



4. A **significant increase** in the **number of admissions direct to elderly care wards** ($p<0.01$), bypassing EAU.



CONCLUSIONS

Access to frailty services in ED has been proven to **positively impact patient outcomes** by allowing **access to comprehensive geriatric assessment** at the earliest opportunity

Additional ED frailty presence enabled **significantly more CGAs** to take place - leading to a **reduction in the number of admissions** and **earlier access to specialised care** for frail individuals requiring admission

Initiation of a comprehensive geriatric assessment on arrival to hospital can **improve hospital efficiency** by **improving patient flow**

Further **investment** into the **expansion of acute frailty services** will **improve the quality of care to frail individuals**

References: 1. NHS England. The NHS long term plan. Version 1.2. NHS England; 2019. p. 22-24. Available from: https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf 2. NHS England. FRAIL strategy [Internet]. NHS England; 2024 [cited 2025 Mar 22]. Available from: https://www.england.nhs.uk/long- read/frail-strategy/ 3. Getting It Right First Time (GIRFT). Geriatric medicine report. NHS England; 2021. p. 41-43. Available from: https://gettingitrightfirsttime.co.uk/wp-content/uploads/2021/09/Geriatric-Medicine-Sept21h.pdf

Is National Early Warning Score (NEWS) effective in elderly populations with acute illnesses?

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NHS Foundation Trust

Introduction

- The **National Early Warning Score (NEWS)**, introduced by the Royal College of Physicians in 2012, is widely used across the NHS to monitor patient deterioration using six vital signs.
- It stratifies patients into **risk categories** (low, medium, high) to guide escalation, with NICE recommending an **urgent doctor review for NEWS ≥5**, or a score of **3 in any parameter** (MIB205).
- The **effectiveness of NEWS in elderly patients** (>65 years), especially in rehabilitation settings, remains under-investigated.
- This project evaluated both **compliance with NEWS protocols** and assessed the **appropriateness of escalation thresholds** for older adults.

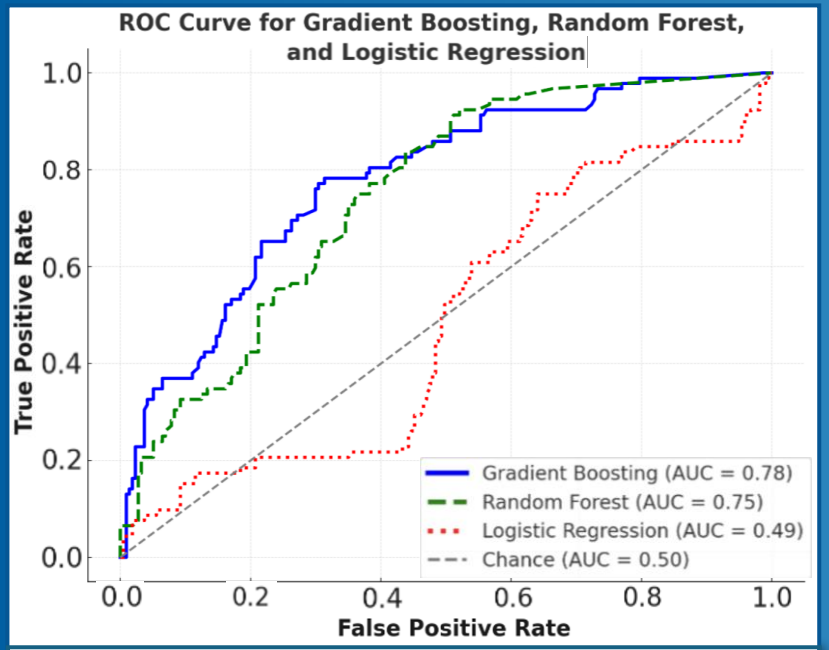

Figure 1: ROC curves comparing the performance of gradient boosting, random forest, and logistic regression models in predicting escalation from patient characteristics and NEWS parameters. Gradient boosting performed best overall.

Method

- This **retrospective audit** included elderly patients transferred from a **District General Hospital (DGH)** to a nearby Rehabilitation Unit.
- Data were collected from **Cerner** electronic health records (Nov 23 - Sept 24), including demographics, NEWS values, escalation actions, staff responses, length of stay, and outcomes.
- **Escalation actions** were categorised:
  - For nurses: **Monitoring, Minor intervention, Escalation**
  - For doctors: **No action, Monitoring, Minor intervention, Referral to another specialty**
- Statistical analyses (Kendall's tau-B, Chi-square, logistic regression) were used to explore associations with **frailty scores** and other **patient characteristics**.

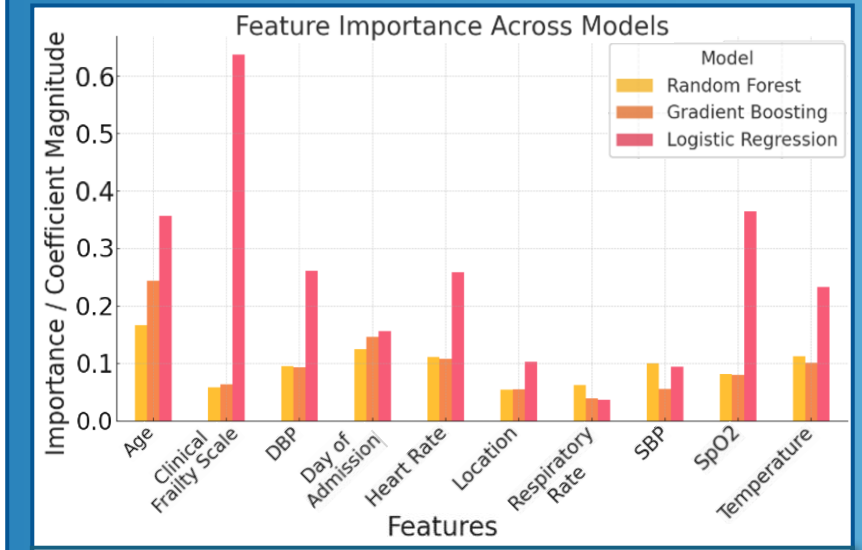

Figure 2: Relative percentage contributions to gradient boosting, random forest, and logistic regression models. Age is a key contributor across all models, while frailty and SpO_2 had greater influence in logistic regression.

Results

11,871 NEWS alerts were studied across a cohort of **94 patients** (mean age 84 ± 7 years). Alerts peaked at 10–20 days post-admission, suggesting **delayed recognition** of deterioration. 73% of patients were discharged, 23% were transferred to care facilities, 3% died in hospital.

- Nurses responded with continued monitoring (59%), minor interventions (9%), or **escalation to medical teams including Critical Care Outreach (32%)**.
- **Nurse escalation correlated with higher frailty** (scores 6–7; $p < 0.001$), while **physician responses were delayed** and not frailty-dependent ($p > 0.05$).
- NEWS thresholds showed moderate sensitivity (73–87%) but **low specificity** (37–48%).
- Machine learning models identify **age, oxygen saturation, respiratory rate, and temperature** as key predictors.
- Incorporating frailty may enhance predictive accuracy of nurse escalation (Fig 1 & 2).

Conclusion

- Current NEWS protocols may be **unsuitable for frail elderly patients**, with **delayed escalation** and **inconsistent interprofessional responses**.
- **Low specificity** and **nurse-physician disconnection** necessitate revised thresholds and clearer communication pathways.
- **Incorporating frailty scores and machine learning** may enhance risk prediction and guide **timely, appropriate intervention**.
- Further research could validate **frailty-adjusted NEWS models** to improve patient outcomes.

Disclosures: None

Contact: Luke Oakes (luke.oakes4@nhs.net)

Development of an algorithm to improve on the National Early Warning Score 2 (NEWS2) system's accuracy in predicting critical outcomes using additional patient data and amendments to the scoring process

Lynsey Threlfall, Edward Meinert, Cen Cong, Madison Milne-Ives, Chris Plummer.

Background

NEWS2 is a widely used tool with evidence showing that using it is effective at reducing inpatient mortality, facilitating team communication and improving outcomes from acute deterioration

NEWS2

But.. NEWS2 has limited positive and negative predictive accuracy beyond 24 hours.

NEWS was created with limited data from older adults

Since 2017, there is far greater use of digital technology for healthcare delivery, so we feel its time to look again at NEWS …

What are we aiming to do?

Use machine learning to create an algorithm to improve on the predictive accuracy of NEWS2

We will use routinely collected physiological observation data and additional variables to develop an algorithm to predict the risk of key clinical outcomes including mortality, ITU admission, sepsis and cardiac arrest. This will be used to generate a proof of concept for a modified early warning score system

Methods

We have collected 8 years of retrospective (2017-2024) anonymised patient data from the Newcastle upon Tyne Hospitals NHS Foundation Trust

NHS The Newcastle upon Tyne Hospitals NHS Foundation Trust

People who have opted out of the use of their de-identified data for research either locally or nationally, children (age <16 years old) and maternity admissions were excluded

The deidentified data set comprises:
192,047 patients
380,198 admissions

9,800,775 observation records

This will be divided into training and testing subsets

Newcastle University

Outputs

By summer 2025 we will have created a new tool trained and tested on Newcastle upon Tyne Hospital data sets

To be of national and international importance, we need to test this algorithm in other NHS trusts. Please scan the QR code below to get in touch if you are interested in collaborating

FUNDED BY NIHR | Newcastle Biomedical Research Centre

Improving the understanding and interpretation of myeloma screening among resident doctors and physician associates: A quality improvement project

Mahmoud Gouda , Hannah Hunter

University Hospitals Plymouth NHS Trust

Introduction

Myeloma, the second most common blood cancer in the UK, often presents with vague symptoms.

We observed uncertainty among resident doctors and physician associates regarding which tests to include in a myeloma screen and how to interpret them. This led to unnecessary specialist referrals.

Materials and methods

An online survey was distributed to doctors and physician associates. They were asked to select tests for a myeloma screen and rate their confidence in interpreting results. Standards were based on the British Society of Haematology recommendations.

Results

A total of 34 responses to the survey were collected. Our results revealed significant variability in the participants' understanding of which tests should be requested for a myeloma screen. The results also revealed a lack of confidence among participants in interpreting myeloma screen results. Specifically, 16 out of 34 (47.1%) participants rated their confidence as 3/5, while 8 out of 34 (23.5%) rated their confidence as low, scoring 1/5.

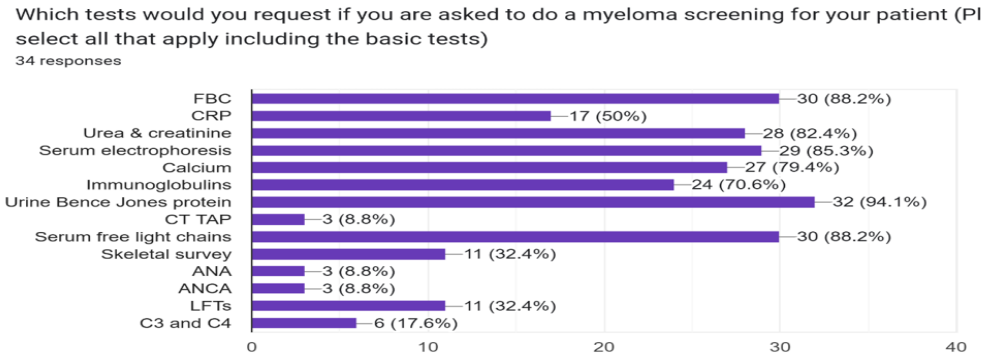

Figure 1: First question of the online survey

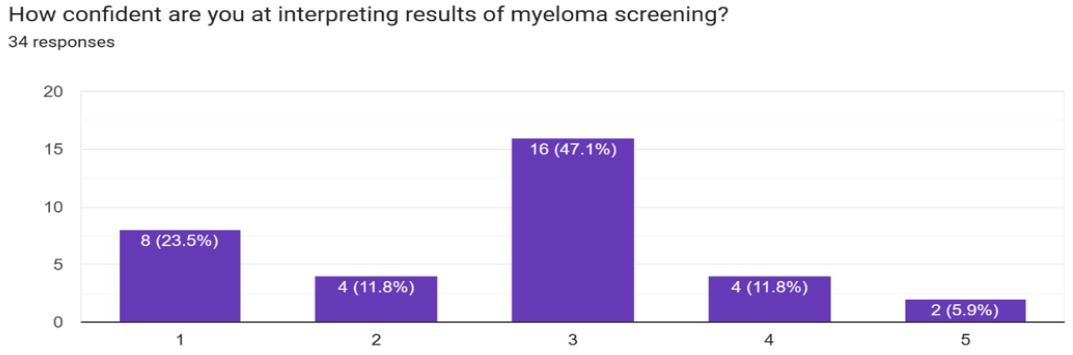

Figure 2: Second question of the online survey

Conclusion

Our findings revealed that resident doctors and physician associates often lack knowledge about the correct tests for a myeloma screen, leading to unnecessary testing and referrals.

To address this, two teaching sessions were held, an accurate electronic order set was introduced, and a new hospital protocol was developed to guide appropriate test ordering and interpretation.

References

1. Drayson M, Jennis T, Laketic-Ljubojevic I, et al. Laboratory practice is central to earlier myeloma diagnosis: Utilizing a primary care diagnostic tool and laboratory guidelines integrated into haematology services. British Journal of Haematology. 2024 Feb;204(2):476-86. 2.
2. Sive J, Cuthill K, Hunter H, et al Guidelines on the diagnosis, investigation and initial treatment of myeloma: a British Society for Haematology/UK Myeloma Forum Guideline. British journal of haematology. 2021 Apr 15;193(2).

Improving patients' understanding about pleural effusion management options

Maimuna Adamu[1]; Tammy Greenway[1]; Jennifer Nixon[1]
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The Shrewsbury and Telford Hospital NHS Trust

Introduction

Various treatment options are available for managing recurrent pleural effusions, each with its merits:

a) symptomatic control with medication;
b) ambulatory repeated pleural aspiration;
c) in-patient chest drain and talc pleurodesis;
d) home-based indwelling pleural catheter.

- British Thoracic Society (BTS) guidelines recommend that for malignant pleural effusion (MPE) "decisions on the best treatment modality should be based on patient choice" [1].
- In our trust this information was given to patients in an unstructured verbal context, with variation between each practitioner.

Objective

The objective of our project was to provide information about the different pleural effusion management options in a standardized written format, as a tool to help patients reach an informed decision about their preferred option.

Methods

- **Design :** Quality improvement project conducted in 2 cycles using the Plan-Do-Study-Act (PDSA) methodology.
- **Sample/Population:** Patients attending weekly outpatient pleural list within a 3-month period, who already had a diagnosis of MPE or if the clinical details (history, examination or imaging) were highly suggestive of MPE.
- **Cycle 1 :** A telephone-based questionnaire was administered, assessing how much patients understood and retained information about the different options for pleural effusion management.
- **Intervention:** Designed a patient information leaflet about pleural effusion management options (figure 1), with input from the health literacy team. Once approved, the leaflet was given to clinically appropriate patients attending the pleural list.
- **Cycle 2:** The same questionnaire was repeated after the leaflet had been in use for 4 months, and pre and post-intervention results were compared.

Figure 1: Patient Leaflet Cover

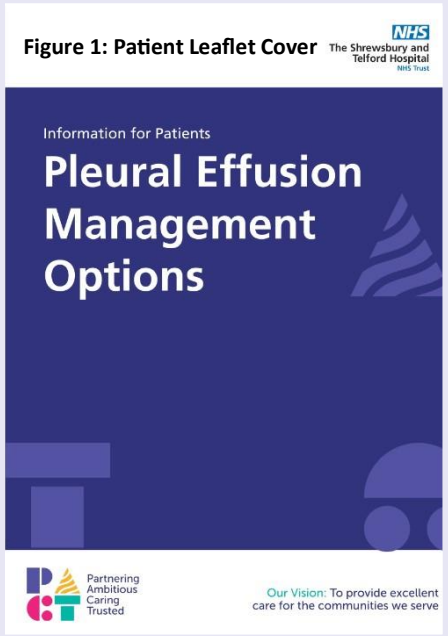
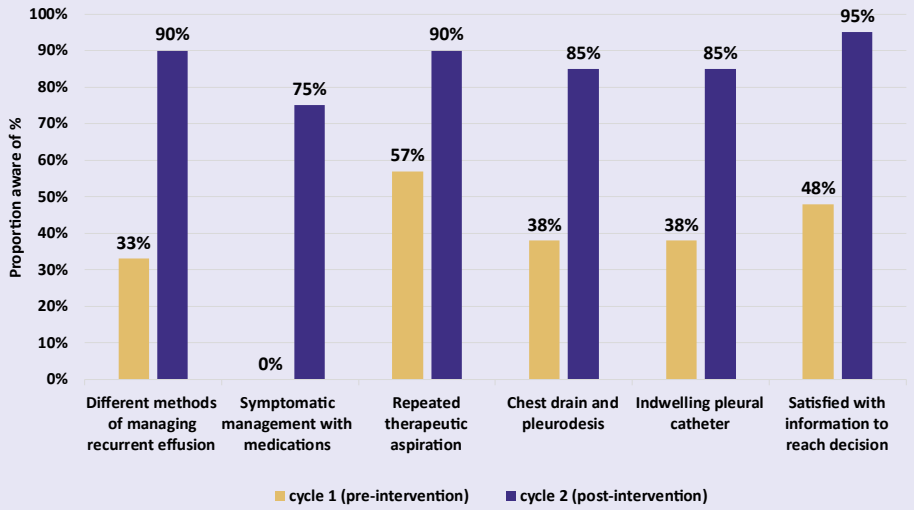


Figure 2: Patient responses pre and post - intervention



Results

Figure 2 summarizes the findings:

- The intervention significantly improved patients' understanding of pleural effusion management options.
- At baseline, only 48% of patients surveyed felt that they had enough information to choose their preferred management option. This increased to 95% after introducing the patient information leaflet.

Conclusion

This project demonstrates the benefits of providing structured, written information to patients with recurrent pleural effusion to helped them make informed choices about their treatment, in alignment with the British Thoracic Society guidelines.

References

1. Roberts ME et al., 2023, BMJ Thorax, DOI: 10.1136/thorax-2022-219784

[1] Queen Mary University of London, UK; [2] St Bartholomew's & Royal London Hospital, London, UK; [3] Imperial College London, UK

HYPERTENSIVE PATIENTS WITH GREATER GENETIC RISK RESPOND LESS EFFECTIVELY TO TREATMENT AND ARE MORE LIKELY TO BE TREATMENT RESISTANT

Marianna Danielli[1,2], Tatiana Garofalidou[1], Ajay Gupta[1,2], Peter Sever[3], Patricia Munroe[1], Helen Warren[1]

AIMS & OBJECTIVES

- ***Are BP genetic risk scores (GRS):***
  - associated with Resistant-HTN (RHTN)?
  - influencing BP drug response?
- ***Are those with greatest genetic risk of HTN also more likely to be:***
  - resistant to treatment? (tmt)
  - poorer responders to treatment?

DATA FROM ASCOT [1]

- 19,342 hypertensive European patients
- 6,266 patients with genetic data
- **3,103 RHTN cases** (uncontrolled BP; >3 drugs) vs **3,163 controls** (BP<140/90 with ≤3 drugs) [2]
- BP drug response = BP-**on**-tmt – BP-**pre**-tmt
- **1,518** on monotherapy Beta-Blocker (BB) drugs
- **1,780** on Calcium-Channel Blockers (CCBs)

GENETIC RISK SCORES (GRS)

BP Genome-Wide Association Study (GWAS) in >1M individuals (incl. N~450k from UK Biobank) [3]

- 2,103 independent BP genetic signals
  - included in GRS
  - weighted by BP-specific effect estimates from UKB-GWAS

GRS constructed on ASCOT patients for systolic **(SBP)**, diastolic **(DBP)**, pulse pressure **(PP)**

ANALYSES

RHTN ~ BP-GRS + sex + age + BMI + diabetes + BBvsCCB + left ventricular hypertrophy +10 PCs

Logistic regression adjusting for known non-genetic RHTN predictors [2]

ΔBP response ~ BP-GRS + sex + age + BP-baseline + baseline-meds (yes/no) + dose + 10PCs

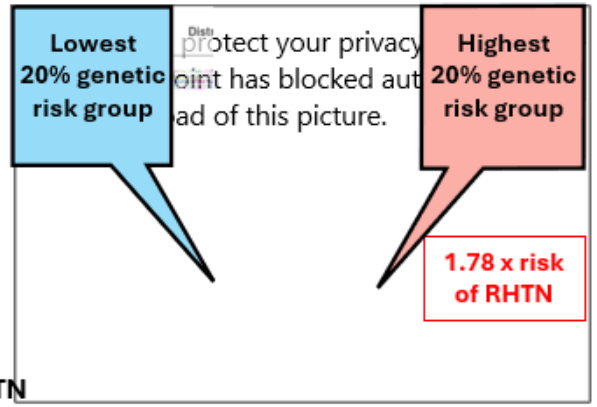
Trait specific linear regression

RESULTS: RHTN

BP GRS	OR	95% CI	P-value
SBP	1.24	(1.17–1.30)	6.73×10^{-15}
DBP	1.10	(1.05–1.16)	2.86×10^{-4}
PP	1.27	(1.20–1.33)	3.12×10^{-18}

Each BP-GRS significantly associated with RHTN

Higher score → greater genetic risk of RHTN



($P = 6.90 \times 10^{-11}$)

CONCLUSIONS: RHTN

Our results confirm a genetic contribution to RHTN.
BP-GRS is significantly associated with RHTN.
Patients whose HTN is driven more by genetic factors may be the ones who are more susceptible to being treatment resistant.

- Genetic risk profiling could aid the clinical challenge in management of RHTN patients.
- Results need further validation in other studies.

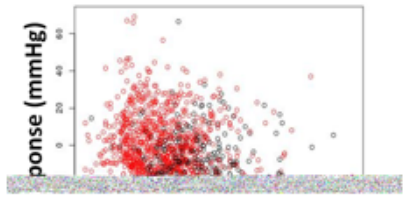
RESULTS: BP DRUG RESPONSE

BP GRS	Effect mean BPΔ Q5 vs Q1	95% CI	P-value
SBP	3.79 mmHg	(1.67-5.91)	4.9×10^{-4}
DBP	1.96 mmHg	(-0.16-4.09)	0.07
PP	3.94 mmHg	(1.76-6.12)	4.2×10^{-4}

BP-GRS only significantly associated with BP response to CCBs

previous anti-htn tmt
untreated at baseline

SBP Response to BBs vs SBP-baseline



Patients with higher baseline BP → greater BP reduction post-tmt

CONCLUSIONS: BP DRUG RESPONSE

BP-GRS also influence BP drug response to CCB drugs.

Patients with greater genetic risk of high BP respond less effectively to CCB drugs, with less reduction in BP post-tmt.

- In ASCOT, data suggests that the genetic contributions to BP drug response are drug-class specific: there may be different genes influencing response to BB drugs instead.

References: (1) Sever et al, *Hypertension* (2012); (2) Gupta et al, *Hypertension* (2011); (3) Keaton et al, *Nat. Genet.* (2024)

Effects of hormone replacement therapy (HRT) in midlife women with type 2 diabetes: a retrospective cohort study

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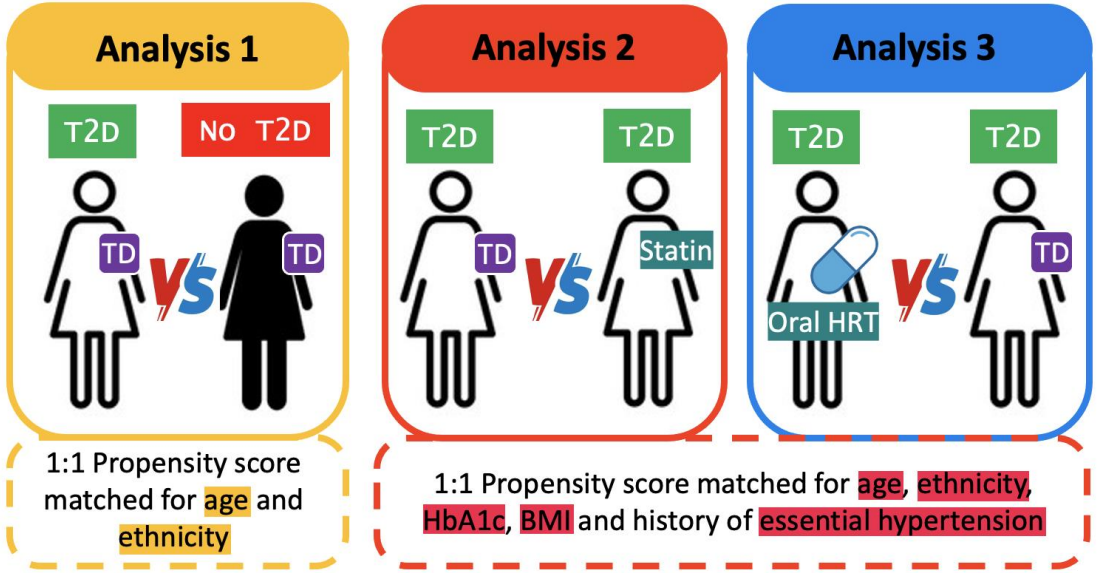
INTRODUCTION

The prevalence of post-menopausal women with type 2 diabetes (T2D) is increasing. There is a lack of outcome data relating to HRT in midlife women with T2D particularly concerning cardiovascular and malignancy risk, but large-scale randomised controlled trials using modern formulations of HRT in women with diabetes are unlikely to be funded.

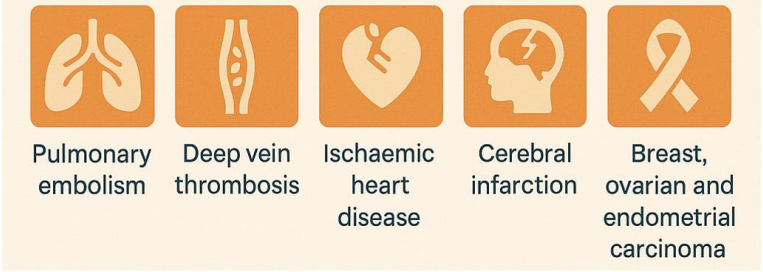
METHODS

We performed an active comparator new user design, retrospective cohort study using the TriNetX platform, a global federated database of electronic health records. All women must have been on a statin



Outcomes of interest

Follow up 5 years



RESULTS

n=8316; Age 59.4 ± 10.4y

Transdermal HRT + T2D vs Transdermal HRT without T2D

- HR 1.90 (95% CI 1.35-2.68, p=0.002)
- HR 1.77 (95% CI 1.52-2.05, p<0.001)
- HR 1.89 (95% CI 1.46-2.47, p<0.001)

n=8354; Age 59.4 ± 10.4y

T2D + Transdermal HRT vs non-users of HRT with T2D

- HR 0.75 (95% CI 0.67-0.86, p<0.001)

n=8316; Age 59.4 ± 10.4y

Oral HRT + T2D vs Transdermal HRT + T2D

- HR 1.21 (95% CI 1.06-1.38, p=0.004)
- HR 2.01 (95% CI 1.37-2.96, p<0.001)

No difference in rates of breast, ovarian or endometrial carcinoma in any of the three analyses

DISCUSSION

- Midlife women with T2D using HRT have a greater cardiovascular risk compared to HRT users without T2D.
- Transdermal, but not oral HRT use in T2D is associated with no additional PE/DVT/IHD/ischaemic stroke risk compared to non-HRT users with T2D.
- Up to five years of regulator approved doses of transdermal HRT appears safe in a large cohort of midlife women with T2D. Oral HRT is less safe in a cohort of women with T2D.

A Case of Acute Anti-Mi-2 Antibody-Positive Dermatomyositis

Dr Matthew Lewis, Dr James Bailey, Dr Syed Mashood, Dr Asghar Khan

Acute Medicine, Good Hope Hospital, UHB NHS Foundation Trust

Introduction

Myositis is a term which brings together a group of inflammatory diseases that affect skeletal muscle and other organs[1]. One such disease is dermatomyositis (DM). DM itself can present on a spectrum, with implications for morbidity and mortality, so there is a need for practical clinical tools to aid diagnosis[2].

Myositis-specific autoantibodies

Several autoantibodies have been identified as highly specific to myositis[3, 4]. Anti-Mi-2 is associated with DM with the following features[3-5]:

1. Typical skin lesions (▼)
2. Muscle involvement
3. Good prognosis.

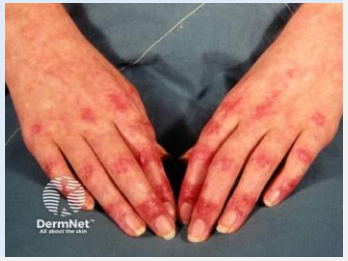


Figure 1[6].
Gottron's papules. Other typical signs: Gottron's sign and heliotrope rash.

Case

A 43-year-old male presented to the emergency department with a 12-hour history of bilateral calf pain which had come on suddenly whilst descending stairs. There was no history of trauma, recent illness, weakness or skin changes. His past medical history was notable only for hypertension (on ramipril, amlodipine and doxazosin). Clinical examination revealed calf tenderness, but no rash or weakness.

Initial blood tests showed: creatine kinase *10,691* (30-200 U/L), alanine transaminase *92* (<50 IU/L), C-reactive protein *9* (<5 mg/L), white cells *14.6* (3.3-11.2 x10^9/L). Renal and thyroid tests were normal.

The initial impression was rhabdomyolysis, possibly due to a viral myositis. Respiratory and bloodborne viral screen was requested (*negative*), plus myositis blot. MRI of the lower limbs was performed (▼).

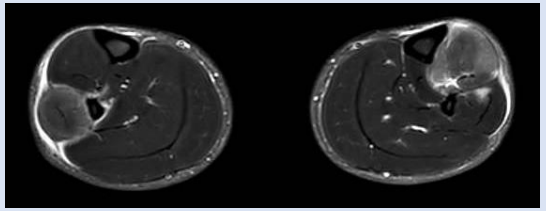


Figure 2.
MRI of lower limbs demonstrating muscle and subcutaneous oedema affecting lateral and anterior compartments of legs suggestive of inflammatory myopathy.

Over three days, pain and mobility worsened significantly. He spiked a temperature of 38.4ºC. Creatine kinase (CK) rose to *28,790* and C-reactive protein *337* (►). He was treated with fluids and antibiotics.

Thereafter he symptomatically and biochemically improved, although on day seven he developed an erythematous rash to the legs; antibiotics were rationalised for cellulitis.

On day 10, myositis blot returned *positive for anti-Mi-2 antibodies*, consistent with DM. A CT TAP was normal. He was discharged on day 11. CK had normalised by week six but bilateral foot drop persists.

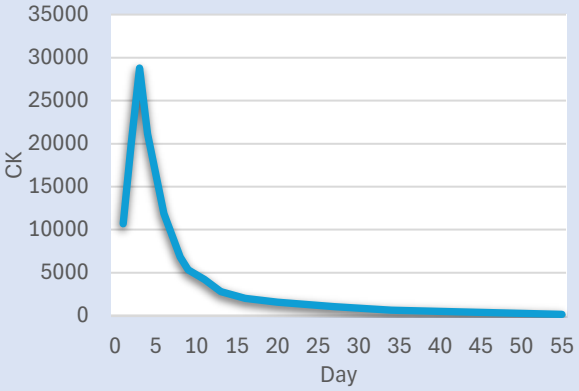


Figure 3.
Change in CK over time (first CK level same day as onset of symptoms, peak at day three).

Discussion

In this case muscle involvement predominated and was unusually acute. A corresponding rapid improvement was then seen without the need for immunosuppression. However, some weakness persists suggesting the myositis in anti-Mi-2 DM is self-limiting but severe. This ties in with studies showing similar[5]. The lack of a need for immunosuppression does not therefore automatically imply a good prognosis.

QIP Approach to Improving Quality of Diagnosis and Initial Management of Heart Failure for Inpatients on General Internal Medicine Wards

Dr Mazin Alhussein, Dr Vickie Wong, Dr Raunak Singh, University Hospitals of Leicester

Background

- Heart failure (HF) is a complex clinical syndrome that is associated with high levels of morbidity and mortality and reduced quality of life [1].
- In 2019, 2.4% of the population in England was diagnosed with HF [2].
- Despite the high prevalence rate, we have identified the lack of adherence to national guidelines in diagnosing and managing HF.

Aim

To evaluate the completeness and accuracy of HF diagnosis and management in General Medical wards in Leicester Royal Infirmary (LRI) .

Methodology

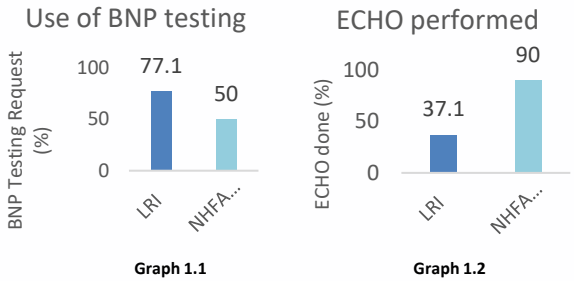
- Prospective audit conducted over one and a half months in General Medical wards in LRI.
- Data collected on key performance indicators (KPIs) that are associated with lower first year mortality rate [3]:
  - Documentation of HF type & aetiology.
  - Diagnostic assessment with BNP and ECHO.
  - HF specialist team involvement.
  - Adherence to guideline - directed medical therapy for HFrEF.

Results

1. Documentation HF types and aetiology:

Clear aetiology of HF was documented in **8.6%** of patients. The remaining **91.4%** of patients had **unclear reasons** on the cause of HF or the cause of decompensated HF.

2. Use of B-type natriuretic peptide (BNP) testing and echocardiography for diagnosing heart failure:



Graph 1.1

Graph 1.2

Graph 1.1 illustrates the percentage of BNP testing requested for patients with suspected HF as compared to NHFA standards.
Graph 1.2 illustrates the percentage of patients who received an echocardiogram prior to official HF diagnosis as compared to NHFA standards.

3. Access to specialist HF care:

26.7% of patients were referred to a member on the heart failure specialist team.

4. Adherence to guideline-direted medical therapy (GDMT) for heart falure with reduced ejection fraction (HFrEF) patients:

Medical management with BB, ACEI/ARB and MRAs	Considered for dose optimisation	Considered for SGLT2	Documented reason for not starting BB, ACEI/ ARBs, MRAs
13.3%	6.7%	13.3%	20%

Discussion

14.3% of patients were diagnosed with HF solely based on clinical judgement. In one-third of patients, the classic signs of HF were absent [4].

The National Heart Failure Audit (NHFA) recommends at least 90% of patients to undergo echocardiography before an official HF diagnosis, which is not practiced as identified in our audit [3].

NHFA recommended that at least 80% of patients admitted acutely with HF should be assessed by a specialist HF team member [3]. The number of referrals identified in this audit was below the national standards.

At least 90% of HFrEF patients should be started on a combination of BB, ACEI/ ARB and MRA and 90% of eligible patients should receive SLGT2 inhibitors in combination with standard guideline-directed medical therapy (GDMT) [3]. Our audit has identified that these national standards were not met.

Conclusion

Our audit highlights significant gaps in HF documentation and management that fall short of national guidelines. Our audit also offers targets for interventions to improve on the quality of diagnosis and initial management of patients with HF in a general medical inpatient population.

To address these gaps, we recommend standardised documentation templates, continuous clinical education and training of HF diagnostic pathways and GDMT and regular feedback and re-audit cycles to ensure adherence to national standards.

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The Impact of Referral Workload on Cardiology Registrars in a High-Volume District General Hospital: Implications for Workforce Well-being and Service Efficiency

Authors: Md Imran Hossain[1], Jaymin S Shah[1]

[1] London North West University Healthcare NHS Trust, London, UK

No conflict of interest

Background

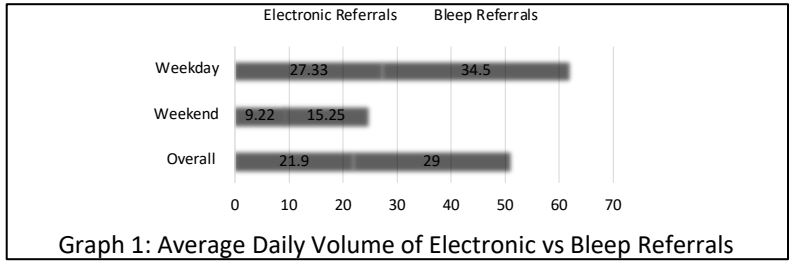
- Cardiology specialty registrars (SpRs) in District General Hospitals (DGHs) play a crucial role managing complex inpatient referrals and clinical decision-making. However, rising admissions and referral volumes have escalated their workload, potentially compromising training quality and patient safety.[1]
- High workloads, frequent interruptions, and multitasking are associated with cognitive overload, decision-making fatigue, and increased risk of medical errors.[2,3] Additionally, heavy workloads and associated stress have been linked to substantial burnout rates (76%) among UK cardiology trainees.[4] This growing issue raises concerns about registrar well-being, workforce sustainability, and care quality, prompting calls from professional bodies for urgent intervention.[5]
- This study aims to quantify referral workload, examine its impact on registrar well-being, and identify specific challenges affecting service efficiency.

Materials and Methods

- This mixed-methods study was conducted over two weeks in October 2024 at Northwick Park Hospital. All inpatient cardiology referrals were audited for total referral volume, weekday versus weekend patterns, and referral method (electronic vs. bleep-based). Detailed data on referral source and consultation mode (face-to-face or remote) were collected from 120 consecutive referrals during the initial five days.
- A structured survey was distributed to 12 cardiology registrars, achieving a 92% response rate, assessing workload perception, stress, exhaustion, bleep volume impact, consultant support, and training limitations. Descriptive statistics were employed to summarize findings. Chi-square tests and non-parametric correlation analyses evaluated relationships among workload perception, stress, and exhaustion.

Results and discussion

During the two-week audit, cardiology SpRs managed an average of 60 inpatient referrals per weekday, decreasing notably to 24 on weekends. Detailed analysis of 120 referrals showed 59% originated from acute medical wards. Despite an established electronic referral system, SpRs experienced high volumes of bleep-based interruptions (average 29 per shift, increasing to 34.5 on weekdays), disrupting workflow and increasing cognitive load.



Graph 1: Average Daily Volume of Electronic vs Bleep Referrals

A survey among SpRs highlighted persistent workload challenges: 46% described their workload as unmanageable, and only 27% found it manageable. This burden significantly affected well-being, with 91% reporting frequent stress and 27% consistently feeling overwhelmed. Correlation analysis indicated a possible association between higher workload and increased stress ($\rho = 0.55$, $p = 0.077$).

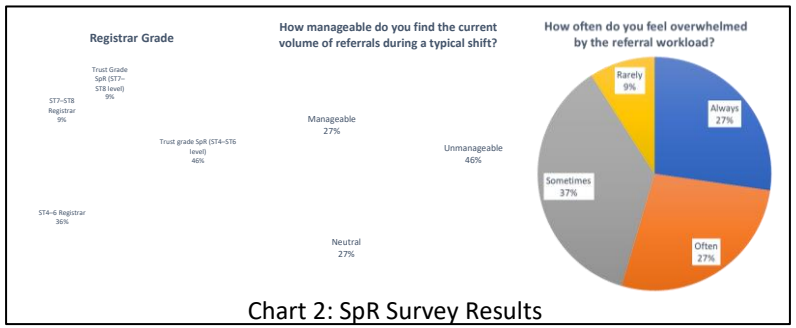


Chart 2: SpR Survey Results

Additionally, 64% experienced moderate-to-severe physical exhaustion by shift end, with 18% rating fatigue as severe. Furthermore, 82% reported insufficient time for breaks, limiting rest and recovery during demanding shifts. Despite these challenges, 91% acknowledged the educational value of managing acute referrals.

Consultant support was generally positive, with 82% rating it adequate. While no significant association was found with workload perception (χ^2 $p = 0.569$), a non-significant trend ($\rho = -0.55$, $p = 0.082$) suggested that greater support may enhance workload manageability.

Conclusion

This study highlights significant workload pressures faced by cardiology registrars managing inpatient referrals in a high-volume DGH setting, negatively affecting their well-being and increasing risks of stress and exhaustion. Despite generally positive consultant support, findings underline the need for targeted improvements in referral processes, workload management, and registrar support systems. Addressing these issues is essential to safeguard training quality, ensure patient safety, and promote long-term workforce sustainability.

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Never Forget the Adrenal Glands: A Case Report on Ibrutinib and the Endocrine System

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James Paget University Hospitals NHS Foundation Trust

Case

- 83-year-old, male
- Living with wife
- Mobilises with a frame
- Wife also assists with activities of daily living
- Has mantle cell lymphoma

Initial presentation to Emergency Department:

- Generally unwell
- Reduced mobility
- Pedal oedema
- Puffy face
- Feeling cold + hypothermic (34°C)
- Bradycardic

Initial investigations:

Venous blood gas
- pH 7.31
- PaCO2 7.58 mmHg
- Lactate 1.44 mmol/L
- Na 117 mmol/L
- Glucose 2.8 mmol/L

Thyroid function test
- Normal TSH – 1.76mU/L
- Low free T4 – <5.4 pmol/L

Initial management plans:

- Stat 100mg Intravenous (IV) hydrocortisone
- Oral and IV glucose replacement
- IV normal saline

Initial differentials:

1. Progression of mantle cell lymphoma
   - Lymphoedema
   - Poor oral intake
     - Hypoglycaemia
     - Hyponatraemia
2. Adrenal insufficiency?

CT scan of neck, chest, abdomen and pelvis (done on Day 2): stable disease
Haematology review: unlikely related to lymphoma
Due to worsening drowsiness, overall poor prognosis – unlikely to survive.

- Focus → possible heart failure leading to hyponatraemia + fluid overload state; furosemide given
- **Day 4:** continued to have episodes of hypotension and hypoglycaemia
  - Team reconsidered adrenal insufficiency
  - Restarted on IV hydrocortisone
- **Day 5:** started showing signs of improvement
- Subsequently had short Synacthen test confirming adrenal insufficiency
- Referred to Endocrinology – advised levothyroxine & MRI pituitary
- MRI pituitary: **pituitary haemorrhage**
  - Referred to Ophthalmology & Neurosurgery
  - Case discussed in multidisciplinary team meeting

Final diagnosis:

- **Ibrutinib (used to treat mantle cell lymphoma) caused pituitary haemorrhage**, leading to:
  - **Hypothyroidism**
  - **Adrenal insufficiency**

Outcome:

- Made good recovery after being in hospital for **28 days**, subsequently discharged home
- Still under Endocrinology follow-up
- Ibrutinib continues to be on hold
- Not on any lymphoma treatment but still followed-up by Haematology
- **Last heard, going on holidays overseas!**

Discussions

Ibrutinib

- Tyrosine kinase inhibitor – type of targeted cancer drug[1]
  - Tyrosine kinases are involved in angiogenesis and cell proliferation[2]
- Useful for cancer when cell proliferate uncontrollably[3]
- However, relatively new drug – side effect still studied
- So far only 1 case report (2020), reported ibrutinib causing endocrinological side effects[4]

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Improving follow up imaging practices for patients with Community-Acquired Pneumonia

1 - University Hospitals Sussex NHS Foundation Trust
2 - Brighton and Sussex Medical School

M. Evans[1], A. Rehman[1], J. Marchant[1], A. McWhirter[1], R. Buxton-Thomas[1], M. Pavitt[1,2]

University Hospitals Sussex NHS Foundation Trust

Aim: To optimise imaging protocols for Community-Acquired Pneumonia

Background

- Incidence of lung cancer in individuals presenting with Community-Acquired Pneumonia (CAP) is up to 9.2% [1]
- BTS guidance states that high-risk CAP should be followed up with a 6-week repeat chest x-ray (CXR) to exclude underlying malignancy [2]

Methods

Three cycle audit including two intervention stages at Royal Sussex County Hospital Respiratory Department. Each audit cycle analysed patients discharged with CAP in a 2-month period (Nov-Dec 2023, Jan-Feb 2024 and Nov-Dec 2024)

First Intervention:

1. Information sheet created for patients

Second Intervention:

1. Creation of poster for Doctors' Office
2. Reminder on morning handover proforma
3. Update to Trust Standard of Practice for CAP discharges

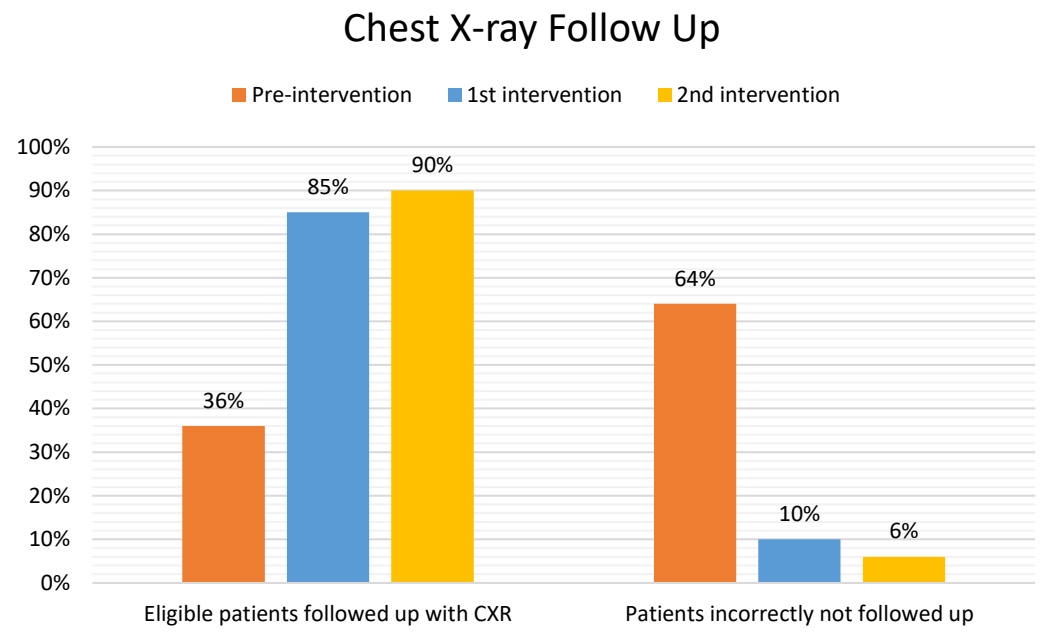

Figure 1: Comparison of follow up arranged by hospital in each audit cycle

	Total eligible patients	CXR ordered	Attended
Pre-intervention	101	36	27
Post 1st intervention	26	22	20
Post 2nd intervention	52	47	34

Table 1. Number of patients attending follow up CXR

Conclusions

- Simple interventions have led to a significant improvement in imaging follow up for patients with Community-Acquired Pneumonia
- The majority of patients now have a CXR arranged on discharge
- Improved follow up should improve identification of patients with persistent CXR changes to facilitate early detection and treatment of lung malignancies
- Further interventions required to improve patient attendance to CXR follow up

References

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THE ‘WHY’ AND ‘HOW’ OF T.E.D. STOCKINGS

AUTHORS

DR MERIN ANNASSERY, DR ARAVIND RAMAN

AFFILIATIONS

BEDFORDSHIRE HOSPITALS NHS FOUNDATION TRUST

A CLINICAL AUDIT ON EVALUATING COMPLIANCE WITH PROPER APPLICATION OF COMPRESSION STOCKINGS IN SURGICAL PATIENTS

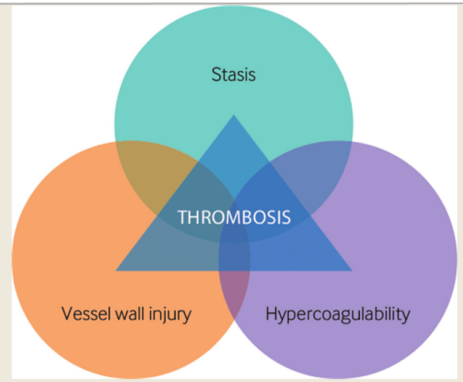

Figure 1

01. Introduction

Deep vein thrombosis (DVT) is a serious but largely preventable complication following surgical procedures, particularly in non-ambulant patients. Mechanical prophylaxis using anti-embolism compression stockings significantly reduces the risk of DVT, with studies demonstrating a 60–80% reduction in relative risk. However, the prophylactic effectiveness of these stockings is contingent upon correct sizing, fitting, and patient adherence. Misapplication can lead to ineffective prophylaxis or even iatrogenic harm. National guidelines from NICE and local Trust protocols emphasize proper use, frequent monitoring, and patient education as essentialcomponents of effective thromboprophylaxis.

02. Aim and Objective

AIM

Assess compliance with proper use of compression stockings and identify areas for improvement.

OBJECTIVES

1.Evaluate how many patients wear stockings correctly.
2. Identify the most common mistakes.
3. Assess staff knowledge on sizing, fitting, and patient education.
4. Compare current practice against evidence-based guidelines (NICE & Trust).

03. Methodology

An audit tool was constructed for the recording of information on a variety of parameters relating to the correct fitting and wearing of anti-embolism stockings, following which a cross-sectional audit was conducted in February and March 2025 across surgical wards. Fifty adult surgical inpatients were assessed for stocking application, focusing on correct sizing, position, and observable issues (e.g., bunching, rolling, folded fabric, or toe constriction). Patient understanding of usage
instructions was also evaluated. In parallel, 25 registered nurses participated in a survey exploring their awareness of best practices including limb measurement, fitting protocols, and patient instruction.

04. Results

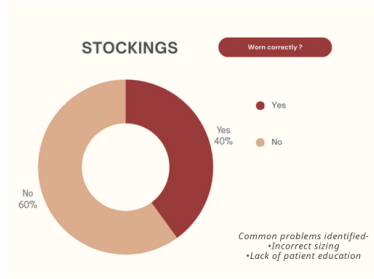

Figure 2

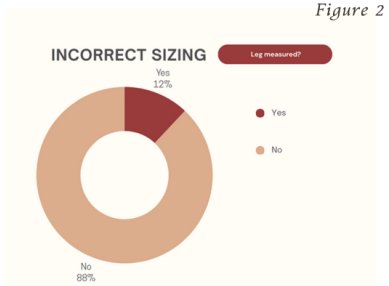

Figure 3

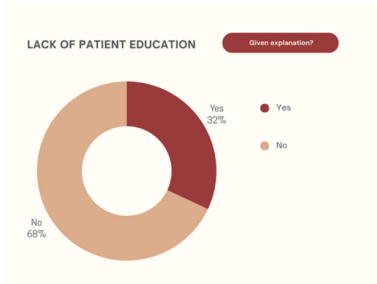

Figure 4

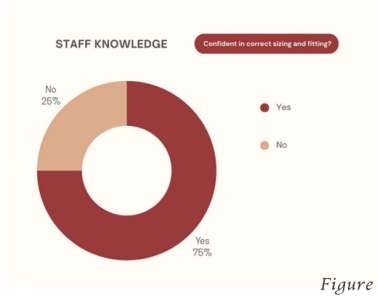

Figure 5

05. Recommendations

- ***ENSURE CORRECT FIT*** - educating staff on the importance of leg measurement prior to issuing compression stockings and regular reminders/checking to reinforce compliance

- ***IMPROVE PATIENT EDUCATION*** - preparing a patient information leaflet on how and why to wear the stockings properly

We aim to implement the changes over a period of 1-3 months. A re-audit will be conducted to assess if there has been change in practice post introduction of change.

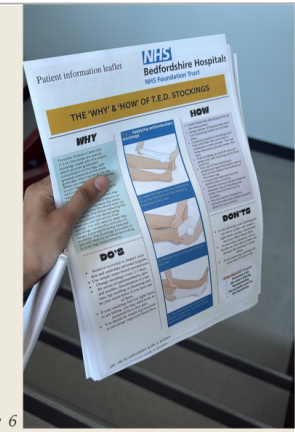

Figure 6

06. Conclusion

Anti-embolism stockings for the prevention of DVT continue to be widely prescribed and applied with limited attention to possible contraindications or complications, poor provision of education and information and poor monitoring of its use. Guidelines for the prescription and use of anti-embolism stockings must be strictly followed for this health care intervention to be effective, and patients and staff to be confident and educated regarding evidence-based practice for VTE prophylaxis.

A QIP aimed at improving the recording of Discharge BodyweightS of Heart Failure patients in the Acute Cardiac Unit (ACU)

Dr Minesh Patel, Dr Chie Katsura.

Introduction

- Diuretic therapy has an important role in the management of fluid overload in patients with decompensated heart failure (HF)
- Further to this, having a previous dry weight available aids cardiologists and community heart failure nurses in optimising diuretic therapy at the Acute Cardiac Unit in Colchester General Hospital.
- Subsequently, a project was devised with an aim to record the dry weights of patients in discharge letters to promote awareness and reporting.
- This project was supervised by a consultant cardiologist and the hospital's heart failure nurse was involved
- A baseline audit had shown that only 8 discharge letters out of 85 with HF had a dry body weight included in their discharge letters (9.4%).

Materials and Methods

- Two interventions were implemented to promote the reporting of dry weights in discharge letters.
- The first (PDSA 1) was to draft and distribute a cardiology induction handbook with an excerpt highlighting the need for dry weight recording in discharge letters for newly rotating resident doctors at ACU in December
- Second intervention (PDSA 2) consisted of an in-person presentation to the newly rotating resident doctors in April.
- All discharge letters for patients with HF were examined for compliance throughout the duration of this project

Results and Discussion

- Following PDSA 1, 25% (6/24) of discharge letters had included a dry body weight.
- Subsequently, in the period after PDSA 2 this had increased to 38%. (3/8)
- In all, an overall improvement was noted in reporting rate (Figure 1)

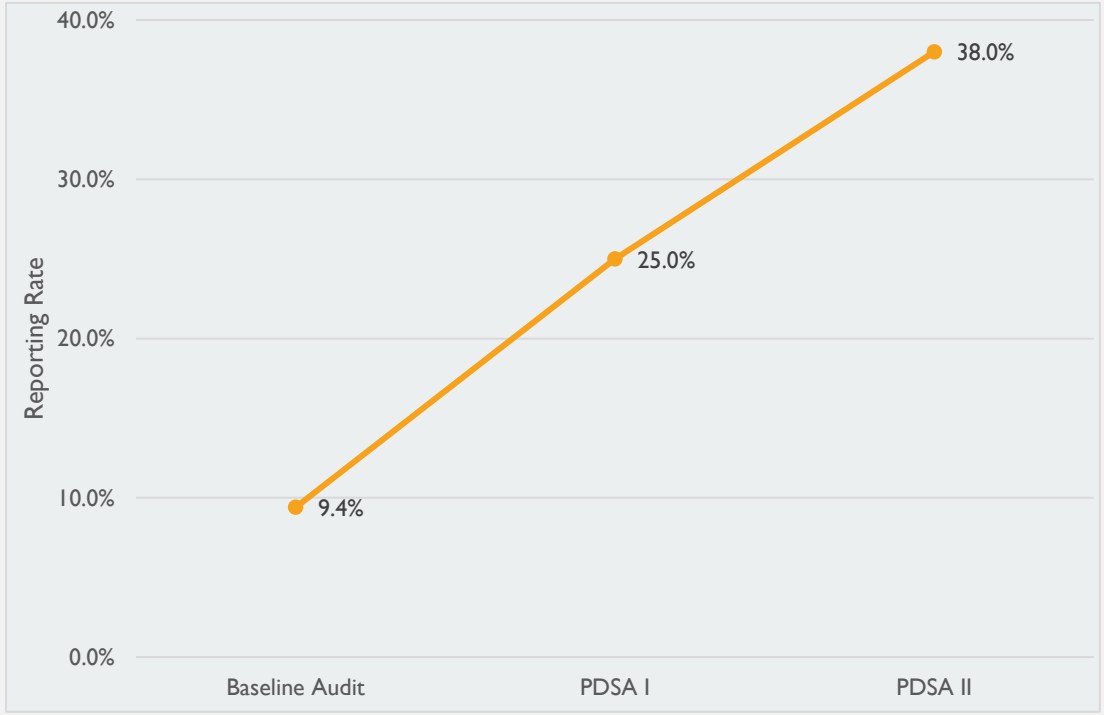

Figure I: A graph illustrating the reporting rates at each stage of the QIP. The reporting rate is defined as the percentage of discharge summaries from HF patients with a documented dry body weight in their letter.

Conclusion

- To conclude, we report that the proportion of discharge letters with recorded dry body weights had risen modestly to above 35% following our quality improvement project.
- More broadly, the community HF nurses found this work to be useful in the follow-up of their patients.
- Additional methods of distributing dry bodyweights includes incorporating them into clinic letters in the future.

CONFUSION AND SEIZURES; IS A CT HEAD ALWAYS REQUIRED?

Fayed M, Munir I, Nayyar M

NHS Calderdale & Huddersfield NHS Foundation Trust

Introduction:

CT head is readily utilised in patients presenting with confusion and seizures. NICE have published detailed guidance on the use of CT head in patients with seizures or head trauma. It is not recommended to perform a CT head in patients with epilepsy who present with a typical seizure[1,2]. CT head has a low yield in patients presenting with confusion without neurological symptoms[3].

Aim of work:

Despite the published guidelines, the overuse of CT head remains an ongoing concern[4]. We are looking to identify patients that are most likely to benefit from a CT head when presenting with seizures or confusion.

Methods:

We randomly selected 100 patients over a one-month period who presented to the emergency department with seizures or confusion and proceeded to have a CT head. Data including demographics, history of trauma, presenting complaint, home medications and CT findings were collected.

Results

Figure 1: Clinically relevant associations in patients presenting with seizures (with or without confusions) and had a positive CT

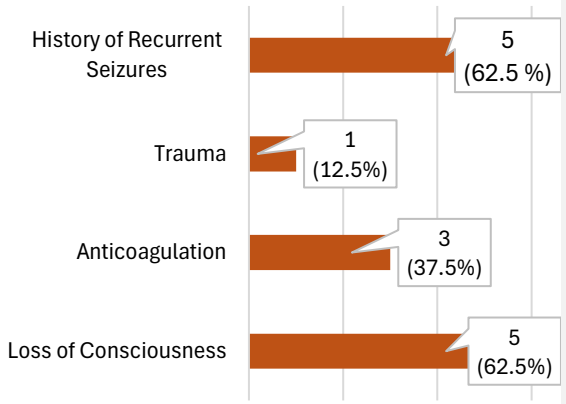

TABLE 1: POSITIVE CT FINDINGS IN SEIZURE PATIENTS.

Meningioma	1 12.5%
SDH/SAH	1 12.5%
SAH	1 12.5%
SDH	3 37.5%
Brain metastases	2 25%

Figure 2: Clinically relevant associations in patients presenting with confusion without seizures and had a positive CT

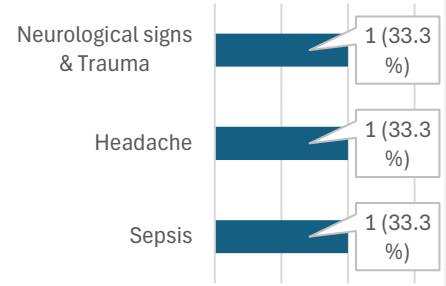

TABLE 2: POSITIVE CT FINDINGS IN CONFUSION PATIENTS

SDH	1 33.3%
Space occupying lesion	1 33.3%
Ischaemic stroke	1 33.3%

Discussion:

51 patients presented with a seizure (with or without confusion), 42 (82.4%) of which had previous seizure history. 13 (25.5%) had neurological signs. 15 (29.4%) had trauma and 4 (7.8%) were on oral anticoagulation.

8 (15.7%) CT head scans showed an acute abnormality. 5 (62.5%) of these patients had loss of consciousness, 1 (12.5%) had trauma and 3 (37.5%) were anticoagulated. 5 patients (62.5%) had seizure history, 4 of them had additional symptoms either Loss of consciousness, neurological signs or trauma. Only 1 had no other associated features.

1 CT scan (12.5) showed combined subdural haemorrhage (SDH) and subarachnoid haemorrhage (SAH) due to trauma. 3 (37.5) showed subdural haemorrhage. *All 3 patients received oral anticoagulation and reported loss of consciousness.* 1(12.5%) revealed subarachnoid haemorrhage. 2(25%) scans highlighted brain metastases; both of these patients had history of cancer. Additionally, 1 (14.3%) detected a meningioma.

46 patients presented with confusion without a seizure. 15 (32.6%) had neurological signs, 24 (52.2%) had trauma, 14 (30.4%) were on oral anticoagulants, 8 (17.4%) had history of cancer, 9 (19.6%) had hyponatraemia and 12 (26.1%) had an infection.

Only 3 (6.5%) scans showed an acute abnormality. 1 (33.3%) had subdural haemorrhage due to trauma and manifested as confusion with neurological deficit. 1 (33.3%) showed a space occupying lesion in a patient with headache. 1 (33.3%) showed an ischaemic stroke in a septic patient.

Overall, 21 patients had an infection. Only 1 of these had an acute abnormality on CT head.

Conclusion:

Clinicians should adopt a low threshold for performing CT head in patients on oral anticoagulants when there is history of trauma or loss of consciousness.

CT head is unlikely to show an acute abnormality in patients presenting with confusion alone.

Confusion and seizures are common manifestations of infection and may not, in isolation, warrant a CT head. Careful selection of patients can avoid unnecessary radiation exposure and reduce the costs to the NHS.

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Dr El lahawi's NeuroTube : 10 years of online neurology teaching Experience

Mohammed El lahawi consultant Neurologist – SKMC - Abu Dhabi , UAE - Inas ALHassan Medical Specialist

RCP- London - 2025

The need for online neurology teaching :

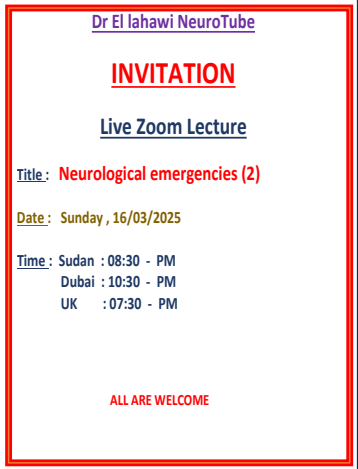
1- Increase in number of medical schools worldwide
2- More junior doctors and fellows on training
3- Neurology is difficult for most of the doctors
3- Not enough neurologists for teaching

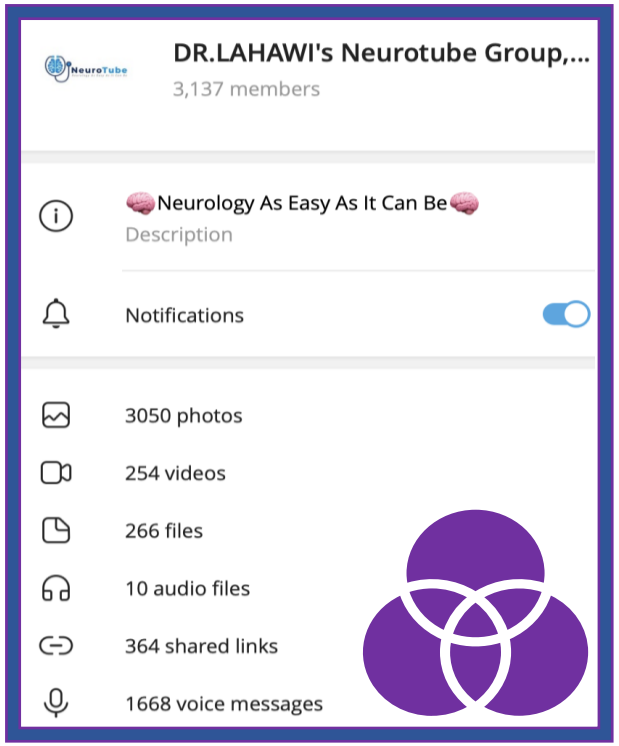
Mission of the NeuroTube :

@ Deliver free online neurology teaching for medical students and junior doctors across the globe
@ Make neurology as easy as it can be
@ Encourage doctors to take neurology as specialty to Increase the number of neurologist globally

Work achieved :

1- More than 500 Zoom lectures were delivered
2- > 3050 slides and photos
3- 254 video
4- 1668 voice messages
5- More than 700 MCQs
6- **Clinical Neurology courses** :
- 8 courses in Sudan
- 4 courses in UAE
- 1 course in Somali





The Story of the NeuroTube :

- Established in 2015 in Telegram ,
- Members are from different countries including : UK, Sudan, Saudi Arabia, UAE, Egypt, Somalia,……
- Materials are strictly encrypted
- Social media and advertisements are prohibited
- Activities will be advertised one or two days before
- The time of the lecture will be chosen to suit most of the members in different countries
- Live Interactive discussion
- MCQs and questions after every lecture
- Lectures will be recorded and uploaded in the tube for those who were unable to attend live

Other activities of the Tube :

1- Career advice
2- Online neuro clinics : to discuss difficult neuro cases ,images ,……
3- Medical ethics and good clinical practice (applying GMC guidelines)
4- Neuro Quizzes and competition
5- Neurology for different Board Exams
5- Mock exams : for medical students and post graduate doctors
6- Help in audits , case presentation , graduation projects , …….

https://t.me/+JNRXSZrSRCdiNWEx

Future Plan

1- Expand the Tube , > members
2- Continue the activity
3- Publishing the Tube materials in small booklets
4- Share the recent updates in neurology at regular basis
5- Encourage colleagues to do online teaching

Members in 2015 : 265
Members in 2025 : 3,135

Challenges :

@ No internet access in some areas
@ Problems with electricity supply @ Difference in time
@ Some doctors don't have computers or smart phones

Optimising Asthma Inhaler Prescribing to Improve Health Outcomes and Lower Greenhouse Gas Emissions

Dr Ali Rajani & Dr Monika Bhardva, Dr Lola Lowenthal, Dr Natasha Nwosu, Dr Sam Maisey, Dr Siva Mahendran

NHS Kingston and Richmond NHS Foundation Trust

BACKGROUND

In the UK, there is an urgent clinical need to improve outcomes in asthma, for which it has amongst the **highest prevalence** and one of the **worst mortality rates** in Europe. A leading cause of poor asthma related outcomes is the underuse of preventer (inhaled corticosteroid (ICS)) and **over reliance on reliever inhalers** (short-acting beta agonists (SABA))[1]. In the UK, SABA alone account for **70% of the Greenhouse Gas effect** of all inhalers used in the NHS.[2]

The latest NICE/BTS/SIGN asthma guidelines recommend **combination ICS/formoterol inhalers** in favour of separate preventer and reliever therapy. As part of a **sustainability QIP** at our hospital, we assessed the prescribing of TTO (to-take out) inhalers in ED in acute asthma patients, and the potential clinical, environmental and financial impact of aligning practice in line with guidelines.

METHODOLOGY

The pharmacy team provided an initial list of **198 patients** who had been discharged with inhalers from ED over a **3-month period** (01/09/2023 to 01/01/2024). **Retrospective data analysis** was completed to determine which inhalers had been prescribed, with review of the environmental impact related to pMDI therapy.

Inclusion criteria:
1. Discharged from ED within 24 hours of arrival
2. Diagnosis of "asthma" or unspecified "wheeze"
3. TTO issued from on-site pharmacy

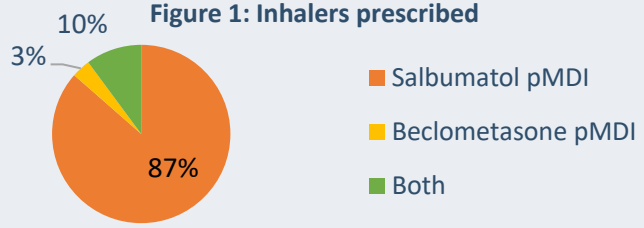
Exclusion criteria:
1. Age <16 years old
2. Diagnosis of chronic obstructive pulmonary disease (COPD)
3. TTO issued from the pre-pack supply available in A&E

A case note review was set against this criteria and patients with wheeze due to non-airways disease (e.g. pulmonary embolism, heart failure) were excluded.

DATA ANALYSIS

65 patients met the inclusion/exclusion criteria. 46% (30 patients) had either a known diagnosis of asthma or newly suspected one. 54% had symptoms due to other airways disease e.g. post-infectious wheeze.

Figure 1: Inhalers prescribed



Majority of patients were discharged with **salbutamol pMDI.** No combination inhalers were prescribed. 71% were also prescribed TTO oral prednisolone. Only 9.2% of patients were offered respiratory clinic follow up.

All inhalers prescribed in this study used **HFA-134 propellants** with a cumulative **greenhouse gas burden of 889kgCO2e**, and cumulative cost of **£280**.[3]

REFERENCES (1) Asthma + Lung UK. (2023) *Asthma care crisis: Charity sounds the siren as asthma death toll rises*. Available at: https://www.asthmaandlung.org.uk/media/press-releases/asthma-care-crisis-charity-sounds-siren-asthma-death-toll-rises (Accessed: 14/05/25)
(2) Alzaabi, A., Bell, J.P., Montero-Arias, F., Price, D.B. *et al.* (2023) 'Greenhouse gas emissions from respiratory treatments: results from the SABA CARBON international study', *Advances in Therapy*, 40(11), pp. 4836–4856. doi: 10.1007/s12325-023-02663-2.
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CONCLUSION

PEOPLE

PLANET

POUNDS

Over a 3-month period, patients discharged from ED with acute asthma or wheeze were **very unlikely** to be prescribed **preventer inhaler therapy** and no patients received combination ICS/formoterol therapy in line with current guidelines. This was associated with a **19% re-presentation rate**, highlighting an important missed opportunity for better prescribing.

If annualised, we estimate that if all eligible patients were instead prescribed an ICS/formoterol inhaler, the **reduction of greenhouse gas effect** would be 3,332kgCO2e - equivalent to **driving 8,485 miles** (London to Japan) or charging 269,381 smartphones.[4]

When replacing SABA with combination ICS/formoterol inhaler, the **increased unit cost** is £26.54 (£6157.28 annually). This is likely to be offset by **improved patient outcomes** including reduced representation rates and associated hospital admission costs, and reduced frequency of reliever medication use.

Improving inhaler prescribing of acute asthma in ED may lead to improved patient outcomes, reduced greenhouse gas emissions, and better value healthcare.

ACTION PLAN

Proposed solutions:
1. To **update local ED guidelines** (Blue book) and reinforce best-practice through ED **education sessions**
2. To **supply Symbicort turbohaler** in the ED pre-pack TTO cupboard
3. To create and provide patients with bespoke **self-management packs**

Second cycle of analysis to assess the impact of quality improvement actions on prescribing practices and associated re-presentation rate and GHG burden, with inclusion of data on paediatric patients.

Adherence to Guidelines: Assessing and Treating Wernicke's Encephalopathy in Patients with Alcohol Withdrawal

Dr M Inwood, Ms F Grehan, Dr K A Lockman

Background

In 2023, Scotland had one of Europe's highest alcohol-related death rates at 22.7 per 100,000 people.[1] In comparison, Greece recorded the lowest rate at 0.35 per 100,000 people, reflecting vast differing socioeconomic and cultural factors.[2] Alcohol withdrawal (AW) (Table 1) treatment, costs NHS Scotland £5-10 billion annually, highlighting the significant public health challenge posed by alcohol misuse.[3]

Table 1: Symptoms and onset of alcohol withdrawal.[4]

Onset	Symptom
6-12 hours	Tremors, anxiety, sweating.
12-24 hours	Irritability, hallucinations
24-48 hours	Tonic clonic seizures
48-96 hours	Confusion, hallucinations, agitation

Wernicke's Encephalopathy (WE) is a neurological emergency caused by vitamin B1 deficiency occurring during or after AW. Presenting as a triad of confusion, ataxia and oculomotor dysfunction, it is treated with high dose IV vitamin B1.[5] In NHS Lothian, IV Pabrinex- containing vitamins B1, B2, B6, B3 and C is used, and its protocol outlined in Figure 1.

Aims

This audit aimed to evaluate the adherence to the WE risk assessment and treatment for AW protocol implemented in August 2023 (Figure 1).

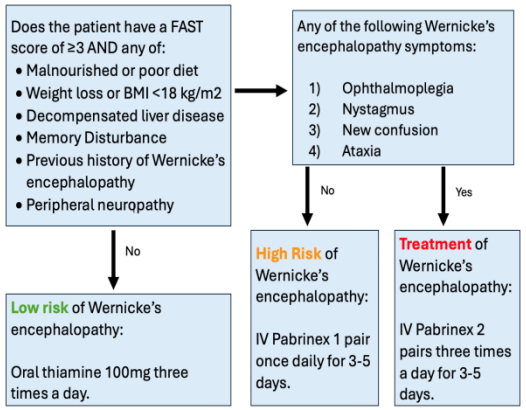

Figure 1: IV Pabrinex prescription protocol

Methods

A retrospective review of hospital electronic patient records and prescriptions was conducted for all patients prescribed IV Pabrinex in the Acute Medical Unit at the Royal Infirmary of Edinburgh from 01/12/24 to 15/02/25. The measured parameters were: WE symptom documentation, IV Pabrinex dose and treatment duration.

Results

In this study, 803 doses of Pabrinex were prescribed for 86 patients, 93% of whom were treated for AW. WE symptoms varied (Figure 2), though 23% of cases lacked documentation.

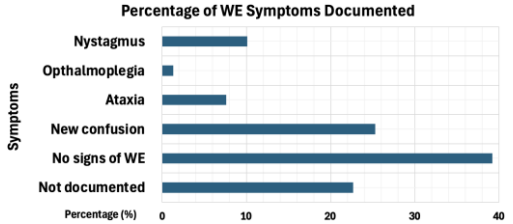

Figure 2: WE symptoms documented

All 86 patients received Pabrinex at the WE treatment-dose. Thus 56% of doses did not adhere to prescription guidelines. Patients with WE symptoms received a mean of 4.4 days; 50% received under the recommended 3–5 days, while 22% were treated for ≥5 days. Those without symptoms of WE received a mean of 2.3 days.

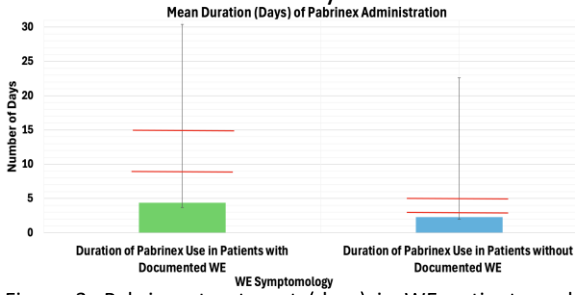

Figure 3: Pabrinex treatment (days) in WE patients and without WE. Red line marks correct duration.

Assuming this group was at high risk of WE, on a once daily dosing regimen a maximum of 5 days, 515 excess doses were prescribed. Therefore, 807, 50% of the prescribed doses were unnecessary.

Conclusions

This audit indicated that despite clear guidelines for assessing and treating WE, many prescriptions were inappropriate.

Commonly:

- Those with WE symptoms received insufficient Pabrinex treatment duration.
- Those without WE features received more doses than recommended

It further underscored the variability in documentation of WE clinical features which can affect the subsequent prescribed dose and duration of Pabrinex treatment.

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Health literacy associates with clinical, treatment and work status in people with inflammatory arthritis: Results from a national cohort

Mrinalini Dey[1], Sam Norton[1,2], Andrew Cope[1], Maya Buch[3,4], Richard Osborne[5], James Galloway[1,6], Elena Nikiphorou[1,6,7]

[1]King's College London, Centre for Rheumatic Diseases, United Kingdom, [2]King's College London, Health Psychology, United Kingdom, [3]University of Manchester, Centre for Musculoskeletal Research, United Kingdom, [4]Manchester University NHS Foundation Trust, United Kingdom, [5]La Trobe University, Australia, [6]King's College Hospital NHS Foundation Trust, Department of Rheumatology, United Kingdom, [7]King's College London, Centre for Education, United Kingdom

Introduction

- Health literacy is "the ability of individuals to gain access to, understand and use information in ways which promote and maintain good health".
- Health literacy is central to prevention and control of noncommunicable diseases, including inflammatory arthritis (IA), e.g. rheumatoid arthritis (RA).

Objectives

- To determine the association between health literacy, defined by the Health Literacy Questionnaire (HLQ), social determinants of health, clinical and non-clinical outcomes in people with IA in the National Early Inflammatory Arthritis Audit (NEIAA) in England.

Methods

- NEIAA is an observational cohort of adults with IA recruited since 2018.
- Patients with IA were identified from NEIAA and invited to complete an online survey (March-May 2024), comprising the 44-question Health Literacy Questionnaire (HLQ), Work Productivity and Activity Impairment, Generalised Anxiety Disorder (GAD-2), Patient Health Questionnaire (PHQ-2), and questions on employment, education, treatment and joint symptoms.
- Survey distributed to 3300 individuals, with those responding matched to original records within NEIAA.
- Multivariable linear or logistic regression analyses were conducted to determine associations between each of the HLQ domains (Figure 1), socioeconomic and clinical variables.
- Analyses were adjusted for age and gender, then further for educational attainment.

Figure 1: Nine domains of the HLQ

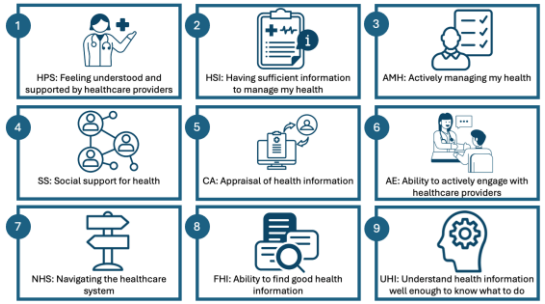
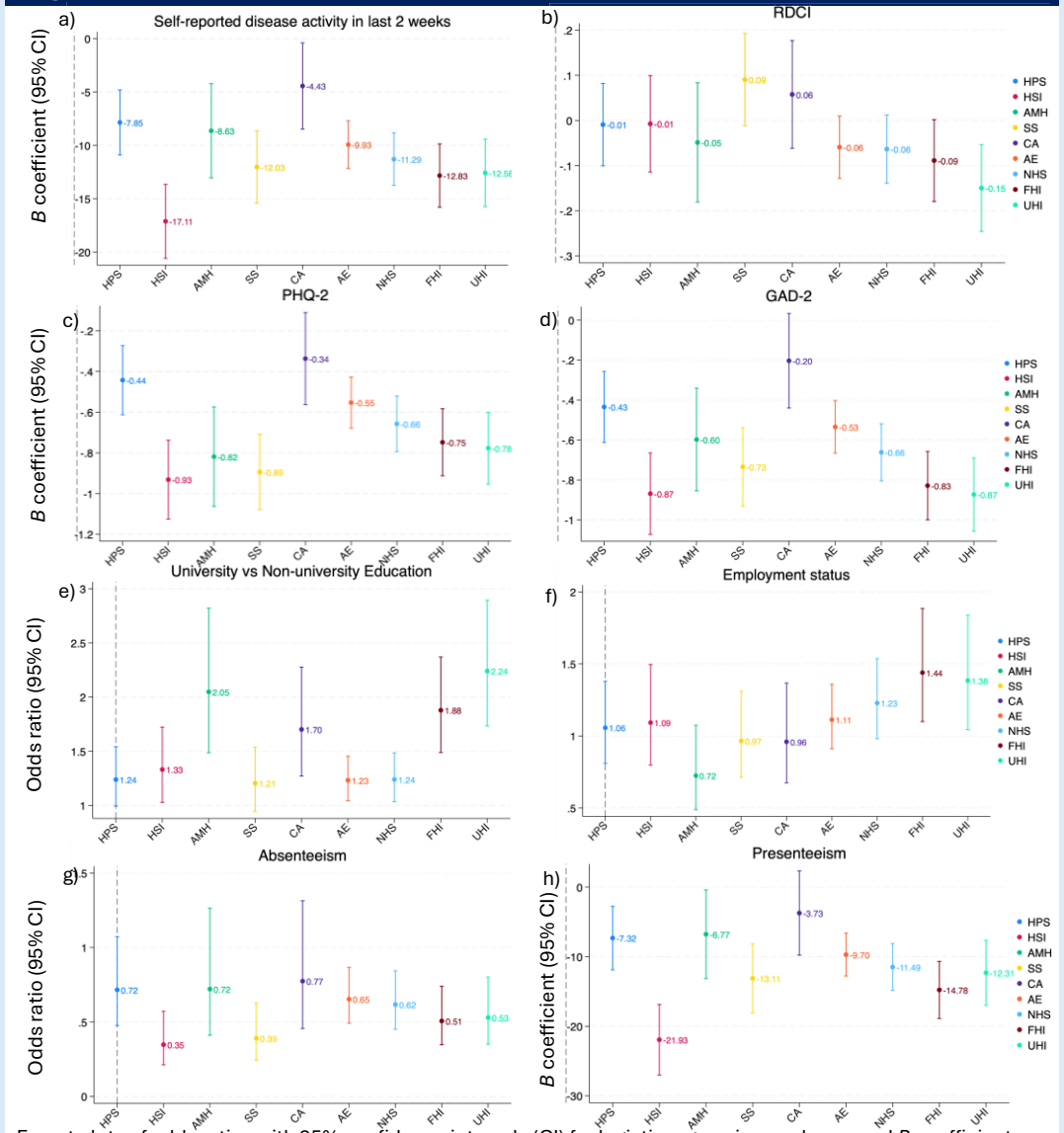


Table 1: Demographics and mean HLQ scores

	Total (n=995)
Age (median, IQR)	59.0 (50.0-67.0)
Gender (n, %)	
Male	338 (34.0%)
Female	657 (66.0%)
Ethnicity (n, %)	
White	943 (94.8%)
Black	5 (0.5%)
Asian	21 (2.1%)
Mixed	2 (0.2%)
Other	22 (2.2%)
Not known	2 (0.2%)
HLQ domain and scale (mean, SD)	
1.HPS (1-4)	2.7 (0.6)
2. HSI (1-4)	2.8 (0.5)
3. AMH (1-4)	3.0 (0.4)
4. SS (1-4)	2.8 (0.5)
5. CA (1-4)	2.7 (0.5)
6. AE (1-5)	3.4 (0.8)
7. NHS (1-5)	3.2 (0.7)
8. FHI (1-5)	3.6 (0.6)
9. UHI (1-5)	4.0 (0.6)

Figure 2a-h



Forest plots of odds ratios with 95% confidence intervals (CI) for logistic regression analyses, and *B* coefficients with 95% CI for linear regression analyses, adjusted for age and gender. No significant differences noted on controlling for education. RDCI= Rheumatic Disease Comorbidity Index.

Conclusions

- Low health literacy associates with poorer physical and mental health in people with IA, and higher absenteeism and presenteeism, especially in HSI domain. Employment associates with higher health literacy, especially FHI and UHI.
- This is the largest and richest IA cohort exploring health literacy and its associations, using a robust and validated tool.
- Results highlight unmet need to assess health literacy when formulating management plans and shared decision-making, at the individual and population level.

This study is generously funded by a Foundation for Research in Rheumatology (FOREUM) Early Career Grant awarded to EN and funding from King's College Hospital Charity awarded to MD.

Remote Monitoring using Virtual Wards for the Management of Febrile Neutropenia in Solid Tumor Patients; a Service Evaluation

Muhammad Ahmed Latif[1], Mihaela Simion[2], Peter Dickinson[1], Muzahir Tayebjee[1], Abigail Uttley[1], Divyalakshmi Bhaskaran[3, 4]

[1]Leeds Teaching Hospitals NHS Trust; [2]The Clatterbridge Cancer Centre NHS Foundation Trust; [3]Bradford Teaching Hospitals NHS Foundation Trust; [4]Leeds Institute of Medical Research, St. James's Institute of Oncology, University of Leeds

Introduction

- Febrile neutropenia (FN) is a serious oncological emergency requiring prompt management. [1] Traditional inpatient care has been the standard approach.
- Remote virtual wards offer a novel strategy to reduce hospital burden while ensuring patient safety.

Aims

- This service evaluation aimed to evaluate the efficacy and safety of a virtual ward model for managing low-risk FN patients, focusing on hospital stay duration and readmission rates.

Methods

- A retrospective analysis was conducted, comparing patients managed on virtual wards with those receiving traditional inpatient care.
- Patients were matched based on key clinical characteristics (age, primary cancer site, chemotherapy regimen, MASCC index [2]), and outcomes were assessed, including hospital stay duration and readmission rates.

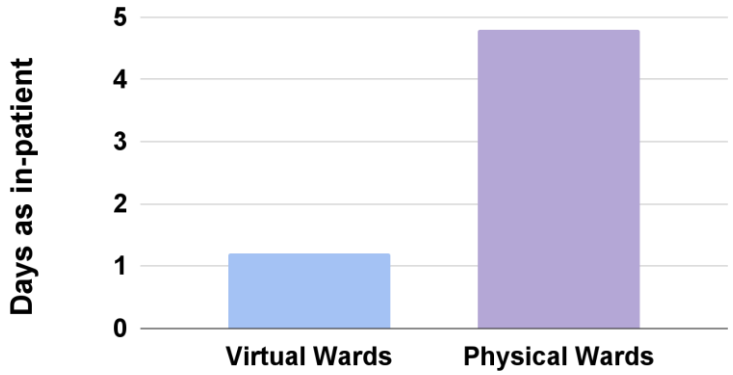
Results

- 30 patients were managed on the virtual wards (median age=49 years). 21 matched physical wards patients (median age 52 years) were included in comparison group.
- The mean in-patient stay before being admitted to virtual wards was 1.2±1.7 days, compared to 4.8±2.5 days for those managed entirely on physical wards ($p<0.005$)
- Mean stay on remote monitoring was 5.3±2.1 days.
- Readmission rates were low for both groups (3.3% vs 0%)

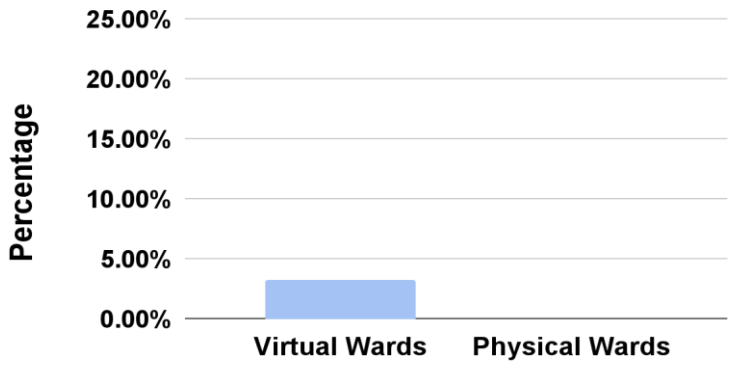
Conclusion

- Virtual wards represent a feasible approach for managing low-risk FN, offering reduced hospital stays with acceptable safety.
- Further large-scale studies are needed to validate these findings and assess cost-effectiveness.

In-Patient Stay (Graph 1)



Readmission Rate (Graph 2)



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Aide Memoire on Sedation Reversal: Knowing your way in and out!

Dr Naomi Earl & Dr Burhan Khan, Respiratory Medicine, Darent Valley Hospital

NHS Dartford and Gravesham NHS Trust

Introduction

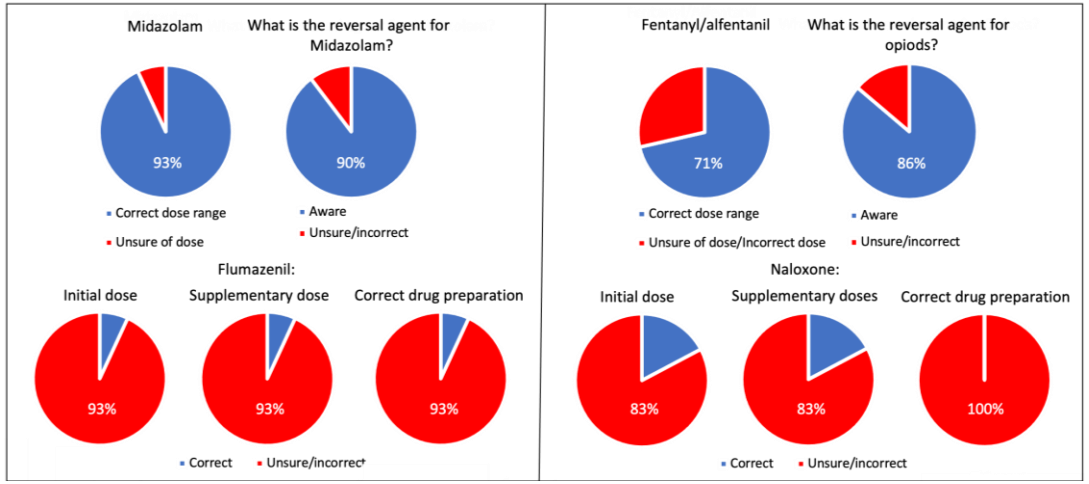
Conscious sedation is commonly used in a number of interventional Pulmonology procedures. Knowledge and familiarity with sedation and its reversal is essential, but unfortunately is both poorly understood and remembered and thus poses a potential risk.

Aim

- Quantify usage of reversal agents
- Assess understanding of sedation and antidotes amongst respiratory trainees

Materials and Methods

- Audit of amount of sedation and reversal agents dispensed
- Survey of KSS Respiratory trainees on knowledge concerning sedation and antidotes
- Create an Aide Memoire to reference in an emergency



Graph 1: Results of trainee survey depicting poor knowledge of sedation reversal

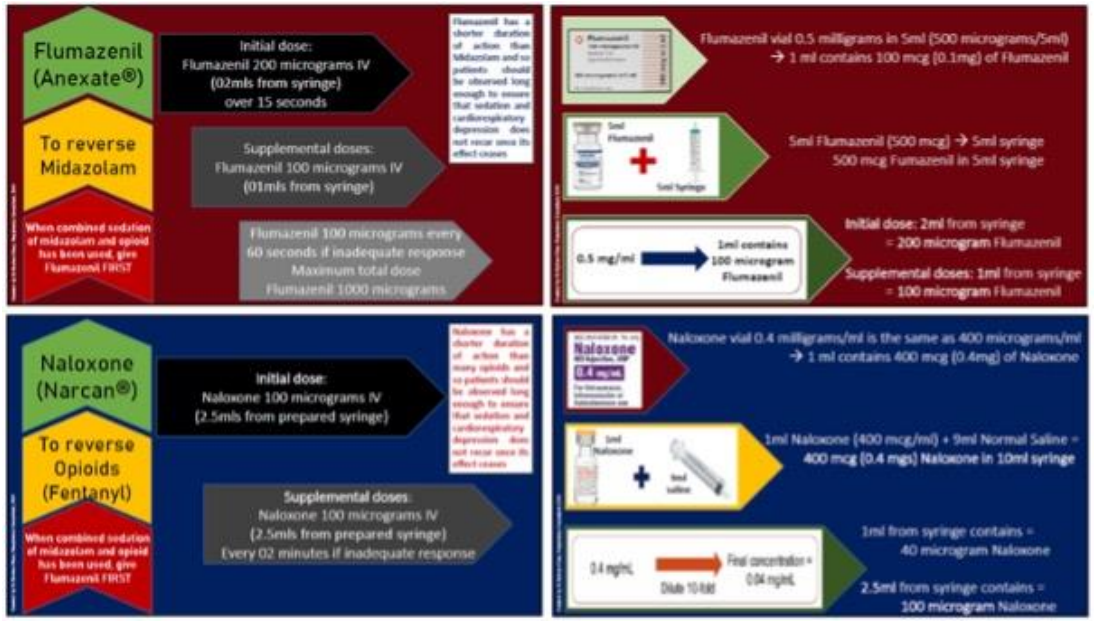


Figure 1: Sedation Reversal Aide Memoire

Results

In the last 5 years 68,160ml of Midazolam and 50,094ml of Fentanyl was dispensed compared to only 350ml of Flumazenil and 30ml of Naloxone.

29 trainees completed the survey.

Midazolam was used first line by 97%.

96% thought an Aide Memoire would be useful in clinical practice. Only 10% had access to a local reversal policy at their hospital.

Conclusion

Though the need for sedation reversal is fortunately infrequent, it is an emergency event when both prompt recollection of knowledge and process of sedation reversal is crucial for patient safety. An Aide Memoire may be invaluable in such events.

Inpatient Compliance with Levothyroxine Timing:

A Clinical Audit of Administration Practices and Patient Knowledge

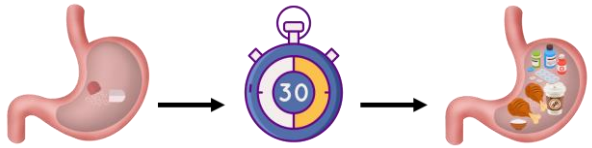
Nadia Ibrahim, Bilal Rauf Kahara, Kamal Naser (Consultant & Audit Mentor), Hafiz Nasir, Nehmiea Melese

Royal College of Physicians

NHS Sherwood Forest Hospitals NHS Foundation Trust

INTRODUCTION

Thyroxine (T4) is a synthetic hormone widely prescribed for the management of hypothyroidism. Food and certain medications can significantly reduce its bioavailability.



Current guidelines recommend taking thyroxine on an empty stomach, ideally **30 minutes before food intake**, to maximize gastrointestinal absorption.

OBJECTIVES

- Assessing the patient compliance with Thyroxine timing
- Evaluating patient knowledge on the recommended timing
- Determining the impact of concurrent medications on compliance

MATERIALS AND METHODS

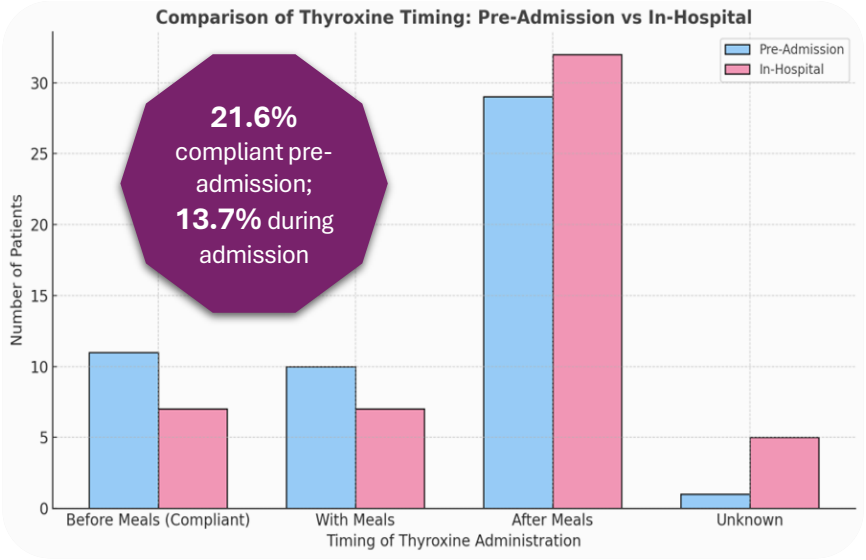
King's Mill Hospital

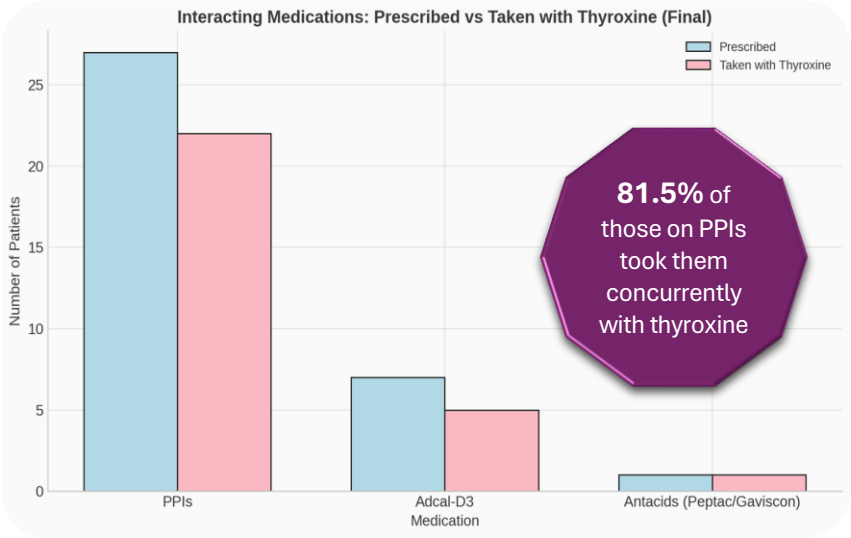
26/08/2024 – 09/09/2024

All in-patients prescribed with thyroxine (**n=51**)

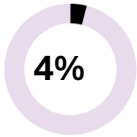
Questionnaire	In-Patient Record
Details on medication adherence and awareness	Potentially interfering concurrent medications with thyroxine

RESULTS

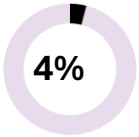




Patient Awareness about Thyroxine timing:



Patients informed by a healthcare provider



Patients with sufficient knowledge

Hospital Routines emerged as another potential barrier, as medication schedules aligned with meal service may not support optimal thyroxine timing. This is evidenced by an increase in patients taking thyroxine after meals during hospitalization.

INTERVENTIONS

- Enhanced Patient Education
- Improved pharmacy labelling
- EPMA default time setting at 6:00 AM
- Annual medication reviews
- Medication interaction alerts
- Nurse briefings

CONCLUSION

Systemic and educational gaps lead to non-compliance. Interventions across technology, workflow, and education are essential to improve outcomes.

Acknowledgement: We are deeply grateful to Dr. Kamal Naser for his unwavering support, insightful guidance, and encouragement throughout this audit. His mentorship has been invaluable.

Impact of the AI based CariHeart risk score, using cardiac CT angiography, on the stratification of patients with suspected coronary artery disease – Insight from the NHS England Pilot Study

Sanfeliu Garces, Nerea[1]; Barnfather, Tracy[1]; Cooley, Lynne[1]; Kardos, Barbara[2]; Alsinbili, Ahmed[1]; Pashler, Mike[1]; Chattopadhyay, Sudipta[3]; Kardos, Attila[1]

[1]Department of Cardiology Milton Keynes University Hospital NHS Trust, Milton Keynes,[2]Oxford University Hospitals, Physiotherapy, Oxford, [3]Bedford Hospital NHS Trust, Bedford, United Kingdom

Introduction:

The AI-based CariHeart Risk calculator has been developed using cardiac CT angiography (CCTA) assessment of the peri-coronary artery inflammation (FAI) and conventional cardiovascular risk factors to predict 8 years fatal and non-fatal cardiovascular events.

As one of the 5 chosen Hospitals in the United Kingdom we have performed and interim analysis to assess the impact of the proposed new chest pain pathway on the risk stratification of patients referred for suspected angina to the Rapid Access Chest Pain Clinic (RACPC).

Methods:

135 consecutive patients referred to the RACPC are part of this analysis. 2 patients had no contrast CCTA images at patient request and were excluded.

Risk stratification was defined into 3 categories:

Category	Definition
CAD Severity	• No/mild: <50% stenosis • Moderate: 50–70% • Severe: >70%
FAI Score	• Low: <50th percentile • Intermediate: 50–75th (LAD/RCA), 50–90th (LCX) • High: >75th (LAD/RCA), >90th (LCX)
CariHeart Risk	• Low: <1% 8-year CV mortality • Intermediate: 1–5% • High: >5%

Results:

CAD Severity	Score Type	Low	Intermediate	High	p-value
No or Mild CAD (n=114)	FAI Score	3.5% (4)	14% (16)	82% (94)	<0.00001
	CariHeart Risk Score	3.6% (4)	41% (47)	55% (63)	<0.0001
Moderate CAD (n=13)	FAI Score	0%	38% (5)	62% (8)	0.025
	CariHeart Risk Score	0%	8% (1)	92% (12)	<0.007
Severe CAD (n=3)	FAI Score	0%	0%	100% (3)	—
	CariHeart Risk Score	0%	33% (1)	67% (2)	—

Conclusion:

- ❖ The AI-based new chest pain pathway utilising CCTA images has identified higher proportion of at-risk patients particularly those with non-obstructive CAD.
- ❖ FAI score and CariHeart risk score seems to perform similarly in the combined intermediate and high-risk groups.
- ❖ Further research into understanding the value of initiation of cardiovascular preventive therapy to reduce perivascular inflammation and hence cardiovascular death would be essential.

Evaluating the Role of AI-Simulated Patients Compared to Peer-To-Peer Learning Models in the Enhancement of Medical Education: Is It Beyond Theoretical Functionality?

Pegin Poulose[1] David Bourne[2]
Wrightington, Wigan and Leigh Teaching Hospitals NHS Foundation Trust[1]
SIMPAT[2]

PURPOSE / OBJECTIVES

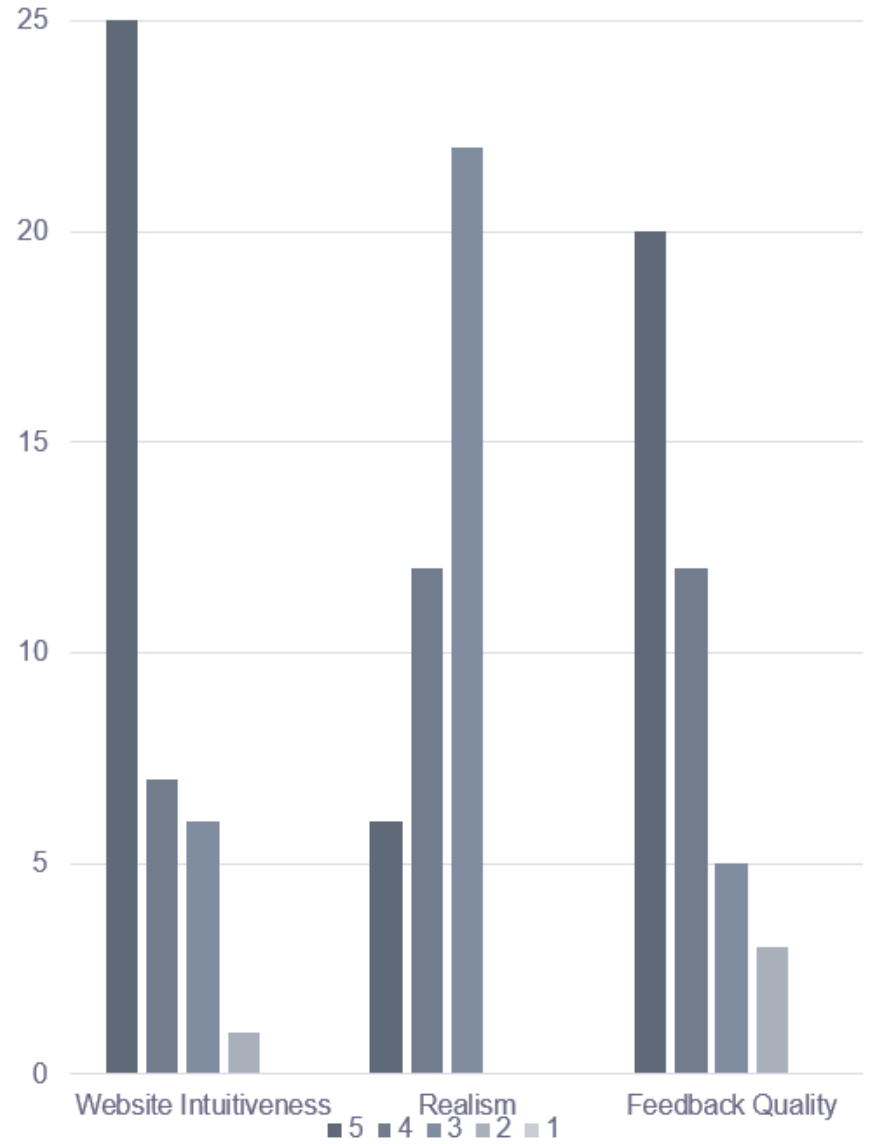
This research study evaluated the effectiveness of utilising patients simulated through artificial intelligence for medical education, and its role as a learning tool compared to traditional peer-to-peer formats. A medical education platform, SIMPAT, that generates timed clinical scenarios of AI-simulated patients with preset clinical backgrounds ranging across a variety of medical specialities, was incorporated in this study. The aim of this study was to understand how this learning style impacted their clinical confidence and knowledge acquisition, and whether it was a time-efficient alternative. Furthermore, the study also obtained the participants perceptions of the platform's realism, convenience, and intuitiveness.

MATERIAL & METHODS

Medical students and recent medical graduates (FY1 level) from diverse geographic and academic institution backgrounds used SIMPAT over a 2-month period (13 January 2025–13 March 2025) to practice responding to AI-generated patients through clinical scenarios at a difficulty level in keeping with final year medical school exams. The participants, 40 in total, were encouraged to take a medical history from the simulated patients, who have been programmed to respond in a humanlike manner. At the end of the time limit, users were asked to answer medical questions relating to the clinical scenarios, similar to the format in an OSCE style exam. Users are able to see instant feedback and percentage score on completion. Post completion, A feedback form was provided to the user electronically, which included quantitative ratings for intuitiveness and realism of responses (scores graded from 1–5, with 5 being the maximum grade) and free-text feedback on the platform's strengths, weaknesses, recommendations, and their experiences in comparison to peer-based learning.

RESULTS

Participants highlighted that learning through AI-simulated patients had many advantages, a common theme being the ability to study a large quantity of clinical scenarios with ease. Many mentioned how effective this method is in reinforcing knowledge, as various simulated patient cases are available for most common clinical scenarios seen in medical school exams. Participants highlighted how this is limited practically when studying with peers. Furthermore, participants noted how the instant feedback feature fostered better engagement when addressing mistakes which allowed for faster learning. 80% of participants rated the platform's intuitiveness 4 or higher, while realism ratings were moderate (55% scored 3, 30% scored 4). Participants highlighted the platform's strengths in providing challenging but relevant questions, immediate feedback, identifying knowledge gaps, and boosting confidence. Compared to peer-to-peer learning, one trend was that SIMPAT was perceived as more time-efficient. Although, reduced realism in patient interactions and limited empathy training and scoring in the AI models, along with few technical errors, were noted as drawbacks. Despite this, 95% of participants recommended the platform, with the majority viewing it as a supplement to traditional peer-to-peer methods rather than a replacement.



DISCUSSION

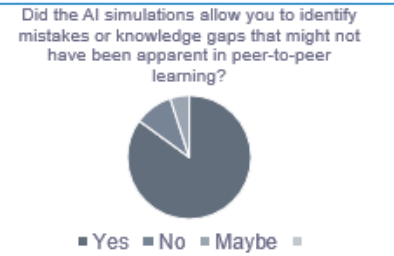
This study demonstrates how AI-simulated patients can transform clinical preparation by addressing two persistent gaps in medical education: efficiency of learning and personalised feedback. Existing literature establishes similar findings such as by Zidoun, Y, Mardi (2024)[1] which acknowledged AI-based simulators can match or surpass simulated patients in teaching history taking skills. Furthermore, De Mattei et al (2024)[2] established AI simulated patients baseline efficacy for allied healthcare professionals, our results reveal nuanced insights about medical student's perspectives. The striking 95% endorsement rate underscores that learners prioritize immediate feedback and case diversity—even when AI interactions lack perfect realism. This suggests that clinical education may be entering a paradigm where AI's functional utility (e.g., time savings, knowledge reinforcement) outweighs idealised notions of human-like interaction, at least for early-stage training. However, participant critiques about emotional depth—particularly the call for nonverbal communication training—hint at AI's next frontier. Rather than viewing these limitations as weaknesses, they map a clear trajectory: SIMPAT's success in knowledge acquisition, positions AI as the foundational layer of clinical training, freeing instructor and peer time for higher-order skills like empathy and communication. Lateef's framework supports this staged approach, but our efficiency metrics provide the first concrete evidence of how AI could restructure medical curricula. Future investigations could explore how time efficient exactly this method of study is for participants (e.g saves 2.5 hours per week). Advanced simulation models could handle pattern recognition where common participant errors are noted to further personalise usage experience.

[1]Zidoun, Y. and Mardi, A.E. (2024) 'Artificial intelligence (ai)-based simulators versus simulated patients in undergraduate programs: A protocol for a randomized controlled trial', BMC Medical Education, 24(1). doi:10.1186/s12909-024-06236-x.

[2]De Mattei, L. et al. (2024) 'Are artificial intelligence virtual simulated patients (AI-VSP) a valid teaching modality for health professional students?', Clinical Simulation in Nursing, 92, p. 101536. doi:10.1016/j.ecns.2024.101536.

CONCLUSION

The involvement of AI-simulated patients in medical education and continuous learning is more than just a theoretical tool for improving clinical communication skills, particularly in areas such as efficiency of study, knowledge acquisition, and building confidence. Further advancements in this technology can improve the functionality of medical education in the modern age, although addressing its limitations, namely realism and lack of empathy in AI responses, is vital to ensure successful adjunction with conventional strategies within medical education.



Permanently Stationed Bacteriobots for Surveillance and Elimination of Nascent Tumors

Praneshwar Eswaran

Problem

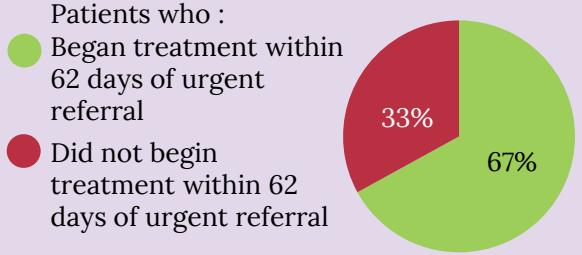


Figure 1. Timeliness of cancer treatment in England, Feb 2025[1].

Each month of delay in cancer treatment is associated with **increase in mortality rate**[2].

Systematic cancer therapy is associated with various **adverse effects.**

Methods

- *BRCA1*-mutant breast cancer was selected as the use case.
- A literature review identified ***Lacticaseibacillus paracasei*** as a suitable chassis (naturally present in breast tissue[3], genetically modifiable); highlighted **tumor-specific peptide biomarkers**[4] for detection and **CD47 blockade** as an elimination strategy.
- The *L. paracasei* genome (from NCBI) was analyzed to identify **two-component receptors**; **pnpS**, a histidine kinase with a **PAS** sensor domain (using InterPro), was selected.
- Molecular docking (using Protenix) of PAS with cancer peptides revealed **non-specific binding**; receptor optimization is ongoing.

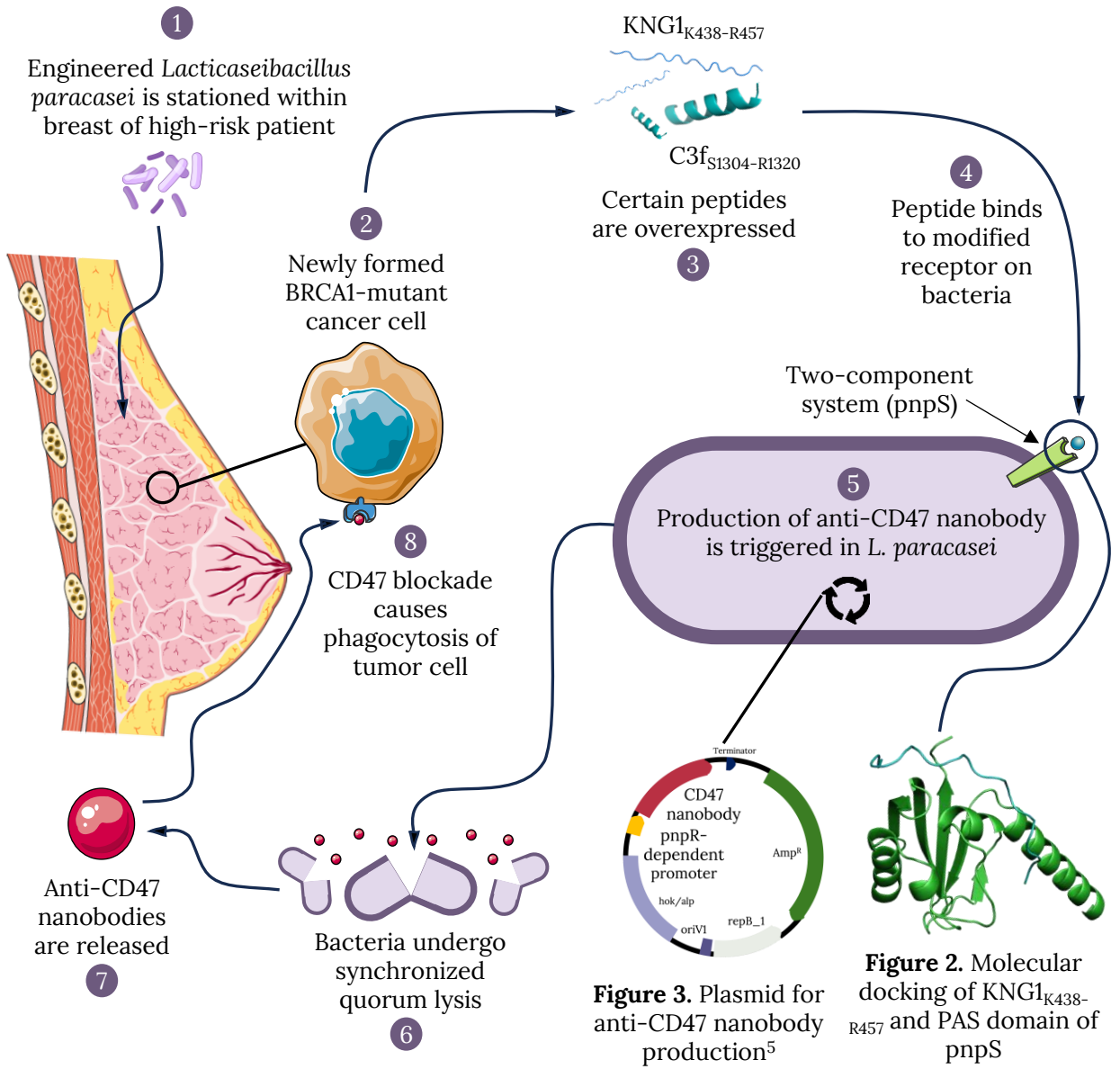


Figure 3. Plasmid for anti-CD47 nanobody production[5]

Figure 2. Molecular docking of $KNG1_{K438-R457}$ and PAS domain of pnpS

Impact

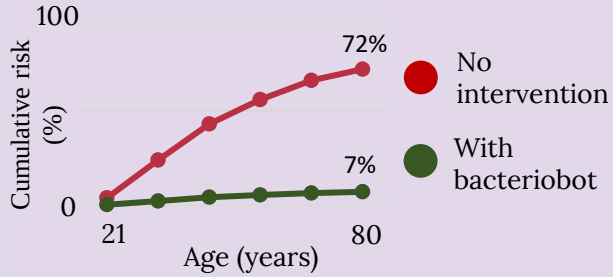


Figure 4. Cumulative lifetime risk of breast cancer in BRCA1 mutation carriers with and without bacteriobot intervention (simulated)[6].

Next Steps

- Optimize receptor specificity.
- Simulate gene circuit expression.
- Model bacteriobot behavior in tissue.

- Engineer *L. paracasei*.
- Validate sensing and expression.
- Confirm lysis and nanobody release.

- Test colonization and stability.
- Assess detection and therapeutic efficacy.

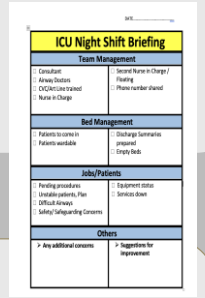
References

1. NHS England. (2025). **2.** Hanna TP. (2020). *BMJ*. 371. **3.** German R. (2023). *Breast Cancer Res*. 25. **4.** Fan J. (2016). *J Proteome Res*. 15(5). **5.** Chowdhury S. (2019). *Nat Med*. 25(7). **6.** Kuchenbaecker KB. (2017). *JAMA*. 317(23). Icons by Freepik. Graphics from Servier Medical Art. Visualizations using PyMOL.

From Inconsistency to Sustainability: ICU Night Huddle Compliance Improvement Through a Structured QI Approach

INTRODUCTION

- Night handovers in ICU were occurring separately between doctors and nurses.
- This led to inconsistent communication, unclear roles, and missed safety-critical tasks.
- A structured ICU Night Huddle was introduced to improve coordination and compliance.



AIMS & OBJECTIVES

- To improve communication and teamwork
- To reduce treatment delays
- To enhance patient safety by ensuring all members are aligned on care plans
- To ensure sustainability of night huddle process by integrating it into ICU workflow.

METHODOLOGY

- This QI project followed a **Plan-Do-Study-Act (PDSA)** cycle over two phases:
- **Initial QIP (September 2023 – March 2024):** A Night Huddle checklist was introduced, and compliance was monitored.
- **Re-Audit (September 2024 – December 2024):** Targeted interventions were implemented to address compliance gaps

❖ compliance measured via checklist completion rates

RESULTS

- **Baseline Compliance (QIP):** 32.8%
- **Post-Intervention (Re-Audit):** 70.7% (↑ 37.9%)
- **Trend Graph**

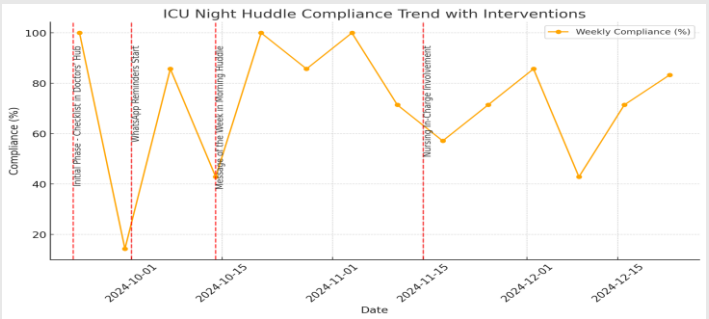


Fig 1: Compliance trend graph with interventions

❖ **Key Observations:**

- WhatsApp reminders improved awareness.
- Message of the Week created routine.
- Nursing engagement improved sustainability.

DISCUSSION

1. Phase 1: **Doctor's Hub Checklist (22/09/24):** Initial compliance was low, with adherence being inconsistent.
2. Phase 2: **WhatsApp Group Reminders (01/10/24):** Compliance improved to 57%, although some nights were still missed.
3. Phase 3: Daily reminders included in the morning Huddle **message of the week (14/10/24):** Compliance increased to 71%.
4. Phase 4: Direct involvement of the **Nurse In-charge (15/11/24):** Compliance was sustained at 75%.

CHALLENGES

Noncompliance persisted (did not reach 100%) due to:

- Workload pressure
- Forgetting/Skipping
- No Direct Accountability
- Staff rotation issues
- Nursing-Doctor Coordination Issues

CONCLUSION

- The re-audit showed a significant enhancement in compliance levels.
- The use of structured reminders and active leadership participation greatly boosted adherence.
- To maintain this improvement, it is essential to formally incorporate it into the ICU workflow.
- A re-audit is scheduled for six months from now to verify ongoing compliance.

Dr Prasobh P V Mukundan, Dr Alisha Karki

Enhancing Learning in Medical Same Day Emergency (MSDEC): A Bite-Sized Teaching Program Approach

Sadaf Sadaf, Nnamdi Emekekwue, Rachel Lai, Prajakta Pradhan

Acute Medicine Department, Royal Derby Hospital

University Hospitals of Derby and Burton NHS Foundation Trust

INTRODUCTION

Teaching in MSDEC is challenging due to lack of protected teaching time, time-pressure and high workload.

We implemented a structured " Bite-sized teaching" programme with the aim to instate regular concise teaching sessions.

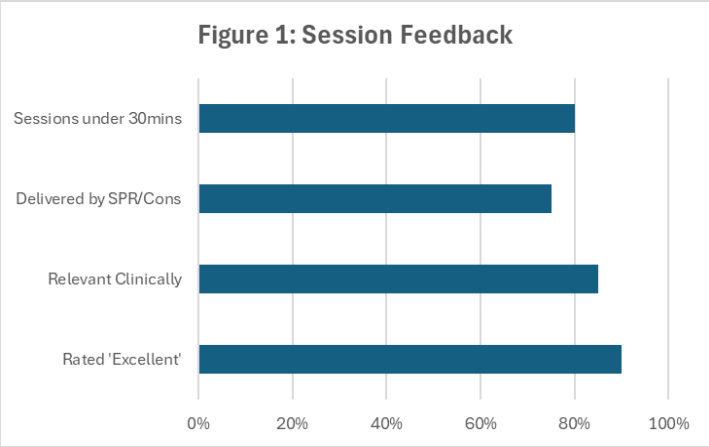
METHODOLOGY

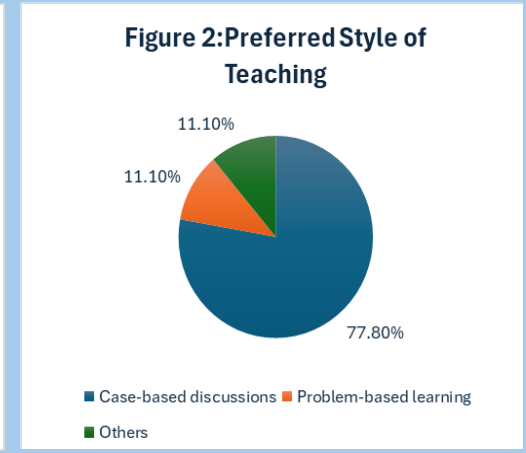
A pre-programme questionnaire was distributed to resident doctors and ACPs working in MSDEC. The questionnaire included questions related to teaching style, mode of delivery, and the relevance of the teaching programme.

22 weekly, interactive sessions limited to 30 minutes were conducted over 6 months between July 2024 to January 2025.

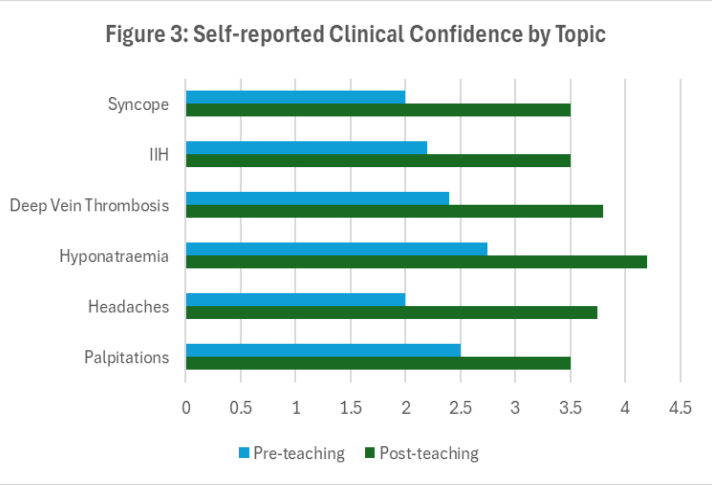
Post-teaching feedback was distributed after each session.

RESULTS





RESULTS (Continued)



CONCLUSION

- Bite-sized teaching models can be replicated and successfully implemented in a busy clinical environment.
- Interactive sessions are found more engaging than long power point presentations.
- Short teaching sessions in busy settings can effectively improve clinical knowledge and drive change.
- Our next steps include expanding topics and an online interface via MS Teams

A Novel Acute Medicine Virtual Ward Managing Multiple Acute Medical Pathologies: A Pilot Study in the District General Hospital Setting

Caroline Dawson, Rahul Sethi, Rosemary Ho, Usman Ahmed, Tahira Adnan

The Hillingdon Hospitals NHS Foundation Trust

Background and aim:

- Virtual wards have been increasingly used in clinical settings to deliver **specialist care remotely** via telehealth[1]
- NHS virtual ward operational framework suggests potential to **reduce patient time in hospital** and **improve overall experience**[1]
- Study designed to **describe feasibility and safety of a novel acute medicine virtual ward** in a district general hospital setting managing multiple acute medical pathologies

Pilot study overview:

- A virtual ward was set up at a district general hospital for various acute medical problems using a remote observations monitoring platform; **personalised escalation criteria** were created when a patient was discharged from hospital and admitted to the virtual ward
- Discharge from the virtual ward once **discharge criteria** were met

Methods & key results:

- **Retrospective data collection** for all patients enrolled in first 6 weeks of virtual ward pathway being launched
- Data included demographics, primary acute medical problem, length of stay on the virtual ward, number of contacts and any requirement for care escalation
- The **mean number of contacts per patient was 13.0±5.7** across conditions

Table 1: Number of patients for each primary acute medical problem and the number of those requiring escalation of care. Values are n (%)

Primary Acute Medical Problem	Frequency	Required Escalation
Community Acquired Pneumonia	13 (30)	3 (23)
Other Infection	10 (23)	2 (20)
Arrhythmia including Atrial Fibrillation	9 (21)	3 (33)
Hypertension	4 (9)	0 (0)
Anaemia/ Low-Risk Gastrointestinal Bleeding	2 (5)	0 (0)
Syncope	2 (5)	0 (0)
Electrolyte Disturbance	1 (2)	0 (0)
Headache	1 (2)	0 (0)
Post-Anaphylaxis	1 (2)	0 (0)
Total	**43 (100)**	**8 (12)**

Figure 1: Patient contact overview (n;%)

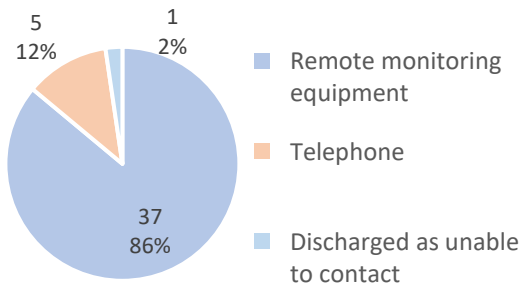
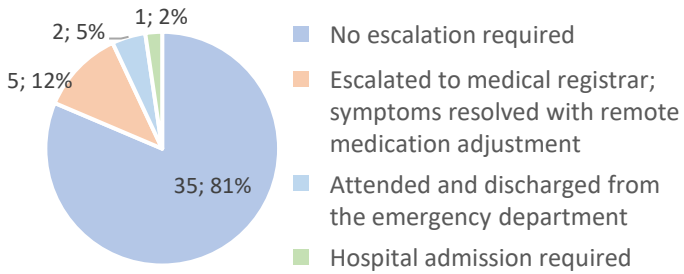


Figure 2: Patient escalation overview (n;%)



Conclusion: The acute medicine virtual ward provides a potentially feasible and safe method to reduce length of hospital admissions, with further patient recruitment required to validate and verify preliminary findings and to analyse scale of potential cost savings

Reference: 1) NHS England, Virtual wards operational framework [Internet]. England.nhs.uk. 2024. Available from: https://www.england.nhs.uk/long-read/virtual-wards-operational-framework/#benefits-of-virtual-wards

Improving Nil by Mouth (NBM) Patient Care

1. Reason for the QIP

NBM patients were not consistently assessed for hydration and nutrition. This caused:

- Dehydration
- Malnutrition
- Delayed recovery and discharge

2. Methodology

- Design: Retrospective audit & QIP
- Sample: 20 patient records (HIVE system)
- Collaboration: SALT & dietitian teams

3. What Data We Found

Standard	CR(%)
Reasons for NBM documented	95%
NBM start date and time documented	70%
NBM stop date and time documented	77.8%
Referral to SALT team within 24 hours	90%
IV fluids started if NBM > 6–12 hours	50%
Dietician referral within 24 hours	80%
Resumption of oral intake within 24 hours	55%
Daily assessment of dehydration	5%
Daily assessment of malnourishment	10%
Daily review of NBM status	47.4%
Patient taking sufficient fluids	65%

4. Impact on Patients Due to Poor Compliance

- Increased risk of malnutrition
- Inadequate hydration
- Prolonged hospital stays
- Missed opportunities for early recovery

5.Suggestions to Improve

- Document reason and timing for NBM clearly
- Review NBM status daily
- Start IV fluids if NBM >6–12 hrs
- Refer to Dietitian/SALT early
- Use escalation flow for decision-making
- Consider End-of-Life (EOL) care needs
- Monitor hydration and nutrition daily

Author: Rajbardhan Singh Rajpoot
Co Author: Dr.Abdurrahman Nagjar
Dr. Ibrahem Dokali

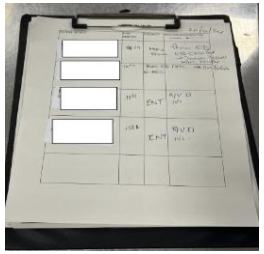
QI in Ambulatory Care at Barnet Hospital- Making AAU Hub Paperless

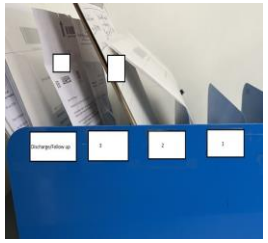
Ratnadeep Ghadge ST6 AIM, Lauren Farber(Consultant), , Chris Scott(Service Manager), Abdulmalik Muhammad(Admin)

Background-

AAU hub at Barnet was using a system of paper and folders for patient flow.

- Consultant documented plan on papers for nurses to follow
- Patients folder's were kept in slots to pick up as per their arrival time.





This increased workload for admin staff
And caused delay in patient care .
Leading to higher operational costs and reduced efficiency.

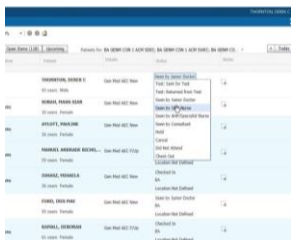
- Lack of uniform awareness of plan
- Risk to confidentiality
- Communication gap
- Excess paper consumption

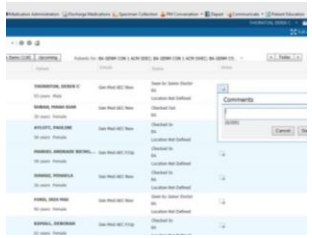
QIP undertaken from November 2024
With Aims and Objectives:

1. Making patients plan and reviews transparent
2. Avoiding risk to confidentiality
3. Improving communication between doctors and nurses
4. Reduce paper consumption to minimum

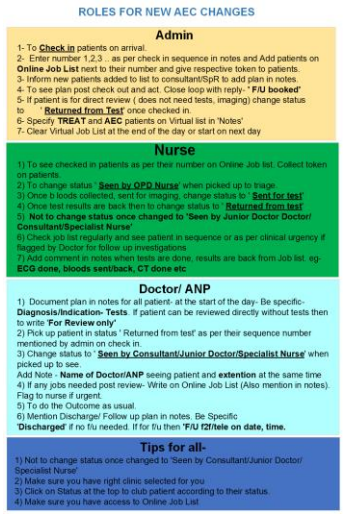
Methods:

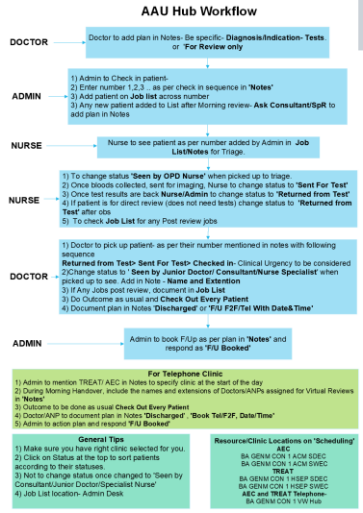
1. Cerner capability used to eliminate unnecessary paperwork and co-ordinate patient data in real time used.





2. Surveys pre and post rollout – Focused on ease of use, confidentiality and communication.
3. Teaching sessions- for Doctors, Nurses and Admins
4. Posters- shared electronically and physical copies kept in department for visual cues





2 trial runs –
1st on 6th March
2nd on 1st March

Final rollout from 22nd April 2024

OUTCOME:

Survey	Pre Rollout	Post Rollout
Participants	15 (10 Junior Doctors, 5 Nurses)	16 (11 Junior Doctors, 4 Nurses, 1 ANP)
Ease of Use	Easy to Use 13 Complicated 2	Easy to Use 13 Complicated 3
Accessible patien t plan	Easily 8 Not so easily 7	**Easily 14** Not so easily 2
Confidentiality at risk	Yes 7 No 4 Maybe 3	Yes 0 **No 16** Maybe 0
Communication between Nurses and doctors	Clear and timely 4 Clear but with delay 6 **Unclear 5**	**Clear and timely8** Clear but with delay 6 Unclear 2

Results obtained from Survey

1. Ease of use with online system was comparable with preexisting paper system and all grades of staff could easily adapt to new system with training and guidance.
2. Confidentiality risk: 50% → 0%
3. Communication between nurses and doctors became clearer and timely with less ambiguity.
4. Data accessibility and transparency: 46% → 87%

Results obtained from Data collection

1. Annual Paper consumption reduced by 95%

Paper Consumption: 40000 → 1500

2. Admin time saved upto 3 hrs/day
3. Clinic Check out: 65% → 95%

Reducing financial loss of nearly100000£/yr

4. Increased clinic capacity with reduced wait time by 50%

Carbon Footprint: 184k gram → 6.4k gram

Discussion:

Initial survey and feedback from nurses and doctors used to formulate plan for implementation of the new online systemin stepwise manner. Personalised teaching to admin staff, nurses and doctors was helpful to address individual queries and concerns.

All staff (nurses, admin staff and doctors) irrespective of their roleplayed a crucial part in the success of this project.

Use of Online system is very efficient in saving paper, manpower and improving patient care.

Ongoing troubleshooting of Cerner with IT support and further plan to remove negligible paper uses are kept in place.

AUTHORS

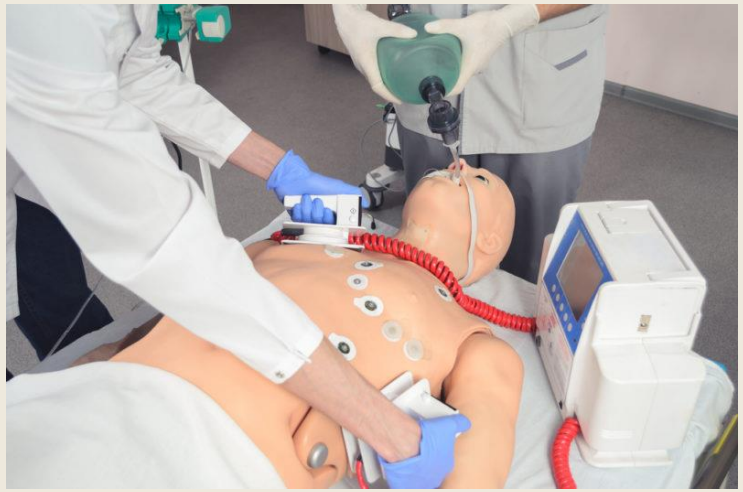
Dr Raunaq Chaudhry

Enhancing Communication in Medical Student Placements:
A Quality Improvement Project on the Use of WhatsApp for Cardiothoracic Placements

Seamless Communication for Enhanced Student Placements: The WhatsApp Advantage

AFFILIATIONS

Harefield Hospital (Part of Guy's and St Thomas' NHS Trust)
Imperial College School of Medicine
Brunel University (PG Cert)



01. The Challenge: Inefficient Communication in Medical Placements

- Effective communication is vital for medical student engagement and coordination during clinical placements.
- Traditional methods (e.g., email) often result in: Delayed responses, Reduced student engagement, Difficulties in receiving timely information
- This QI project evaluated WhatsApp as a solution for Year 6 medical students on 2-week cardiology placements at our tertiary hospital.

02. Objective

To improve response rates, student engagement, and placement satisfaction by comparing WhatsApp communication to traditional email.

Related literature

1.Lee CE, Chern HH, Azmir DA. *WhatsApp Use in a Higher Education Learning Environment.* Educ Sci. 2023;13:244.
2.Tamil Selvan K. *Systematic Review on Utilization of WhatsApp in Education.* Preprint (Version 1) Research Square. 2023 Nov 09.
3.Windram JD, Neal A, McMahon CJ. *The Role of WhatsApp in Medical Education.* BMC Med Educ. 2022;22(1):93–102.
4.Maudsley G, Taylor D, Allam O, et al. *A BEME Systematic Review.* Med Teach. 2019;41(2):125–40.
5.Sekandi JN, Murray K, Berryman C, et al. *Ethical, Legal, and Sociocultural Issues in Mobile Technologies.* Interact J Med Res. 2022;11(1):e35062.
6.Coleman E, O'Connor E. *The Role of WhatsApp in Medical Education.* BMC Med Educ. 2019;19(1).

03. Our Approach: A Two-Cycle QI Project (PDSA)

- **Cycle 1 (Baseline & Intervention):**

-Collected baseline data on email response times over 2 cohorts (1 month).
-Gathered student feedback on current communication effectiveness.
-Intervention: Introduced a WhatsApp group including all students and relevant staff.

- **Cycle 2 (Evaluation):**

-Collected data on response times using WhatsApp over 2 cohorts (1 month).
-Measured engagement levels via WhatsApp logs.
-Assessed placement satisfaction with student feedback surveys.

- **Analysis:**

-Quantitative: Compared response time improvements.
-Qualitative: Assessed student satisfaction from feedback.

04. Results/Findings

- The introduction of WhatsApp significantly improved communication efficiency and student engagement in this cardiology placement setting.
- The substantial reduction in response times (12 hours to <1 hour) highlights the practical benefits.
- High student preference (85%) for WhatsApp underscores its suitability for the dynamic nature of clinical placements.
- The findings are consistent with existing literature on the utility of mobile messaging in medical education .

Limitations:

•**Privacy & Professionalism concerns**: Although WhatsApp is encrypted, concerns around professional boundaries and data protection may still arise.
•**Variable staff engagement**: The success of the WhatsApp group relied partly on how actively staff participated, which may vary across departments.
•**Distractions and Lack of Formal Structure**

"This was one of the most organized placements I've had. Everything was communicated clearly."

"Everyone was very supportive. I felt there was always someone approachable."

"Very engaging placement"

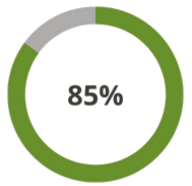
"High quality teaching with lots of opportuinities"

"Excellent teaching, friendly team. Staff in hospital were very welcoming to students and involved us wherever possible."

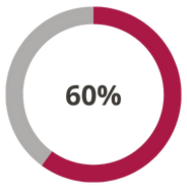
05. Analysis

Email Communication:
•Showed inconsistent and delayed responses.
•60% of students reported difficulties in receiving timely replies.
•Median email response time: 12 hours.

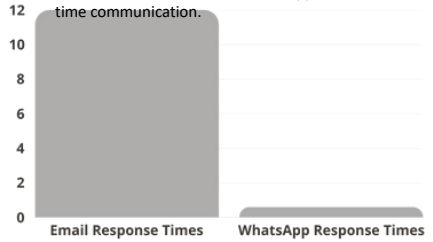
WhatsApp Communication:
•Achieved a 75% reduction in response times.
•Median WhatsApp response time improved to under 1 hour.
•85% of students favoured WhatsApp over email for real-time communication.



Student End of Placement Feedback: 85% favoring WhatsApp



Student End of Placement Feedback: 60% difficulties with email



Comparison of Median Response Times

06. Conclusion

- This QI project demonstrated that WhatsApp is a highly effective tool for enhancing communication efficiency and student engagement in cardiology placements.
- Key Outcome: Based on these positive results, the WhatsApp group has been permanently integrated into the induction module for future education fellows at HH.
- Future Directions:
  - Further refine the use of WhatsApp within this placement.
  - Explore expanding its application to other clinical placements and specialties.

Non-Invasive Ventilation at the Front Door – a Service Improvement

Rehab Haider, Lewis Pitchford, Anisha Bandyopadhyay, Omar Aldroubi, Raziya Sarwari, Indrajit Sau

Background

Commencing non-invasive ventilation (NIV) promptly at front door is crucial in patients presenting with **acute exacerbations of COPD complicated by acute hypercapnic respiratory failure**. It reduces mortality and shortens the length of hospital stay.[1-2]

British Thoracic Society Guidelines:

- **Door-to-mask time < 2 hours**
- **Arterial blood gases (ABGs) at 1 and 4 hours after initiation of NIV.**[3]

However, **national data showed poor compliance** with this guidance.[4]

Project aims:

- Assess the **timely initiation** of non-invasive ventilation
- Identify **factors leading to any delays**
- **Improve compliance through staff education.**

Methodology

Study type: Two-cycle Quality Improvement project
Data collection: Retrospective
Timescale: Cycle 1 (six months, n=20), Cycle 2 (three months, n=15)
Factors assessed: See *Figures 1-4*
Interventions:

- Education of ED and Medical Registrars
- Focused hands-on training
- Hot week consultant involvement in-hours
- Early involvement of Medical Registrar and Outreach teams

Results

Figure 1: Time from 'door to mask'

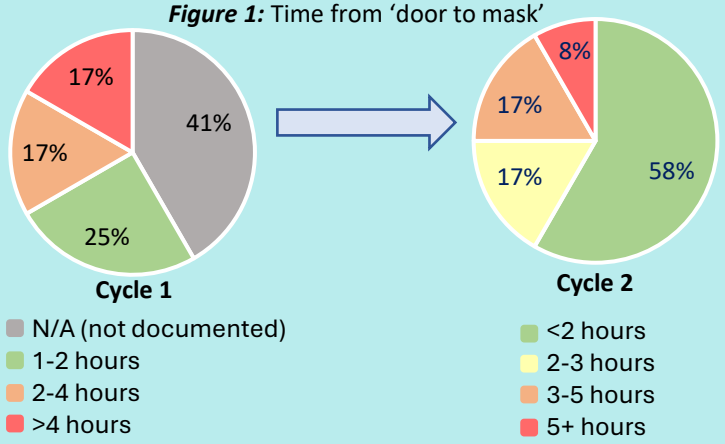


Figure 2: Reason for delay

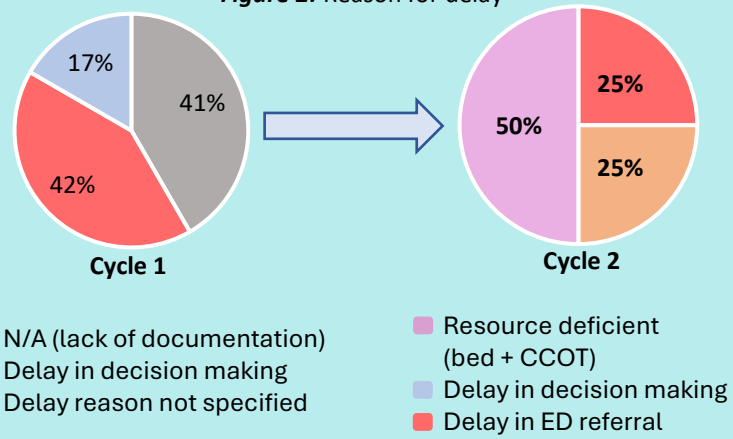


Figure 3: *ABG at 1 hour*

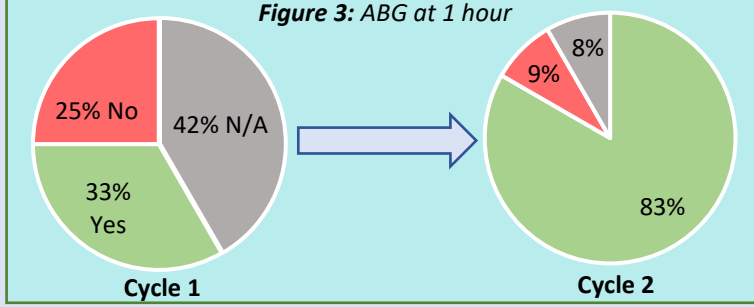
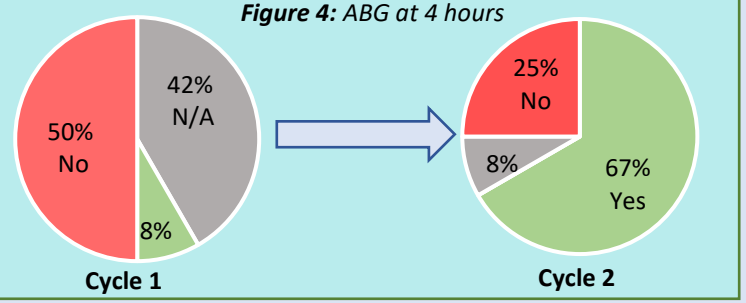


Figure 4: *ABG at 4 hours*



Conclusion

Early recognition and timely initiation of non-invasive ventilation are vital to improving patients' outcomes. However, medical registrars in other specialties do not receive any relevant training. Enhancing education and confidence with hands-on practical training of front-door clinicians is vital to service improvement and providing our patients with best possible care.

References: 1. Lightowler JV. Non-invasive positive pressure ventilation to treat respiratory failure resulting from exacerbations of chronic obstructive pulmonary disease: Cochrane systematic review and meta-analysis. BMJ [Internet]. 2003 Jan 25;326(7382):185–5. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC140272/ **2.** Plant P, Owen J, Elliott M. Early use of non-invasive ventilation for acute exacerbations of chronic obstructive pulmonary disease on general respiratory wards: a multicentre randomised controlled trial. The Lancet. 2000 Jun;355(9219):1931–5. **3.** Davies M, Allen M, Bentley A, Bourke SC, Creagh-Brown B, D'Oliveiro R, et al. British Thoracic Society Quality Standards for acute non-invasive ventilation in adults. BMJ Open Respiratory Research [Internet]. 2018 Apr [cited 2019 Dec 4];5(1):e000283. Available from: https://bmjopenrespres.bmj.com/content/5/1/e000283 **4.** National COPD Audit Programme COPD: Working together National clinical audit report [Internet]. 2018 [cited 2025 Mar 6]. Available from: https://www.hqip.org.uk/wp-content/uploads/2018/04/Chronic-Obstructive-Pulmonary-Disease-Secondary-care-clinical-audit-2017-Working-together.pdf

A rare differential for myalgia and fever associated with cervical and axillary lymphadenopathy presenting via same day emergency care (SDEC): A Case Report

By Robert Baxter, Corinne Russell and Katharine Benedict

Introduction

•Kikuchi-Fujimoto Disease (KFD) is a rare and under-recognised form of **necrotizing lymphadenitis**, with **very few reported cases in the UK**.
•KFD has a nonspecific presentation and many overlapping features with malignancy (lymphoma), viral and autoimmune conditions (SLE).
•Diagnosis is confirmed by histopathological examination via a fine needle aspiration, and **management remains primarily supportive** (with non-steroidal anti-inflammatory's and/or steroids).
•KFD **most commonly presents in young women of Asian descent**.
• Common signs and symptoms: fever, myalgia, night sweats, weight loss, hepato-splenomegaly, rash, lymphadenopathy.

Case report

•23 year-old Caucasian female with a past medical history of Hashimoto's thyroiditis (on levothyroxine).

9/4/24- Presented to Same Day Emergency Care after being referred in via GP due to abnormal blood tests. **Six-week history** of multiple systemic symptoms- myalgia, arthralgia, fevers, weight loss (5kg), macular rash on hands. Blood tests revealed **normocytic anaemia, leukopenia, abnormal LFTs, raised ESR. Differential diagnoses included: viral/autoimmune hepatitis, Still's disease, SLE, lymphoma.**

Initially treated with antibiotics and blood transfusions. Liaised with hepatology, rheumatology and haematology colleagues.

11/4/24- CT imaging revealed bulky lymphadenopathy in the axilla and further enlarged lymph nodes in the retroperitoneum **suspicious for lymphoma**, prompting plans for a transfer to a specialist haematology oncology inpatient bed.

12/04/25- A **lymph node biopsy performed**; initially reported some large histiocytic cells, reminiscent of Hodgkins lymphoma. Case referred to UCLH for further assessment.

22/04/25- Received UCLH supplementary report which confirms Kikuchi's lymphadenitis.

23/04/25- Discharged with NSAIDs and a tapering course of prednisolone following a 14-day inpatient admission.

Investigations

	May 2023	09/04/2024	23/04/25
White cell count (10^9/L) (4-11)	5.9	**2.6**	2.9
Haemoglobin (g/L) (115-160)	125	**95**	100
C Reactive protein (mg/l) (0-9)	-	4.8	2.1
ESR (mm/hour) (1-19)	-	**94**	-
Alkaline phosphatase (U/L) (309-130)	90	**353**	350
Alkaline transaminase (U/L) (10-49)	28	**381**	133
Lactate Dehydrogenase (U/L) (113-225)	-	1146	-
ANA Elisa (units) (0-0.9)	-	1.3	-

Further investigations	Results
Extensive respiratory viral screen	Negative
EBV IGG and IGM	Detected
CMV IGG and IGM	Not detected
Leptospira serology, Anti-HBC Centaur, Hepatitis C antibody, Hepatitis B surface antigen, HIV antigen/antibody	Negative
Immunoglobulins	Polyclonal rise, no monoclonal bands visible by electrophoresis
DNA antibody ELISA, ENA centromere, Complement C3 & C4, Rheumatoid factor	Within normal range

Biopsy findings

- Focal collections of histiocytic cells with prominent apoptosis.
- CD3 and CD5 show background T cells and CD40 demonstrated loose collections of B cells.
- Scattered CD30 positive cells are present but appearances are not those of Hodgkin disease.
- **CD11c and CD68 confirm collections of histiocytes**.
- **CD123 showed admixed plasmacytoid dendritic cells and there is an associated population of CD8 positive T cells**.
- MPO shows granular cytoplasmic positivity in many of the histiocytes present.

Discussion

- The aetiology of KFD remains debated. Hypotheses include **viral infections, an autoimmune process and a genetic predisposition**.
- An inflammatory cascade takes place, resulting in the activation of T lymphocytes and histiocytes causing tissue necrosis within lymph nodes.
- A significant diagnostic challenge in cases of KFD is the timely differentiation from lymphoma. The hallmark histopathological findings seen on biopsy are what distinguish KFD from lymphoma.
- The **relationship between KFD and SLE is complex** but there are many cases where SLE is reported to have presented before, at the same time, or after KFD.
- The notable aspects of this case include the large range of **non-specific presenting symptoms, a coexisting EBV infection, an underlying autoimmune disorder (Hashimoto's thyroiditis) and a diagnostic delay of 13 days with a long inpatient admission.**

Conclusion

- This case underscores the diagnostic challenges posed by KFD highlighting the importance of early histopathology for diagnosis confirmation (timely lymph node biopsy).
- A greater awareness amongst clinicians is required to facilitate early diagnosis. Early recognition of KFD will help minimise patient distress and prevent undue diagnostic delays and unnecessary investigations.
- An early multidisciplinary approach involving haematology, gastroenterology and rheumatology colleagues is crucial to aid the diagnostic process.

APPLICATION OF T1RHO MRI IN TAKOTSUBO CARDIOMYOPATHY

Robert Kelly, Liene Balode, David Gamble, James Ross, Dana Dawson

University of Aberdeen, Aberdeen Royal Infirmary

BACKGROUND

Takotsubo cardiomyopathy, also known as stress-induced cardiomyopathy or "broken heart syndrome," is characterized by transient left ventricular systolic dysfunction.

Typically presents with chest pain and ECG changes, but obstructive coronary artery disease is absent angiography.

Takotsubo cardiomyopathy has been shown to have a similar long-term mortality to myocardial infarction.

Cardiac MRI with Late Gadolinium Enhancement (LGE) is a useful imaging technique but requires contrast agent.

T1Rho (T1ρ) is a newer CMR imaging sequence, that requires no contrast agent. It detects cellular changes based on protons interacting with the macromolecular environment.

AIM

This study aims to assess the diagnostic potential of T1ρ CMR, in the acute phase of takotsubo cardiomyopathy.

MATERIALS AND METHODS

Takotsubo cardiomyopathy patients (n=51) and healthy subjects (n=16) underwent CMR, inclusive of native T1, T2 and T1ρ sequences. Baseline scans for the takotsubo cohort were done within three weeks of symptom onset. Follow-up scans were carried out on average nine weeks later after. The analysis of the T1ρ maps was performed using the Philips IntelliSpace Portal software. The regions of interest were selected manually by defining the endocardial and epicardial borders of the myocardium and using the American Heart Association 17-segment model.[3] Cardiac function and T1ρ maps of basal, mid, and apical segments were analysed.

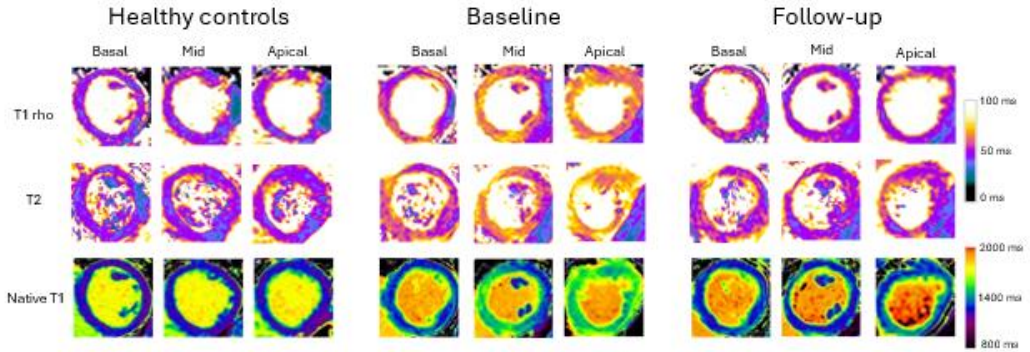


Figure 1: Quantitative T1ρ, T2, and native T1 maps of basal, mid and apical segments. Maps are acquired from a healthy volunteer and a patient with takotsubo, at baseline and follow-up

RESULTS

T1ρ relaxation times were obtained for fifty-one patients (96% female, mean age 69) diagnosed with takotsubo cardiomyopathy. Figure 2 shows a significant increase in T1ρ relaxation time in mid and apical segments for the takotsubo baseline cohort compared to takotsubo follow-up cohort (p=0.0006, p=0.0011, respectively). Figure 2 also shows a significant increase in relaxation time in mid and apical segments for the takotsubo baseline cohort compared to a control cohort (p<0.0001, p<0.0001, respectively). Basal segments showed non-significant changes in T1ρ between the baseline and follow-up cohort (p=0.2780) and between the baseline and healthy control cohort (p=0.5703).

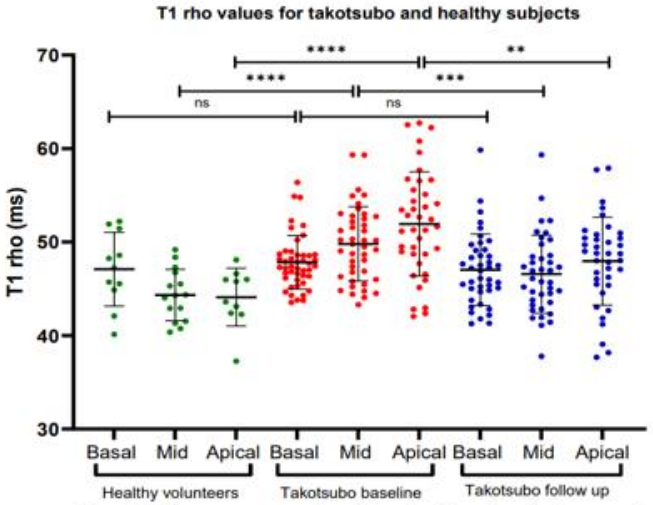


Figure 2: T1ρ measurements of basal, mid and apical segments from takotsubo and healthy volunteer cohorts

CONCLUSION

Takotsubo cardiomyopathy patients demonstrated significantly increased T1ρ values in segments with myocardial oedema. Native T1 and T2 mapping were shown to be more sensitive at detecting the oedema, most notably being able to detect oedema in the basal segment. However, our findings still validate T1ρ as a diagnostic tool, for the acute phase of takotsubo cardiomyopathy. We endeavour to carry out further research, exploring T1ρ values in the long-term follow up of takotsubo patients.

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An Enigma of Hypocalcaemia: Unveiling the Interaction Between Denosumab and Intravenous Iron when co-administered

Authors: Dr Sabyasachi Roy, Dr Anand Velusamy, Dr Muhammed Russal Latheef,
Institution: Guy's and St Thomas' NHS Foundation Trust, London, UK

Background

•**Denosumab** is an anti-RANKL antibody, inhibiting osteoclast formation, thus reducing bone resorption and potentially causing hypocalcaemia.
•**IV iron** (especially ferric carboxymaltose) exacerbates hypocalcaemia via increased FGF23, causing phosphate depletion and impaired calcitriol synthesis.

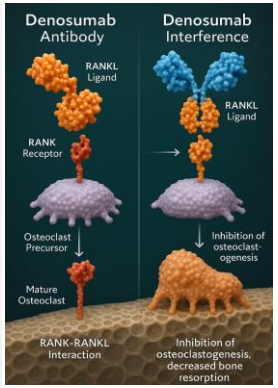


Fig:1

Case Presentation

•An **84-year-old female** with steroid-induced osteoporosis and polymyalgia rheumatica (PMR) admitted with acute heart failure managed with IV diuretics.

•Clinical symptoms included progressive fatigue, muscle cramps, and confusion.

•Severe biochemical abnormalities:

- **Hypocalcaemia:** Adjusted calcium 1.78 mmol/L (Ref: 2.2–2.6 mmol/L)
- **Hypophosphataemia:** 0.36 mmol/L (Ref: 0.80–1.50 mmol/L)
- **Elevated PTH:** 418 ng/L (Ref: 15–68 ng/L)
- **Vitamin D insufficiency:** 52 nmol/L (Ref: 50–220 nmol/L)
- **CKD stage 3a**

•Recent history included Denosumab administration (60 mg s/c, 3.5 months prior), previous bisphosphonate therapy, and frequent IV iron infusions coinciding closely with denosumab use.

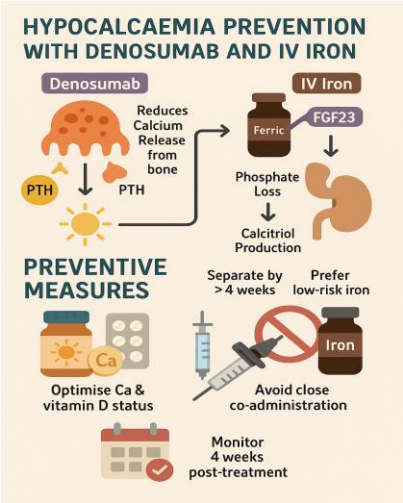


Fig:2

Risk Factors and Pathophysiology
•Risk increased by concurrent CKD, low vitamin D, high-dose denosumab, and IV iron therapy administered within 1–4 weeks of denosumab.
•IV iron elevates FGF23, exacerbating phosphate loss and impairing vitamin D-mediated calcium correction mechanisms.
•Loop diuretics, phosphate binders, and acute illness further compound risks.

Table:1 Incidence

Condition	Incidence/Prevalence	Source
Normocalcemia or Mild Effects	92.7%	PMC Study on Denosumab (1096 injections)
Denosumab-Induced Hypocalcemia	5.3%	Same as above
Severe Hypocalcemia	1%	Same as above
IV Iron-Induced Hypophosphatemia	Variable (Higher with FCM)	SpringerOpen, PubMed Meta-Analyses
Severe Hypocalcemia + Hypophosphatemia (Co-administration)	Rare (Case Reports)	PMC Case Reports

Management
•Immediate IV calcium infusion, transitioning to oral calcium supplementation.
•Phosphate replacement and magnesium monitoring.
•High-dose vitamin D therapy (cholecalciferol 40,000 IU daily for 7 days).
•Regular biochemical monitoring leading to gradual electrolyte normalization.

Preventive Strategies
•Ensure adequate calcium and vitamin D status before initiating denosumab (target vitamin D >100 nmol/L).
•Avoid co-administration of denosumab and IV iron within close proximity (>4 weeks apart recommended).
•Consider using iron sucrose instead of higher-risk ferric carboxymaltose.
•Close biochemical monitoring of calcium, phosphate, and magnesium levels post-treatment (minimum 4 weeks).

Conclusion
Clinicians should be aware of the significant interaction between denosumab and IV iron, which can lead to severe and persistent hypocalcaemia. Appropriate patient selection, biochemical optimisation, and timing of infusions are critical for preventing this potentially serious complication.

References *(selected key references)*
•Anastasilakis AD, et al. *Ther Adv Musculoskelet Dis.* 2019.
•Cosman F, et al. *N Engl J Med.* 2016.
•Makras P, et al. *J Clin Endocrinol Metab.* 2013.
•Barros X, et al. *Rev Bras Reumatol Engl Ed.* 2016.

Imperial College Healthcare NHS
NHS Trust

A Quality Improvement Project on O_2 Prescription in Acute medicine, Charing Cross Hospital

Saima Bibi[1], Charlotte Skinner[2], Razan Algazlan[3]
[1]Medical Registrar, Imperial College Healthcare NHS Trust, [2]Speciality Registrar, Imperial College Healthcare NHS Trust, [3]Foundation Doctor 1, Imperial College Healthcare NHS Trust

1 Aims

The aim of this QIP was to improve the proportion of hospital patients in acute medicine with a valid oxygen prescription over a period of 4 months to 50%, in line with the British Thoracic Society (BTS) guidelines.

2. Objectives

- The goal is to increase the number of patients who receive a correct oxygen prescription.
- The goal is to identify interventions that can be sustained over time.
- The goal is to increase awareness of oxygen as a drug and the importance of appropriate oxygen prescription

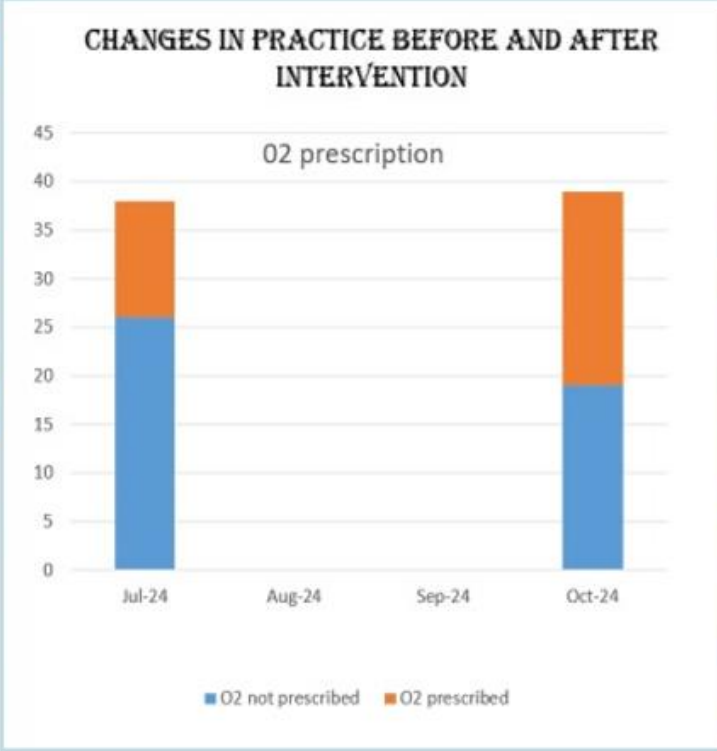
3. Methodology

Data collection was done retrospectively from Cerner. First cycle of the audit was done with the data of all admitted patients between 03-09 July 2024. Intervention was implemented throughout the months of August and September 2024 & re-audit was conducted on 22-28 October 2024.

4. Results of Cycle 1

38 out of 145 patients admitted in Acute Medicine between 03-09 July 2024 required O_2.

32% (12 out of 38) patients who required O_2 were prescribed within 48 hours.



5. Intervention

Results of the first cycle was presented in a poster. Posters were circulated in emergency dept area, acute medicine wards and other medical wards.

6. Results of Cycle 2

39 out of 146 patients admitted in Acute Medicine between 22-28 October 2024 required O_2.

51% (20 out of 39) patients who required O_2 were prescribed within 48 hours.

7. Conclusion

Following poster circulation and campaign to prescribe O_2, **59% (51% from 32%)** Quality improvement was noted over a period of 4 months.

There is still room of improvement.

Results of the second cycle and improvement found will encourage the doctors in acute medicine to prescribe O_2 as per Trust guidelines.

Missed Diagnostic Insights: Rare case presentation of Undiagnosed Type 2 Diabetes Presenting as Diabetic Ketoacidosis with Hypertriglyceridemia-Induced Acute Pancreatitis in a Young Morbidly Obese Adult

Veluchamy Rathakrishnan, Sangeeth Priyadarshan; Kochhar, Rupinder Singh
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INTRODUCTION

- Diabetic ketoacidosis (DKA) as an initial presentation of undiagnosed Type 2 diabetes (T2D) is uncommon, particularly in younger adults.
- The co-occurrence of DKA, severe hypertriglyceridemia (HyperTG), acute pancreatitis (AP), and morbid obesity is exceedingly rare, complex and carries significant morbidity and mortality.
- Triglyceride levels >11.3 mmol/L increase the risk of acute pancreatitis. However, TG levels are omitted in ~70% of pancreatitis patients.
- This case highlights the diagnostic and management challenges posed by the complex presentation of metabolic disease in young adults.

CASE PRESENTATION

- 27-year-old male, BMI 40 kg/m².
- Presented with acute onset abdominal pain, vomiting, polyuria, lethargy.
- Past medical history: asthma and depression (on citalopram); family and social history unremarkable.
- Lab findings :Hyperglycemia, Metabolic acidosis, High Amylase and elevated HbA1c (Table)
- Abdominal imaging: acute pancreatitis with no gallstones.
- **Initial diagnosis: DKA and pancreatitis.**
- Treatment: IV fluids, insulin infusion, and antibiotics.
- Given the presentation with DKA at young age, type 1 diabetes was initially presumed and discharged on insulin;
- **Autoantibodies (GAD, IA2, ZnT8): negative.**
- Clinical features were consistent with insulin resistance leading to reclassification as type 2 diabetes.

RESULTS

Investigations				
Parameter	**Reference Range**	**Baseline**	**Discharge**	**6-Month Follow up**
General Parameters				
BMI	18.5-24.9 kg/m²	40 kg/m²	-	38 kg/m²
Metabolic Parameters				
Sodium	135-145 mmol/L	128 mmol/L	136 mmol/L	137 mmol/L
Potassium	3.5-5.0 mmol/L	4.8 mmol/L	3.0 mmol/L	4.2 mmol/L
Creatinine	60-110 µmol/L	79 µmol/L	39 µmol/L	43 µmol/L
Blood Glucose	3.9-5.8 mmol/L	22.6 mmol/L	9.6-12.3 mmol/L	-
HbA1c	<48 mmol/mol	116 mmol/mol	-	73 mmol/mol
Inflammatory & Pancreatic Markers				
CRP	<10 mg/L	273 mg/L	160 mg/L	-
Amylase	40-140 U/L	309 U/L	34 U/L	-
Lipid Profile				
Total Cholesterol	<5.2 mmol/L	15.8 mmol/L	-	6.2 mmol/L
HDL	>1.0 mmol/L	0.61 mmol/L	-	0.69 mmol/L
Non-HDL	<3.8 mmol/L	15.2 mmol/L	-	5.5 mmol/L
Triglycerides	<1.7 mmol/L	41.5 mmol/L	-	15.0 mmol/L
Cholesterol/HDL Ratio	<4.0	25.9	-	9.0
Hematology				
Hemoglobin	130-170 g/L	185 g/L	141 g/L	-
WBC	4.0-11.0 × 10⁹/L	17.5 × 10⁹/L	11.9 × 10⁹/L	-
Neutrophils	2.0-7.5 × 10⁹/L	15.4 × 10⁹/L	8.8 × 10⁹/L	-
Acid-Base Status				
pH	7.35-7.45	7.24	7.39	-
Bicarbonate	22-26 mmol/L	11 mmol/L	-	-
Base Excess	-2 to +2 mmol/L	-14 mmol/L	-	-
Lactate	<2.0 mmol/L	2.0 mmol/L	-	-
Immunology				
Anti-GAD Antibodies	<1.0	Negative	-	-
ZnT8	<2.5	Negative	-	-
IA-2 Antibodies	<10	Negative	-	-
Islet Cell Antibodies	-	Negative	-	-

DISCUSSION

Critical Oversights:

- Severe HyperTG (41.5 mmol/L, 4 times the pancreatitis risk threshold) was not identified or adequately addressed until a routine outpatient review **six months post-discharge**.

Missed Opportunities:

- Delayed Diagnosis resulted in missed management opportunities of Dietary fat restriction, lipid specialist referral and lipid lowering therapy

Diagnosis of HyperTG-induced pancreatitis was made retrospectively

- Repeat TG levels showed TG levels (**15.0 mmol/L**)
- Suggesting that the critical oversights led the patient to remain being **high risk of developing potentially fatal pancreatitis.**

CONCLUSION

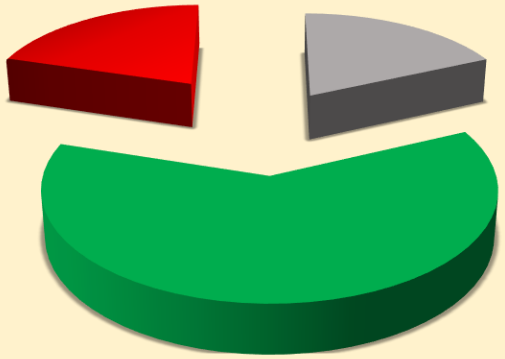
- This case highlights the complexity of metabolic emergencies in young adults.
- A systematic approach is essential: routine triglyceride testing in all pancreatitis cases with acute pancreatitis, aggressive inpatient severe HyperTG management, and prompt multidisciplinary follow-up are crucial to prevent recurrence and reduce mortality

Incidence of underlying CAD in chest pain patients with intermediate risk for ACS - a retrospective analysis:

Coutinho, Abigail; Williams, Faith Oluwaseun; Ogunbowale, Ibukunoluwa; Elmetwali, Mohamed Azmi Kasmi; Malik, Abdul Basit; Castaneda, Francis; Rojo, Marifel; Roy, Sayak; Singh, Pradeep ; Ikuesan, Taiwo; Vuyyuru, Ramabala

Coronary artery disease (CAD) is a leading cause of mortality throughout the world if not detected early and treated properly. When patients present with chest pain, finding the right candidate for further cardiology workup is a major challenge.
Patients who met the eligibility criteria, had **normal troponin**, a history suggestive of **cardiac-sounding chest pain**, and had risk factors were referred to the Telephone Chest Pain Clinic for further rapid outpatient evaluation.

Study in summary



Total referrals from ED and SDEC – 135 (partly extracted from the main data sheet)

- **DNA (N-18)**
- **Accepted for work up (N-61)**
- **Positive findings (N-20)**

Conclusion: Our study showed **a significant burden of underlying CAD (32.78%) in patients with normal troponin, and intermediate risk**.
We need robust highly specific cardiac markers in the future, and new strategies to make sure that we do not miss significant CAD.

Baseline characters of continuous variables	
Parameter	**Mean with 95% CI**
Age (years)	*60.65 ±3.03*
Value of first troponin (ng/L)	*9.8361 ±1.806*
Total cholesterol (mmol/L)	*4.53 ± 0.35*
Low density lipoprotein (mmol/L)	*2.43 ± 0.29*
High density lipoprotein (mmol/L)	*1.56 ± 0.22*
Triglyceride (mmol/L)	*1.86 ± 0.35*
Systolic blood pressure (mmHg)	*135 ± 5.99*
Diastolic blood pressure (mmHg)	*83 ± 3.55*

Baseline characters of categorical variables		
Parameters		**Percentage (%) of occurrence**
History of smoking		*39.65%* (23/58) - data not available for 3 out of 61 patients
History of diabetes mellitus		*19.29%* (11/57) - data not available for 4 out of 61 patients
History of peripheral arterial disease		*3.85%* (2/52) - data not available for 9 out of 61 patients
Family history of ischemic heart disease <65 years		*42.85%* (24/56) - data not available for 5 out of 61 patients
Estimated glomerular filtration rate (ml/min/1.73m²)	<15	*1.64% (1/61)*
	45 - 59	*6.56% (4/61)*
	60 – 89	*54.1% (33/61)*
	>90	*37.7% (23/61)*
HbA1c (%)	6.6 – 7	*72.73% (8/11)*
	7.1 – 8	*18.18% (2/11)*
	>10	*9.1% (1/11)*
Male population		*50.82% (31/61)*
Female population		*49.18% (30/61)*

Intermediate risk factors used are: ***1)*** 0 and 3 hours troponin either </= 14 ng/L, or difference less than 10 ng/L; ***2)*** *ECG* – longstanding LBBB, non-specific ST-T changes, flattened T-waves; ***3)*** chest pain radiating to arms, neck or jaw; ***4)*** > 2 risk factors – increased cholesterol or on treatment, increased blood pressure or on treatment, family history of CAD, diabetes mellitus with atypical chest symptoms, peripheral vascular disease.

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Princess Royal University Hospital, King's College Hospital NHS Foundation Trust

Introducing an abdominal paracentesis procedure box in the acute gastroenterology ward environment: a quality improvement and audit project

Dr Sean Gill, Dr Fred Fyles, Dr Ashley Coope, Dr Margaret Corrigan

NHS University Hospitals of Liverpool Group

Introduction

Ascites is the most common complication of liver cirrhosis. (1)

Diagnostic and therapeutic paracentesis is an important step in the investigation and management in these patients.

Delays in performing paracentesis can lead to delayed symptomatic relief, delayed diagnosis and an increased length of stay.

Local Safety Standards for Invasive Procedures (LocSSIPs) have arisen from a framework document produced by NHS England's Patient Safety Domain to promote safe practice for invasive procedures. (2)

Objectives

- Evaluate the utilization LocSSIP documentation tools
- Identify education and training needs among medical and nursing staff.
- Improve training opportunities for rotational resident doctors

Pre-Intervention Methods

Retrospective analysis and audit of electronic patient records to evaluate trends in large-volume paracentesis (LVP) performed during acute admissions in January 2024.

Time and motion study and qualitative survey of resident doctors in the gastroenterology department to identify barriers to timely paracentesis.

Pre-Intervention Results

14 LVP performed. 70% in the afternoon. 2 delays in discharge identified.

Documentation adequately completed in 73% of pre-insertion LocSSIPs versus 27% of post-insertion.

Survey revealed multiple barriers to timely paracentesis, including difficulties in locating equipment and unfamiliarity with procedural steps.

Time and motion study showed an average of **14 minutes 57 seconds to collect equipment.**

Intervention

Ascitic drain procedure box and checklist implemented on in-patient wards.

Education delivered at local induction to all rotational doctors and practical training programme initiated.

LocSSIP education delivered at quality assurance meetings for medical and nursing staff.

Post-Intervention Results

Time and motion study with different resident doctors showed it now took an average time of **2 minutes 9 seconds to collect equipment.**

100% of survey respondents felt more confident finding equipment and that drains were able to be inserted earlier in the day.

Operators praised the logical layout and standardised process, and their feedback led to the incorporation of cytology forms in the drain box for ease of access.

Time to collect equipment decreased by 85.6%

Conclusion

The introduction of a paracentesis procedure box significantly reduced operator time pre-procedure, improved procedural efficiency and improved rotational resident doctor satisfaction.

Areas for improvement highlighted were the further embedment of LocSSIP documentation tools.

We recommend the adoption of a procedure box by similar units to standardise invasive procedure insertion and documentation for clinical governance and quality assurance purposes.

References; 1. Chiejina et al, Ascites. 2. Faculty of Intensive Care Medicine, LocSSIP

Utility of cardiac biomarkers (NT-proBNP and Hs-Troponin-T) in predicting mortality, cardiovascular and renal outcomes in patients with chronic kidney disease

Senthil K Vasan, Rajkumar Chinnadurai, Sharmilee Rengarajan, Darren Green, Helen Alderson, Nicolas Vuilleumier, Philip A Kalra

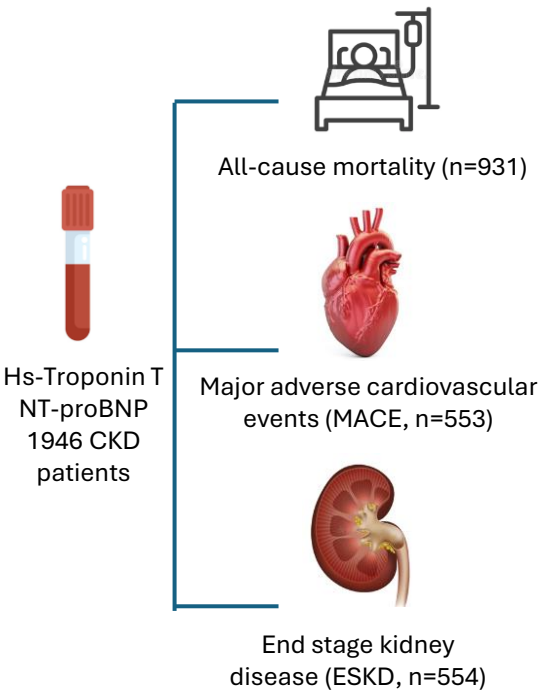
Donal O'Donoghue Renal Research Centre

University of Salford MANCHESTER

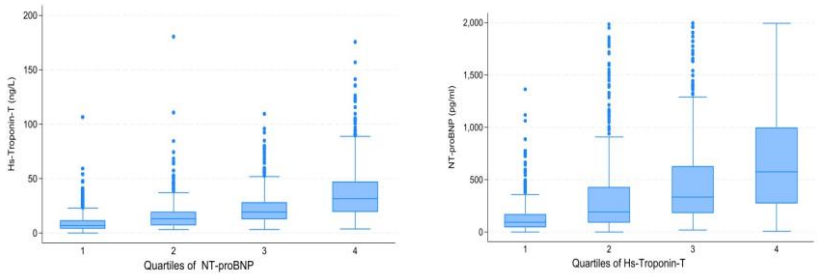
NHS Salford Care Organisation Northern Care Alliance NHS Foundation Trust

Background: Chronic kidney disease (CKD) is associated with high risk of cardiovascular disease (CVD) including mortality, partly because of shared common traditional risk factors such diabetes, hypertension and obesity, and due to inherent traits consequent upon CKD. Due to these links between CKD and CVD aetiology, it may be intuitive to use CVD biomarkers in CKD risk prediction
and vice versa

Methods

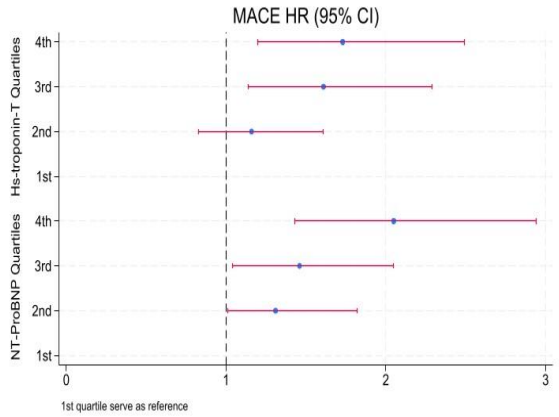


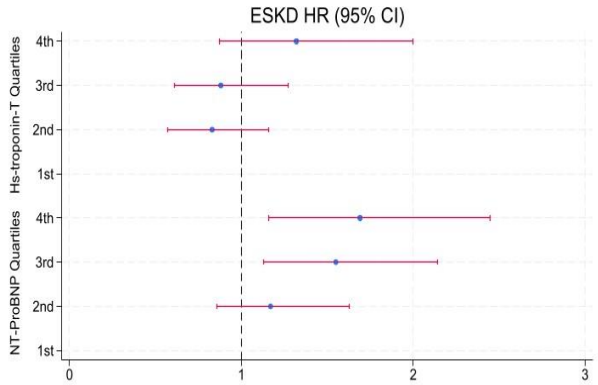
Baseline quartiles of NT-proBNP and Hs-cTnT

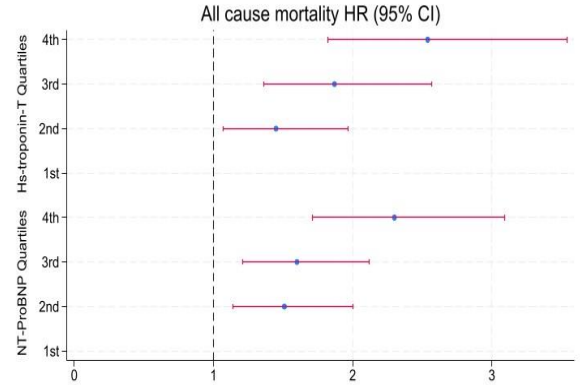


Discriminatory ability of standard cut-offs of NT-proBNP and Hs-cTnT eGFR and UACR with all cause mortality, MACE and ESKD

	All-cause mortality Harrel's C-Statistic (95% CI)	MACE Harrel's C-Statistic (95% CI)	ESKD Harrel's C-Statistic (95% CI)
NT-proBNP + Hs-cTnT + FRS	0.713 (0.695, 0.731)	0.697 (0.673, 0.721)	0.680 (0.658, 0.703)
eGFR + UACR + Hs-cTnT	0.682 (0.661, 0.696)	0.650 (0.624, 0.673)	0.791 (0.774, 0.808)
eGFR + UACR + FRS + Hs-cTnT + NT-proBNP	0.705 (0.692, 0.743)	0.661 (0.647, 0.682)	0.892 (0.776, 0.919)







Associations of NT-proBNP, hs-cTnT, eGFR and uACR in predicting risk of death, ESKD and MACE

*	ESKD	MACE	All cause mortality	ESKD	MACE	All cause mortality
	sHR (95% CI)	sHR (95% CI)	HR (95% CI)	sHR (95% CI)	sHR (95% CI)	HR (95% CI)
	eGFR			uACR		
Q1	Ref.	Ref.	Ref	Ref.	Ref.	Ref.
Q2	1.81 (0.78, 4.18)	1.35 (0.76, 2.37)	1.26 (0.77, 2.06)	2.44 (1.62, 3.67)*	1.16 (0.89, 1.50)	1.14 (0.93, 1.40)
Q3	2.90 (1.31, 6.42)*	1.88 (1.10, 3.22)*	1.90 (1.20, 3.00)	4.87 (3.31, 7.15)*	1.33 (1.03, 1.72)	1.69 (1.38, 2.06)
Q4	11.23 (5.17, 24.39)*	1.76 (1.03, 3.01)*	2.78 (1.77, 4.36)	8.38 (5.76, 12.17)*	1.31 (1.00, 1.72)	1.68 (1.37, 2.07)

In CKD stage 3-5, higher NT-proBNP and Hs-cTnT quartiles are associated with are significant risk for mortality and MACE, while eGFR and uACR was associated with 2-4 fold increased risk of ESKD or renal replacement therapy

Conclusions: In NDD-CKD patients, NT-proBNP and Hs-cTnT are predictors of all-cause mortality, MACE, and ESKD, independently of RBMs. Combining NT-proBNP and Hs-cTnT with RBMs outperformed risk prediction for ESKD compared to RBMs used alone or in combination.

Assessing Adherence to Standard Guidelines in Acute Kidney Injury (AKI) Management: A Compliance Audit

Authors: Rahman, Shadman Sakib[1]; Nazneen, Kazi Subrina[1]; Kamal, Sumaiya[1]; Rezwanuzzaman, SM[1]

Affiliation[1]: Medway Maritime Hospital, Gillingham, Kent, UK

Background

- Acute kidney injury (AKI) is a significant global health concern, associated with high morbidity, mortality, and substantial healthcare costs. [1]
- Although many etiologies of AKI can lead to severe outcomes, some forms are reversible, and a thorough understanding of the underlying pathology is crucial for guiding treatment strategies and prognosis.
- This audit evaluated adherence to national (NICE NG148) and local trust guidelines for AKI management, aiming to identify strengths, and critical deficits, and propose targeted interventions for enhanced clinical outcomes. [2][3]

NICE NG148

Methodology

- Study Design: Retrospective
- Data Collection Period: August 1–October 31, 2024
- Sample Size: 154 (n) patients
- Data Sources: Electronic Patient Records (EPR), Sectra PACS, iLab

Audit Questionnaire

Positive Highlights

AKI diagnosis was properly documented for most patients (85%)

More than 3/4th (81%) of patients received IV fluid when indicated.

Renal function was regularly monitored in approximately 9 out of 10 patients (86%)

Medication review was completed for over three-quarters (73%) of patients.

Areas for Improvement

Aetiology of AKI should be addressed and treated accordingly.

Mandatory maintenance of intake-output (IO) or fluid balance chart

Refer to Nephrology for expert review when indicated

Urine analysis should be performed routinely

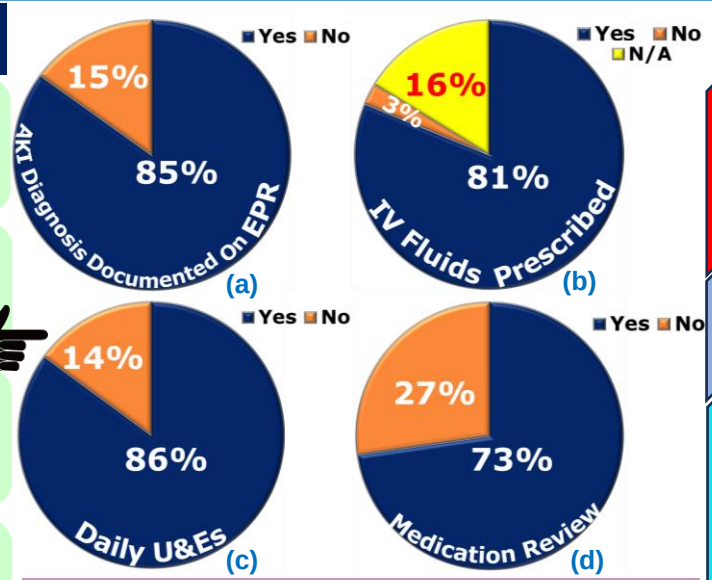


Figure-1: Positive highlights from the Audit

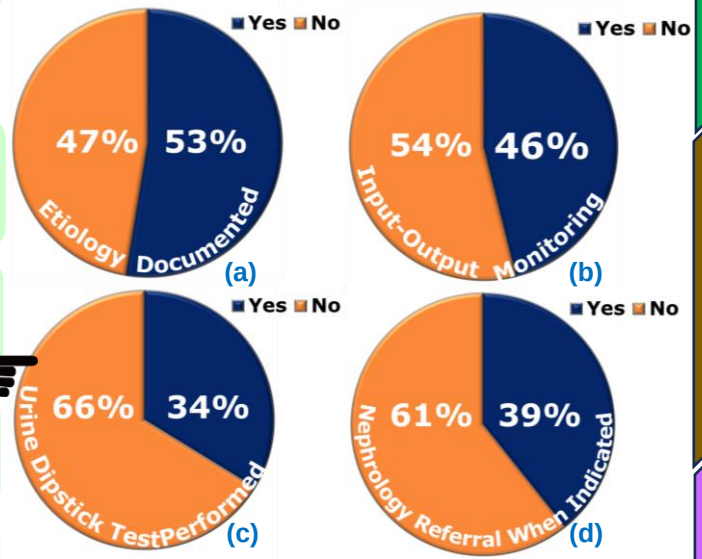
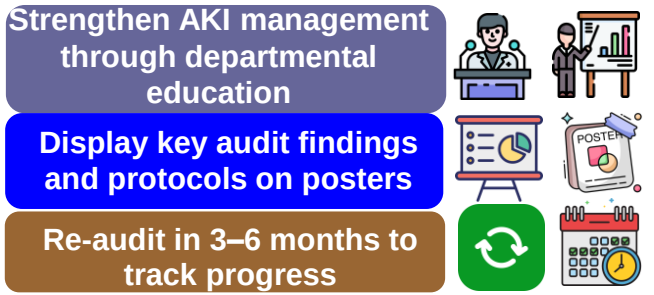


Figure-2: Areas requiring further emphasis

Action Plan Summary



Conclusion

- Key strengths included timely senior reviews, appropriate IV fluid administration, and consistent renal function monitoring.
- AKI management adherence needs improvement, particularly in documentation of aetiology, and input-output charting
- Standardised documentation, protocol compliance, training, reinforcing clinical reminders, and re-audit are crucial for continuous quality improvement

References

[1] Zuk A, Bonventre JV. Acute kidney injury. Annual review of medicine. 2016 Jan 14;67(1):293-307

[2] NICE guideline [NG148]: Acute kidney injury: prevention, detection and management. https://www.nice.org.uk/guidance/ng148

[3] Medway NHS Foundation Trust. Trust guideline: EMAC-POL-1. Version 4.0.

Imperial College Healthcare NHS
NHS Trust

Knowledge, Attitude, and Practices (KAP) Regarding Dengue Infection: A Community-Based Study in Rural Cox's Bazar

Saima Bibi[1], Al Asmaul Husna[2], Shazia Rokony[3], Aung Sain Thowai[4], Shahra Tanjim Moulee[5], Afsana Jahan[6], Aysha Khatun[7], Moloy Sarkar[8], Ely Prue[9], Tahsin Tasneem Tabassum[10], Mohammad Nurunnabi[11]

[1]Imperial College Healthcare NHS Trust, UK, [2]Department of Community Medicine and Public Health, PMC, BD, [3]Department of Community Medicine and Public Health, NBMC, BD, [4]Cox's Bazar Sadar Hospital, BD, [5]Management in Information System, IAU, USA, [6,7]Department of Microbiology, PMC, BD, [8]Acute Medicine Department, Royal Cornwall Hospital, UK, [9]Department of Community Medicine and Public Health, CBMC, Bangladesh (BD), [10]Public Health Sciences, University of York, UK, [11]Department of Community Medicine and Public Health, SWMC, BD

1. Context

The aim of this community-based cross-sectional study to assess the levels of knowledge, attitude, and practice (KAP) towards dengue infection (DI) among 484 adult rural people in Cox's Bazar, Bangladesh.

2. Problem

Dengue Infection (DI) poses a serious threat to public health, especially in tropical and subtropical areas where dengue virus vector, the Aedes aegypti mosquito, is abundant.

Dengue can cause severe conditions such as haemorrhagic fever, dengue shock syndrome, Respiratory symptoms, gastrointestinal disturbance, low platelet count and deranged liver function tests.

Bangladesh is severely affected by DI, largely due tropical climate, dense population, unplanned urbanization, inadequate vector control, and low-literacy rates.

Bangladesh experienced its major dengue outbreak in 2023, with a total of 1,705 dengue-related deaths and 321,179 cases (the highest since its first outbreak in 2000) followed by the second-largest outbreak in 2024, with 575 deaths and 101,211 cases.

3. Intervention

Despite ongoing advancements in dengue research globally, ensuring effective treatment and preventive measures remains challenging in Bangladesh. Therefore, this study was conducted to assess the KAP measures regarding DI among rural residents of Cox's Bazar which would be a reference for other areas in Bangladesh.

4. Strategy for change

From July-October 2023, a pretested, face-to-face semi-structured questionnaire was utilized to interview 484 adults aged 18 years and older to assess their KAP regarding DI.

Medical students from Cox's Bazar Medical College (CBMC), Bangladesh were involved to gather answers on questionnaire included sections on the participants' socio-demographic profiles and KAP practices.

5. Methodology

Data was entered, curated, and analysed using IBM SPSS Version 23(New York). Descriptive statistics were expressed as frequency (percentage) and mean (±standard deviation, or SD) for categorical and continuous data, respectively.

The chi-square test and Fisher exact test were used to assess the significance of associations between two nominal variables. Participant's levels of knowledge, attitude and practice were assessed by 26, 9 and 10 questions respectively [incorrect answer: '0' and correct answer: '1'.]

6. Results

The results showed that the participants mean knowledge score was 14.9 (SD: 4.1; range 0-26), indicating that the majority (84.3%) possessed an average level of knowledge about DI.

Regarding attitudes, the mean score was 6.8(SD: 1.3; range 0-9), with a significant portion (63.0%) demonstrating a good attitude towards DI.

In terms of practices, the mean score was 7.1(SD: 1.7; range 0-10), with the majority (57.2%) exhibiting average practices in preventing DI.

7. Lessons learned

The main challenge has been identified that despite having proper knowledge on DI, people are reluctant to adopt necessary practices to prevent DI.

Through the interviews, while answering the questions asked the participants realized the importance of having proper KAP towards DI.

This highlights the urgent need for expanded educational outreach to raise public awareness about dengue and promote preventive practices in rural communities of Bangladesh.

Infectious Pulmonary Tuberculosis patients who inadvertently had Spirometry in a Tertiary Care Pulmonary service

Veluchamy Rathakrishnan, Sangeeth Priyadarshan [1], Karthikeyan, Bharath [2], B, Sai Vijaysree [2], Isaac, Barney T.J [2], Thangakunam, Balamugesh [2], Devasahayam Jesudas, Christopher [2]
[1]Northern Care alliance - Salford royal hospital ; [2]Christian Medical College, Vellore ;

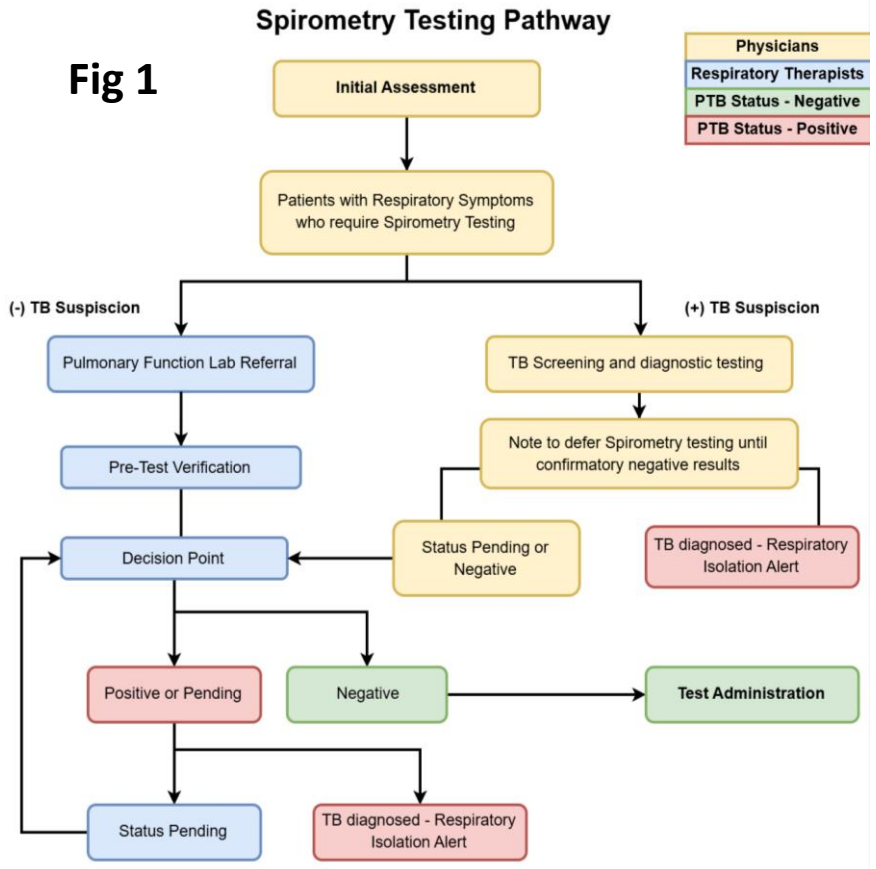
INTRODUCTION

- Spirometry is a routinely used test to assess pulmonary function.
- Infectious pulmonary tuberculosis (PTB) patients creates droplets and aerosols that could potentially expose healthcare workers and other patients to TB, if done unknowingly.
- Following effective screening protocols in high TB burden countries like India, where an estimated one-third of the population has TB infection, becomes imperative
- Our spirometry testing pathway integrates TB screening within a coordinated physician-therapist approach (Fig.1).
- This study aims to evaluate the efficiency of these screening protocols in preventing infectious TB patients from undergoing spirometry in a tertiary care pulmonary service.

METHODS

- Retrospective study
- Screening all patients referred to the pulmonary function lab for spirometry testing from January 2022 to February 2023 (14 months) **~ 16,000 patients**
- To identify potentially infective TB patients within a window period of one month before or after the spirometry.
- Data collection was done from the pulmonary function lab database, and the results of TB tests were collected from the institution's clinical workstation.

Fig 1



RESULTS

- Mean age 48.69 years (SD - 16)
- 30 males and 12 females.
- BMI < 18.5 - 17%
- Type 2 diabetes - 38%
- 21% PTB History, 19% asthma & 10% COPD
- 31% current smokers

Presenting Symptoms

- Cough (76.2%),
- SOB (55%),
- Weight loss (35.7%)
- Chest Pain (26.3%)
- **Sputum (41%)** and Lung **Biopsy (33%)** – Diagnosed

Tab 1

Screened		**~ 16,000 patients**
Infective PTB patients (+/-1 month of spirometry)		42 (0.26%)
Positive - PTB test	Before spirometry **(<1 month)**	4 (0.025%)
	After spirometry **(>1 month)**	38 (0.24%)

ROOT CAUSE ANALYSIS

- 4 patients were either diagnosed or had ambiguous PTB diagnosis at the time of spirometry (Tab 1)
- Current infection control pathway failed to identify these patients – **0.025% error rate**

Conclusion

- To our knowledge, this is the first large-scale study globally to assess the reliability of infection control measures in spirometry for TB screening, based on data from 16,000 patients.
- This protocol demonstrated high effectiveness and may serve as a model for infection control in other TB-endemic regions

Limitations: Single-center study & Lack of a comparative group

DISSEMINATED TUBERCULOSIS IN A PATIENT ON ANTI-TNF THERAPY: A CASE REPORT

Dr Shantella Black, Dr Favour Balogun, Dr Damodar Makkuni

[1] IMT Year One Doctor, [2] IMT Year Two Doctor, [3] Consultant Rheumatologist

NHS
James Paget University Hospitals
NHS Foundation Trust

Introduction

We present the case of a young female with Crohn's disease on Anti-TNF therapy who developed disseminated tuberculosis (TB). This case highlights the risks of biologic therapies and the complexity of diagnosing opportunistic infections in this growing patient population.

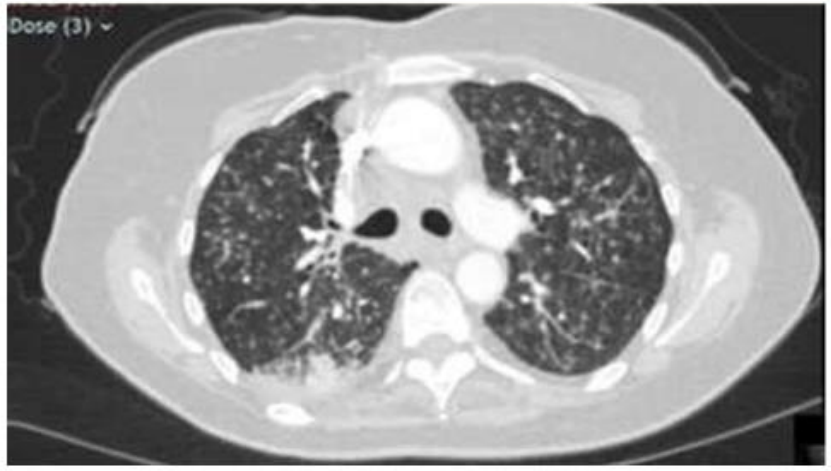
Case presentation

- Young female with ileocolonic Crohn's disease managed with Infliximab then Adalimumab for 3 years presented with 3-week history of dyspnea, fever, abdominal pain
- CXR showed right basal consolidation and treatment for community acquired pneumonia was initiated
- Hypoxemia and CT images markedly worsened which progressed to respiratory failure requiring ICU admission
- Sputum sample grew Mycobacterium tuberculosis after 6 weeks and Anti-TB therapy was commenced
- Her 6-month ICU stay was complicated by ventilator dependence, acute renal failure, IRIS, and drug-induced pancreatitis
- She was subsequently discharged home successfully on oral therapy

Diagnostic findings

- Sputum and bronchial washings for acid-fast bacillus testing, were all negative
- A repeat QuantiFERON-TB Gold test returned positive, contrasting a negative result from 3 years prior
- Bone marrow aspirate and biopsy done to investigate pancytopenia confirmed granulomas and grew Mycobacterium tuberculosis along with a 6 weeks sputum sample

CT Images



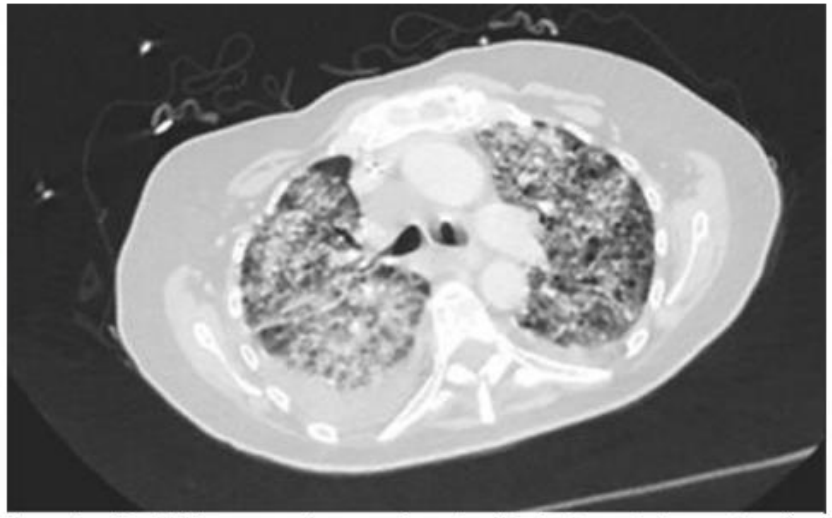


Image 1 and 2 : CT Chest comparison over a 2-week period showing marked worsening of lung findings

Discussion

- Diagnosis in immunocompromised patients is challenging--traditional tests have reduced sensitivity, and even Interferon-Gamma Release Assay (IGRA) may yield false negatives. Delayed culture results further complicate management.
- TB treatment requires specialist input to optimize drug levels and manage complications.
- TB reactivation risk is significantly higher in this population due to factors like comorbidities, immunosuppressive therapy, and local TB burden.
- This case highlights the possibility of TB reactivation in individuals taking biologics, even with initial negative work up, and demonstrates the limitations of current investigative modalities in reaching a definitive diagnosis

Conclusion

The management of TB reactivation in immunocompromised patients requires a multifaceted and timely approach. This case highlights the complexities of management and the need for multidisciplinary teamwork which is crucial in achieving positive clinical outcomes in such complex cases.

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The iron need: utilisation of intravenous iron in an east London ambulatory care unit to prevent inpatient admission

Egan.S, Parry.A, Asardag.N, Onen.B. Department of Acute Medicine, Royal London Hospital, Barts Health NHS trust.

Introduction:

- The local population in Tower Hamlets is 77% non-White British, with 34% Bangladeshi [1].
- This community has a higher prevalence of iron deficiency anaemia (IDA) [2].
- First line treatment is oral (PO) iron replacement, with intravenous (IV) iron used if not tolerated or poorly absorbed [3].
- IDA is an ambulatory care sensitive condition, but results in preventable admissions [4].

Aim:

To assess the provision of IV iron in the ambulatory care unit (ACU) to prevent avoidable inpatient admissions.

Methods:

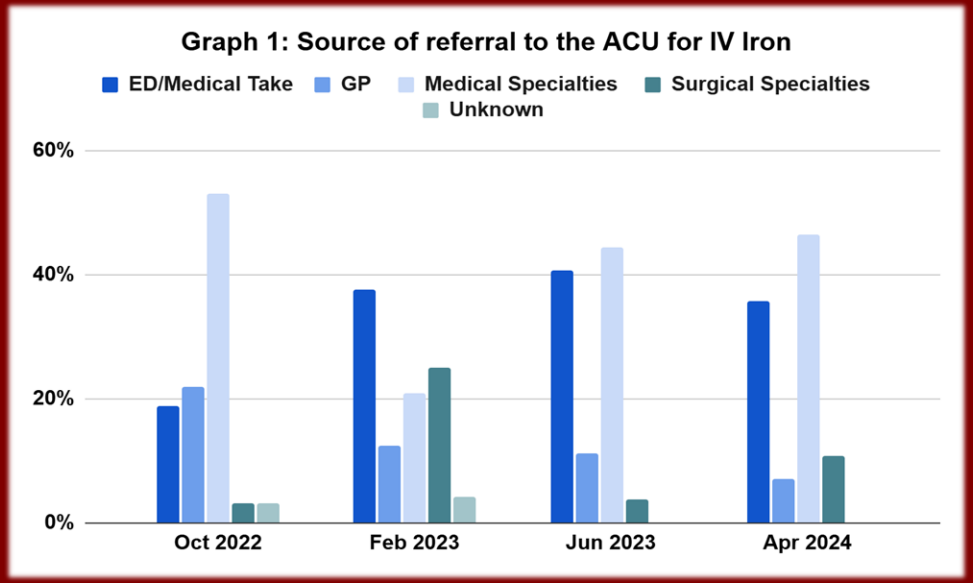
Data were collected retrospectively at four time points over an eighteen-month period (Oct 2022, Feb 2023, Jun 2023 and Apr 2024).

Interventions included:

- Consultant vetting process introduced between the first and second time points.
- Departmental teaching between the second and third time points.

Results:

- In total 111 patients were reviewed in ACU; 78.4% were female, and 48.8% were Bangladeshi.
- Over the four time points, there was an increase in documentation of the indication for IV treatment (6.3%, 8.3%, 29.6% and 53.6%).
- Following the first intervention, there was an increase in referrals from the emergency department (ED) and medical take from 18.8% to 37.5% (Graph 1) which was sustained at time points three (40.7%) and four (35.7%).
- 2.7% required admission from ACU.



Discussion:

- Improved documentation of indication for IV treatment suggests greater consideration of resource allocation.
- Following intervention, referrals from the ED and medical take increased; without a robust ACU this cohort may have required admission.
- ED attendance could be avoided via direct referrals to ACU in certain circumstances.
- Greater availability of IV iron may prevent unnecessary use of blood products.
- Limitations include:
  - Some data based only on documentation, which may be confounding.
  - No data on oral iron adherence.

Conclusion:

- Greater availability of outpatient IV iron services is essential to prevent admissions in areas with high prevalence of IDA.
- Future projects could include creation of a centralised service with a protocolised referral process.

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Once-daily low-dose prednisolone has lower cardiovascular risk than conventional hydrocortisone replacement therapy in adrenal insufficiency: A double-blind randomised controlled trial

Dr Sirazum Choudhury, Dr Katharine Lazarus, Dr Angelica Sharma, Dr Kavita Narula, Cara Go , Dr Suzie Cro, Dr Thilipan Thaventhiran, Dr Bernard Khoo, Prof Tricia Tan and Prof Karim Meeran

Introduction

Adrenal Insufficiency (AI) is associated with significant mortality despite improvements in oral glucocorticoid replacement regimens. Multiple daily dose regimens of hydrocortisone is first line treatment. Low-dose once daily prednisolone is an alternative. With a longer half-life, prednisolone offers replacement that is more physiological, better mirroring the circadian cortisol rhythm. Previous studies have evaluated prednisolone at doses above 5 mg. This is the first clinical trial comparing low-dose prednisolone (2-5 mg once daily) to standard hydrocortisone regimens.

Methods

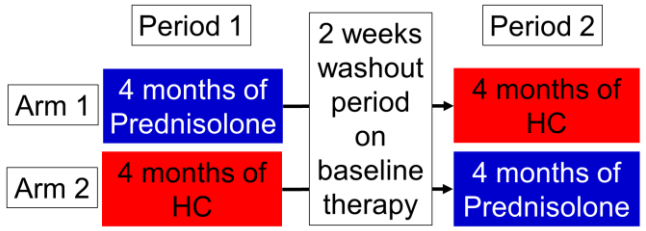

Figure 1: Study design. Participants were randomised to Arm 1 or Arm 2

This double-blind, two-arm, two period, randomised crossover study recruited 47 participants from endocrinology outpatient clinics. Individuals between 18-70 years with a diagnosis of primary or secondary AI for at least 6 months, were recruited. All were on stable hormone replacement therapy, including glucocorticoids for at least 3 months. Patients with diabetes were excluded. Participants were randomised to either Arm 1 or Arm 2 (Figure 1).

Participants received either hydrocortisone three times or prednisolone followed by placebo at noon and afternoon, at their individual tailored dose to ensure blinding. Each dose was a single tablet.

Data was collected on Day 1 (baseline), Day 30 (interim) and Day 120 (endpoint) during each period. Observations (including weight, waist-hip circumference, blood pressure), biochemical data for cardiometabolic health, bone turnover, and subjective health data (SF-36 and Addisons Quality of Life (Addi-QoL)) were collected.

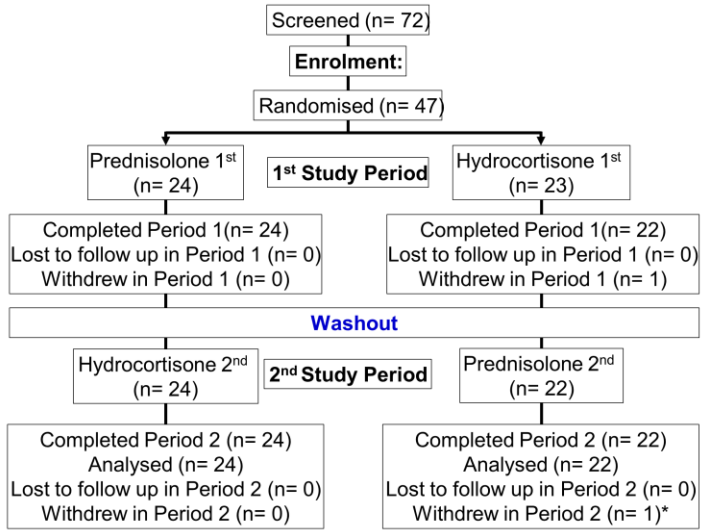

Figure 2: CONSORT diagram of trial profile

Results

Of 47 participants, 16 were diagnosed with primary AI. One participant withdrew on Day 2, without taking any study medication (Figure 2). Another participant withdrew in the second period, hyponatraemia was noted. There were no differences in baseline data.

There were 3 serious adverse events. These included hyponatraemia, viral gastroenteritis and food poisoning. All three occurred when the participant was receiving prednisolone.

The mean treatment group difference for prednisolone versus hydrocortisone for weight was -1.87 Kg (p=0.002) and for HbA1c was -1.23 mmol/mol (p=0.001), in favour of prednisolone treatment at Day 120 (Figure 3). BMI showed a change of -0.52 Kg/m2 (p=0.035), and waist circumference was -2.3 cm lower (p=0.010) in association with prednisolone. There was no significant difference in lipids or blood pressure between the two arms

Bone turnover markers were significantly suppressed in association with prednisolone treatment after 120 days (Figure 3). No differences were seen in subjective health questionnaire outcomes (SF-36 and Addi-QoL).

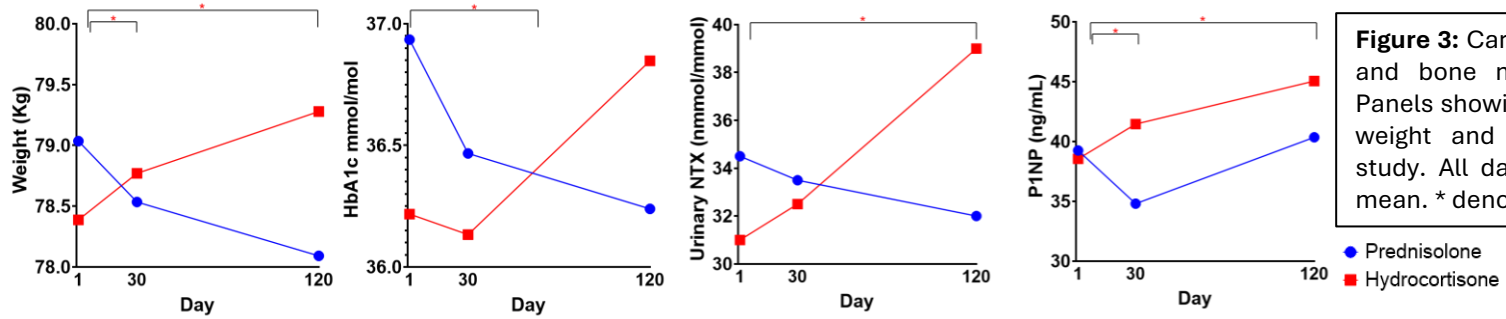

Figure 3: Cardiovascular risk and bone marker profiles. Panels showing the trends of weight and HbA1c in the study. All data is shown as mean. * denotes P<0.05.

Conclusion

Once-daily low-dose prednisolone is a safe alternative to standard-regimen hydrocortisone and may provide better cardiovascular outcomes without compromising subjective health. Future studies are needed to explore longer term outcomes such as bone-mineral density and real-world mortality.

ADVANCING CONFIDENCE AND COMPETENCE IN JUNIOR DOCTORS : SPECIALIST MEDICINE WEEKEND TEACHING PROGRAMME

Authors: Sooraj Mannil, Masooma Hussain, Jay Patel, Sonali Katti, Latif Rahman

Affiliation : University Hospitals of Leicester NHS Trust

01 INTRODUCTION

The University Hospitals of Leicester Specialist Medicine Weekend Teaching Programme supports postgraduate doctors in maintaining high standards of medical practice, as outlined by the GMC. It was designed to help postgraduate doctors better manage acute medical presentations. With a primary focus on acute medicine, this voluntary ongoing programme provides doctors working in Specialist Medicine at UHL with essential clinical and non-clinical skills.

02 METHODS

The programme consists of **45** online sessions (60-90 minutes each) spread across **10 months**, covering various clinical topics alongside non-clinical skills like leadership, communication, and medical education. It employs a combination of **flipped learning and blended learning** approaches. Sessions are delivered via **Zoom/MS Teams** and complemented by asynchronous learning through social media groups.

Additionally, all sessions are recorded and uploaded to a dedicated link, ensuring accessibility for those who missed them. Doctors below ST4 levels were eligible to enrol. Programme effectiveness was assessed via surveys, with most questions ranked from 1 to 10 (1 being the lowest) and some open-ended responses.

03 RESULTS

22 people successfully completed the programme - and had an average 2 yrs of experience in the NHS.

Overall Programme Rating: Average 9.7/10

Flipped learning is an instructional approach where learners review foundational content independently (often through videos or readings) before engaging in interactive, application-based sessions.

Blended learning combines traditional face-to-face teaching with online digital resources, offering a flexible and integrated learning experience.

Improvement in Confidence Levels

- **30%** Confidence in handling difficult conversations increased.
- **47%** Teaching skills improved
- **67%** Ability in leading and conducting an audit or a QIP increased
- **61%** Confidence in presenting a poster at a conference
- **72%** Understanding of the IMT/HST application points system
- **126%** Preparedness for an IMT/HST interview
- **37%** Work satisfaction as a doctor
- **33%** Confidence in working within the NHS system

Confidence in Managing Acute Medical Conditions

Neurology increased from 4.91 to 8.7 (**77.39%**), Haematology from 4.76 to 8.4 (**76.47%**), Toxicology from 4.9 to 8.3 (**69.39%**), Cardiovascular from 6 to 9 (**50%**), Respiratory from 6.2 to 9.1 (**46.77%**), and Gastroenterology from 5.54 to 8.9 (**60.65%**). Dermatological conditions showed a modest improvement from 6.1 to 6.5 (**6.56%**).

Overall, confidence in managing acute medical conditions improved by **approximately 53.2%**, highlighting the programme's substantial impact on clinical preparedness.

04 CONCLUSION

The survey demonstrated the significant impact of the programme in enhancing participants' confidence, skills and overall preparedness for their roles as doctors by the rise of 54.8%in non-clinical skills and 62.56%in clinical teachings. 5 Participants reported increased confidence, job satisfaction, communication, and leadership. Significant gains were seen in audits, conference presentations, and specialty training applications. Overwhelmingly positive feedback highlights the programme's effectiveness in professional development, benefiting both doctors and the healthcare system.

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THYROTOXIC ENCEPHALOPATHY WITH SERONEGATIVE THYROIDITIS

Soorya Hegde[1], Janak Nayak[2], Mahesh Sathiavageeswaran[2]

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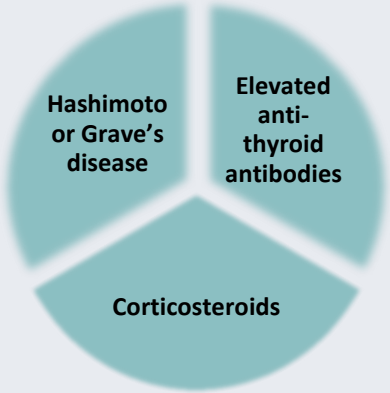
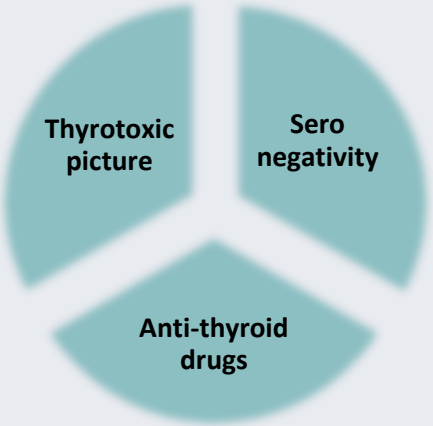
University Hospitals of North Midlands NHS Trust

INTRODUCTION



CASE REPORT



TIMELINE

ADMISSION 1
- Admitted with 3 weeks history and lassitude, lethargy and intermittent fever
- Pain and tenderness over anterior part of neck
- ?Thyroiditis – symptomatic treatment and discharge

ADMISSION 2
- Alert but confused with no focal neurology
- Weak positivity for cytomegalovirus (CMV) IgM with normal brain imaging
- Carbimazole 60mg/day started – stopped following further imaging

ADMISSION 3
- Worsening confusion, disorientation and behavioral changes
- Weak CMV IgM positivity with a negative PCR and normal brain imaging / CSF analysis
- Empirical treatment for encephalitis and carbimazole 20mg per day

FOLLOW-UP 1
- Broken sleep, loss of hair and constipation
- Biochemically hypothyroid + thyroglobulin antibodies negative
- Carbimazole stopped and levothyroxine started at 25 micrograms per day

FOLLOW-UP 2
- No ongoing symptoms
- Euthyroid on blood tests
- Levothyroxine continued and further follow-up arranged

Parameters	Admission 1	Admission 2	Admission 3	Follow-up 1	Follow-up 2	Reference range (units)
Free T3	6.4	15.4	5.2	2.9	5.2	3.5-6.5(pmol/L)
Free T4	22	63	30.2	7.1	13.5	11.5-22.7 (pmol/L)
TSH	0.4	<0.01	<0.01	32.4	3.08	0.38-5.33(mIU/L)
TRAb		<0.03	<0.03		<0.03	0.0-0.9
TPOAb		Negative	Negative		Negative	-

Table 1. Showing thyroid function and antibody tests

Imaging studies

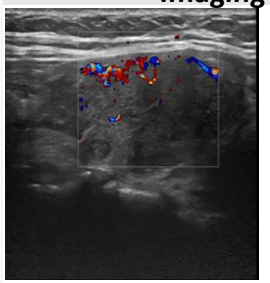


Figure 1

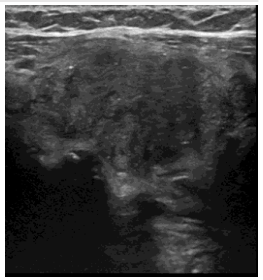


Figure 2

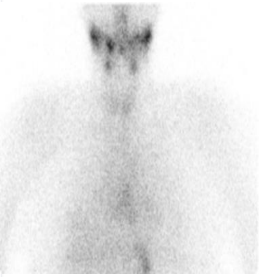


Figure 3

Figure 4

DISCUSSION AND CONCLUSION

Thyrotoxic encephalopathy is a rare occurrence secondary to Hashimoto's thyroiditis and Grave's disease. Based on this case of seronegative thyrotoxicosis that caused profound thyrotoxic encephalopathy and settled following treatment of thyrotoxicosis, non-autoimmune causes of thyroiditis should also be considered when investigating encephalopathy of unknown cause.

It is important to rule out other causes of encephalopathy and conduct relevant investigations at the first instance to avoid delays in diagnosis or institution of appropriate treatment. Treatment involves optimization of thyroid activity with anti-thyroid medications and its vital to be aware of relapses.

The Impact of Patient Educator Teaching on Medical Students' Confidence and Competence in Parkinson's Examination

Dr Sophie Lansley (1,2), Dr Aditya Maney (1,2), Ms Ailish Fountain (1)

1 – Manchester University NHS Trust, 2– University of Manchester Medical School

Background/Aims

Medical students often struggle to develop clinical skills in specialised areas like Parkinson's, so having effective teaching strategies are crucial.

Patient educator teaching has been shown to improve student's communication skills, facilitate learning of the patient's experience and promote patient-centred care. Research has mostly focused on the patient's experience, with any reported student experience not being anonymised. There was a call for longitudinal studies to explore whether patient educator teaching can enhance clinical performance (1).

This study evaluates the educational impact of a patient educator-led teaching programme in Parkinsons in self-reported scores.

Method

The teaching was a monthly structured session led by a Parkinson's specialist nurse, combining theory and practical experience. The students had the opportunity to take a history from and examine 3-4 patients with Parkinsons.

Anonymous surveys via Microsoft Forms assessed students' confidence and preparedness immediately post-session and another form was sent to students post-OSCE to assess self-reported performance.

Results

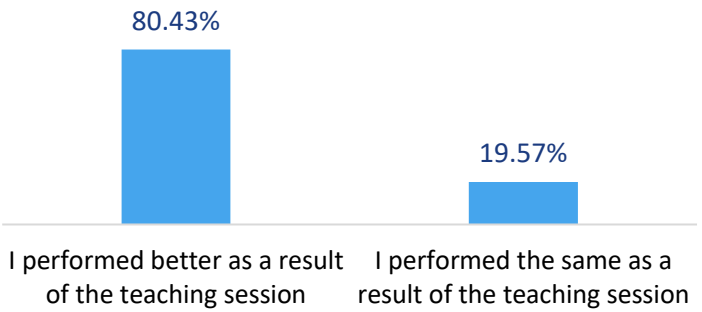
91% of students reported improved clinical knowledge and 81% felt more prepared for their exam immediately post-session. 96% of students wanted more patient-educator teaching in other specialities. 37 out of 45 students (80.4%) who completed the post-OSCE survey reported the session improved their exam performance. No students reported that the session led to worse performance.

"It was insightful to interact with patients in different stages of Parkinsons"

"Really nice to be able to speak to patients about their own experiences"

"Try to get longer sessions with patients"

Self-Reported Performance Post-OSCE:



Conclusion

Patient-led teaching significantly enhances students' knowledge and exam readiness. This supports integrating patient educators in clinical teaching. Further longitudinal data is required to improve reliability and validity of results.

References

1 - Dijk SW, Duijzer EJ, Wienold M. Role of active patient involvement in undergraduate medical education: a systematic review. BMJ Open 2020.

We created a Podcast with our patient educators, please take the time to listen to this here!

Scan here for our Parkinsons Podcast!

Atypical presentation of Young Stroke with Vertebral Artery Dissection

Dr Thwe Thwe Wint Htal
FY2, Glan Clwyd Hospital

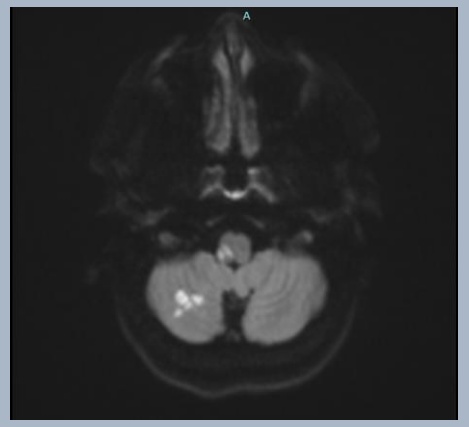
Introduction

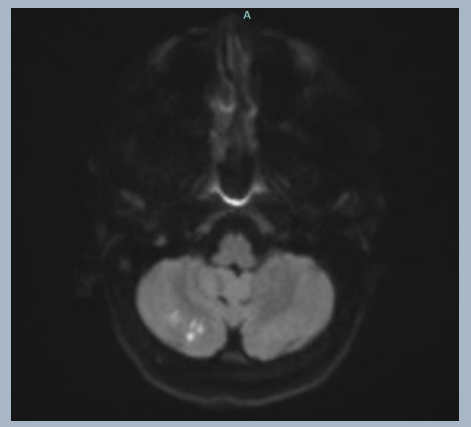
Stroke is a leading cause of morbidity and mortality worldwide, and while commonly associated with older adults, it also affects younger individuals in their most productive years. In this population, stroke is more likely to result in long-term disability than death, significantly impacting quality of life, employment, and independence. One important yet under-recognized cause of ischemic stroke in young adults is cervico-cerebral arterial dissection, which accounts for up to 25% of cases. Vertebral artery dissection, in particular, may occur spontaneously or after minor trauma, and is associated with risk factors such as migraine, smoking, hypertension, and recent infection.

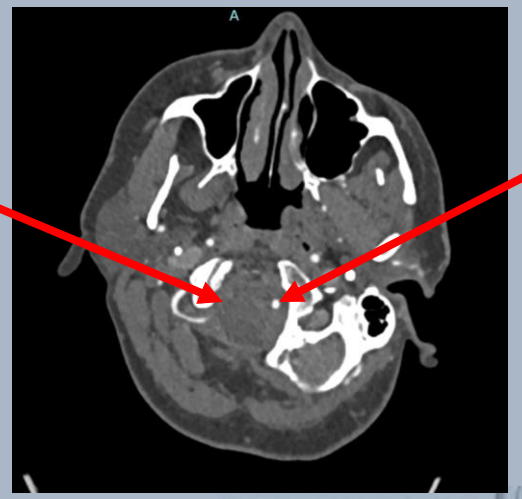
Case Summary

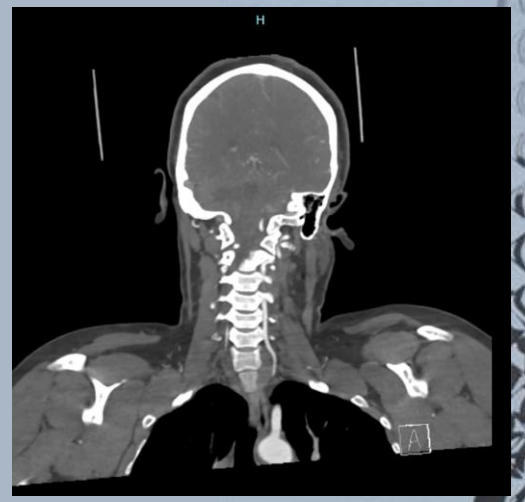
A 38-year-old female with a background of migraines presented with a 2-day history of right-sided stabbing headache, localized to forehead and occipital region.

- **Associated factors:** Facial numbness, photophobia, diplopia, dizziness, and balance issues.
- **Risk factors**: 15 pack-year smoking history.
- **Examination**: No neurological deficits, with normal vital signs.
- **Investigations**: Blood tests, ECG, and CXR were normal, with a normal CT head. However, MRI showed multiple small infarcts in the right cerebellum. Aspirin 300mg was started.
- **Further workup:** Including telemetry monitoring, thrombophilia screening, and a bubble echo, were performed and were unremarkable.
- **Day 2:** While on telemetry, she developed atrial flutter, which was treated with digitalization and anticoagulation. Her rhythm reverted to normal sinus rhythm the next day.
- **Day 6**: She reported persistent neck and shoulder pain, and gabapentin was initiated for pain control.
- **CT angiogram:** Revealed a right vertebral artery occlusion, likely due to a recent dissection.
- **Supportive management:** Physiotherapy for balance and mobility, and the smoking cessation team was involved due to her smoking history.









Learning points

- Young stroke patients may present with atypical symptoms, such as headache, dizziness, and visual disturbance, complicating the diagnosis.
- Vertebral artery dissection should be considered in young individuals with stroke.
- Early imaging, including MRI and CT angiography, is essential for diagnosing vascular events.
- A multidisciplinary approach, including physiotherapy, and smoking cessation, is vital in managing complex stroke cases.

Reference

Vertebral artery dissection from etiopathogenesis to management therapy: a narrative review with neuroimaging's case illustration | The Egyptian Journal of Neurology, Psychiatry and Neurosurgery | Full Text

Adams and Victor's Principles of Neurology (11th Edition)

The impact of insulin resistance on long-term outcomes in heart failure: A Systematic review

Soumya Sri Pichuka- Medical student, Norwich Medical school

University of East Anglia

Introduction

Insulin resistance (IR) is associated with Type 2 diabetes mellitus (T2DM) as well as cardiovascular (CVD) disease progression[1].

Heart failure is highly prevalent in the UK:

HF contributes to 5% emergency admission[2]

HF contributes to 2% NHS hospital bed stays[2]

HF is an established T2DM complication. HF occurs in patients with IR independent of diabetes[3]. The systematic review assesses IR's role on long-term HF outcomes,.

Methods

Adhered to PRISMA guidelines[4] and used databases including PubMed and Ovid Medline.

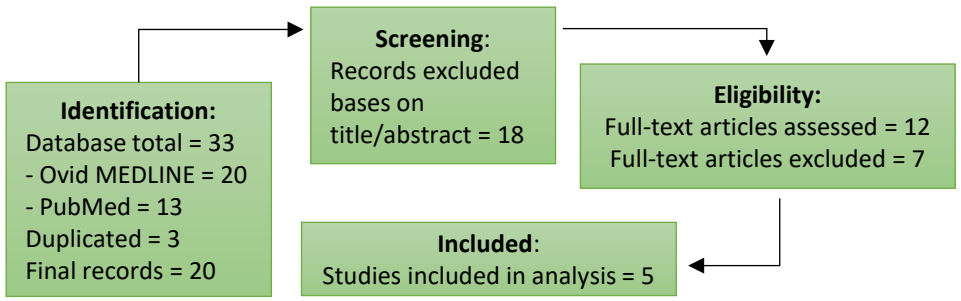
Searched using Mesh terms (insulin resistance, heart failure, Mortality, hospitalisation) and Non-Mesh terms (Long-term outcomes)

Inclusion criteria:

- Studies assessing IR in patients with HF (both preserved and reduced ejection fractions
- Studies that report long-term outcomes (>= 6 months) addressing: mortality, hospitalisations or functional decline

Exclusion criteria:

- Studies focusing solely on T2DM without IR analysis
- Studies with an extremely small sample size (<50)
- Studies with high methodological bias
- Studies without an appropriate follow-up period.



Results

Study	Study Type	Sample Size	Follow-Up Duration	IR Index Used	Main Outcomes	Key Findings	Limitations
Metabolic Score for IR in HFpEF[5]	Retrospective Cohort	3,248	4.2 years	METS-IR	Mortality	Higher METS-IR score linked to increased mortality in HFpEF (HR = 2.48; $p < 0.001$)	Retrospective; no baseline insulin measurements
Association of IR Indices in HFpEF[6]	Retrospective Cohort	8,693	2.56 years	TyG, TyG-BMI, AIP, METS-IR	MACE (mortality, hospitalisation)	TyG index linked to higher MACE risk (HR = 2.1; $p < 0.001$)	Single-centre; limited generalisability
IR & Myocardial Dysfunction in HFpEF[7]	Cross-sectional	92	≥ 6 months	eGDR	LV strain, 6MW test	Higher IR (lower eGDR) linked to worse LV strain/function	Small sample size; cross-sectional design
Prognostic Implications of IR in HF[8]	Cohort Study	682	1.4 years	HOMA-IR	Mortality, hospitalisation	IR linked to increased mortality and rehospitalisation (HR = 1.91; $p < 0.0001$)	Single-centre; limited generalisability
Prediabetes & IR in HF[9] (Vietnam Study)	Prospective Cohort	190	≥ 6 months	HOMA-IR	HF severity (NYHA, NT-proBNP, EF)	IR and prediabetes linked to more severe HF (higher NYHA, lower EF)	Regional, low BMI participants

Conclusion

IR is strongly associated with adverse outcomes in HF

IR could potentially be incorporated into risk stratifying tools and considered for NICE guidelines inclusion

Multicentre prospective studies are needed to further evaluate prognostic value of IR and to support its clinical care integration

References

Endoscopic Surveillance in patients with Oesophageal varices in Alcoholic Liver Cirrhosis

Sharma Paudel, Subodh [1], Baines, Simon [2], Arnold, Jayantha[3]

[1]Clinical Fellow and Doctoral trainee· UH/ LNWH [2]Subject Group Leader, Biosciences, University of Hertfordshire [3]Professor and Consultant Gastroenterology LNWH

INTRODUCTION

Oesophageal varices affect ~50% of cirrhosis patients. Bleeding risk is 10–15% annually. Endoscopy is the gold standard. This study evaluated guideline adherence, related barriers leading to non-compliance, and links to disease outcomes.

METHODS

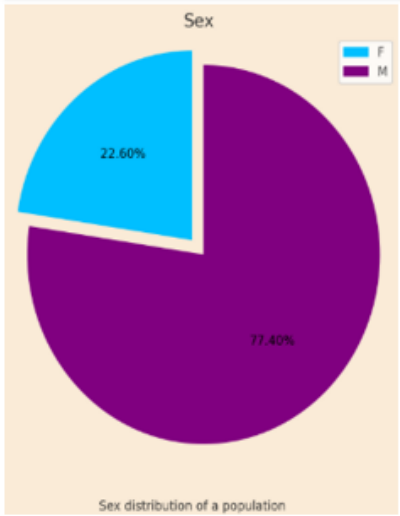
Retrospective study on alcoholic liver cirrhosis patients at Ealing Hospital. Guideline adherence (Baveno VI & VII) analyzed using chi-square and logistic regression.
Study reg number: St.M.EH.24.200.

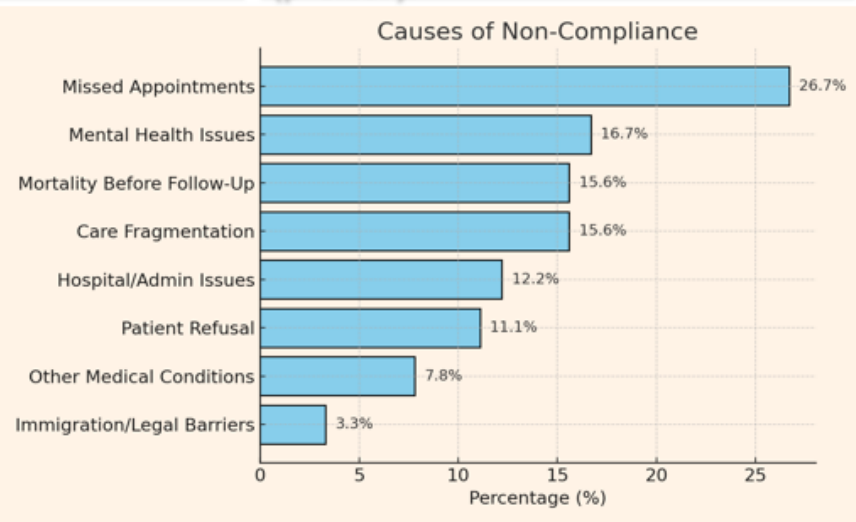
RESULTS

177 patients (77% male).
57.6% followed guidelines.
Non-adherence causes missed appointments (26.7%), mental health (16.7%), mortality/split care (15.6%).
Adherence linked to disease stability (p=0.007).

DISCUSSION

Stable/improved outcomes were more common in those following guidelines. Disease progression & severity predicts mortality.





CONCLUSION

Surveillance adherence directly linked to disease progression.
Mortality is driven by disease severity.
Improving compliance improves patient outcome halting the disease progression.

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Presenter: Dr Subodh Sharma Paudel

Enhancing locally employed doctors (LEDs) support and integration by introducing buddy programme - A quality improvement project (QIP)

Sumaira Malik, Shifa Puri, Sidra Shah, Ayesha Farooq, Tamar Saeed

Division of medicine, Russells Hall Hospital, The Dudley Group NHS Foundation Trust

BACKGROUND

- Integration of new staff into the NHS is critical to ensure well-being, confidence, and effective functioning.
- Newly appointed doctors in NHS often face:
  - Insufficient orientation or guidance
  - Limited peer support.
  - Difficulty adapting to a new workplace culture
- These challenges can result in anxiety, low morale, and slower productivity.
- To address this, we introduced a buddy programme in Medical division pairing new staff with experienced colleagues before they join the hospital for the duration of at least 2 months.

Figure 1

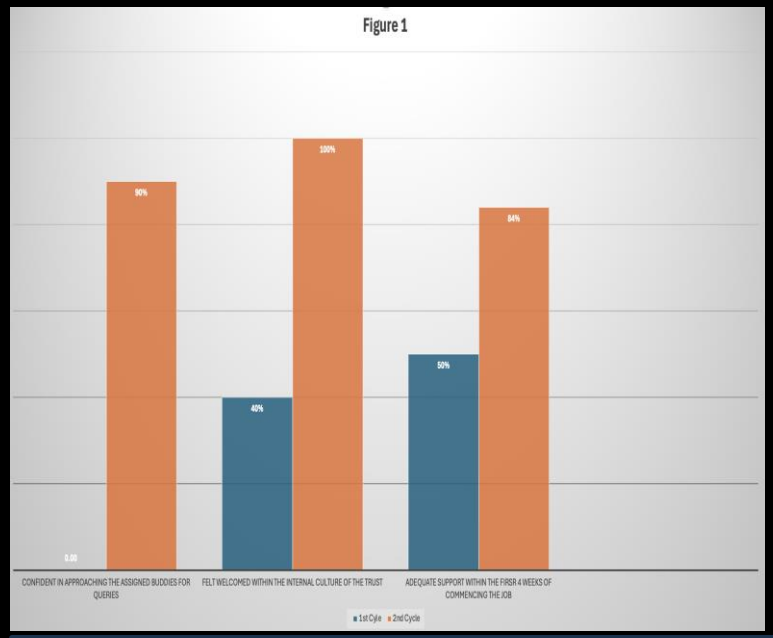
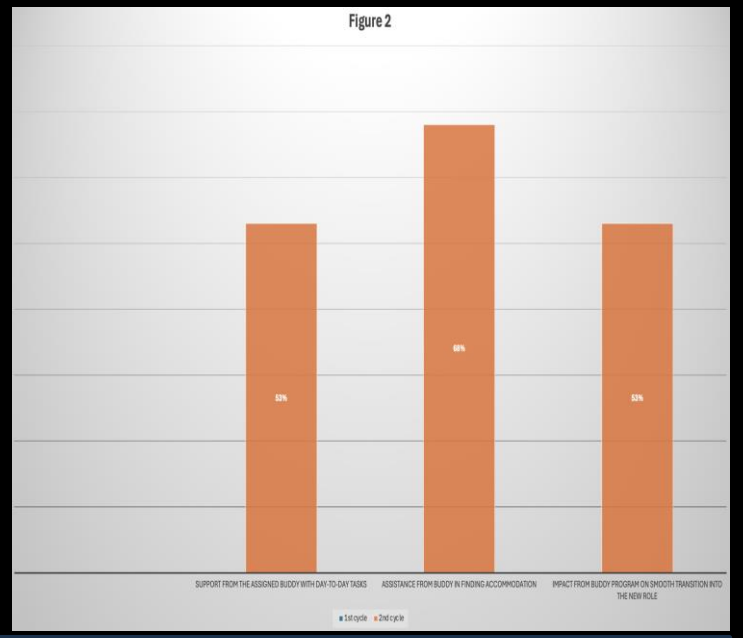


Figure 2



METHODOLOGY:

- Two-cycle study using pre- and post-implementation survey was done and electronic questionnaires were sent to the newly appointed resident doctors.
- 1st cycle was carried out in June 2024 and data collected from 20 doctors retrospectively who were not assigned buddies.
- 2nd Cycle was carried out between July and Dec 2024 from 20 doctors prospectively after implementation of the buddy program.

AIM & OBJECTIVE

- The primary objective was to set up a structured buddy programme which will create a safe and welcoming environment for the resident doctors who are new to NHS.

DISCUSSION:

- A buddy scheme is a structured support system within learning environments where individuals are paired together to provide assistance, guidance, and friendship.[1]
- By creating a supportive working environment, the trust can better support retention of LEDs which helps create a more stable, longer-term workforce of LEDs.[2]

RESULTS:

- In the 2nd cycle 100% of the residents felt confident in approaching the buddies for queries (figure 1). All the LEDs felt welcomed in the internal culture as compared to 40% in the 1st cycle (figure 1).
- 84% of LEDs felt adequately supported by the buddies in 2nd cycle as compared to 50%in the first cycle (figure 1). In 2nd cycle 53% LEDs felt the buddy programme helped in smooth transition into their new role (figure 2).

RECOMMENDATIONS:

- To expand the programme to surgical division as well.
- Continue the buddy program with regular surveys with each cycle of new recruitment of LEDs.

CONCLUSION:

- Our buddy programme has been a success as new doctors who felt well supported, helped them settle in a new culture.
- 100% of those assigned buddies agreed that having a buddy made their transition in NHS smooth and recommend this program to every new-comer

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NHS
The Dudley Group
NHS Foundation Trust

Predictive Model for Necrotising Fasciitis (NF) Outcome

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Ashford and St. Peter's Hospitals NHS Foundation Trust

Introduction: Necrotising fasciitis **(NF)** is a rare, rapidly progressive soft tissue infection with a high mortality rate (20-40%) in the UK. Predicting outcomes remains challenging, especially early in admission.

Objective: To develop & validate a predictive scoring model for mortality & morbidity among NF patients, forming the basis of an evidence driven management pathway.

Methods:

Study Design : Retrospective review (2019-2024) at Ashford & St Peter's Hospitals NHS Trust.

Inclusion : Adults with confirmed NF diagnosis.

Exclusion : Cellulitis, diabetic foot ulcers.

Data Sources : Cerner and Evolve.

Analysis : a. Five ML model tested.

: b. Random Forest selected (accuracy : **81.8%**).

: c. Logistic regression used to weigh top predictors.

: d. Model evaluated with ROC (AUC : **0.71**).

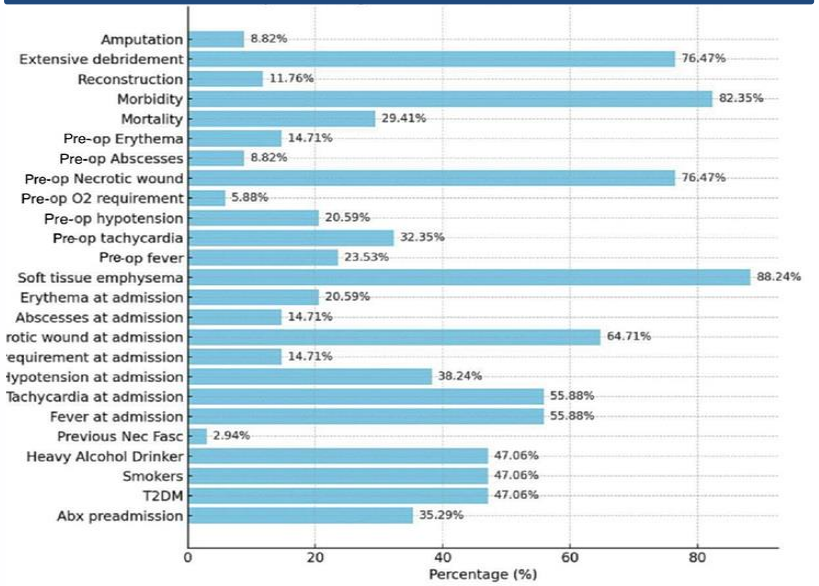

Fig 1: Descriptive Analysis : Patient Characteristics & Outcomes

Scoring Table

Feature	Co-efficient	Points (range 1-21)
Pre-op Tachycardia	0.82	3
Pre-op wound appearance	-0.82	Necrotic:3, Abscess:2, Erythema:1
Pre-op O2 requirement	0.79	3
Pre-op SIARI >3	-0.61	2
Abx pre-admission	-0.47	2
Wound appearance at admission	-0.35	Necrotic:2, Abscess: 1, Erythema:0
Type 2DM (Diabetes)	0.31	2
Tachycardia at admission	0.24	2
Alcohol consumption	-0.24	Heavy: 1, Social: 0.5, Non-drinker: 0
Age >60 years	0.2	1

Table 1

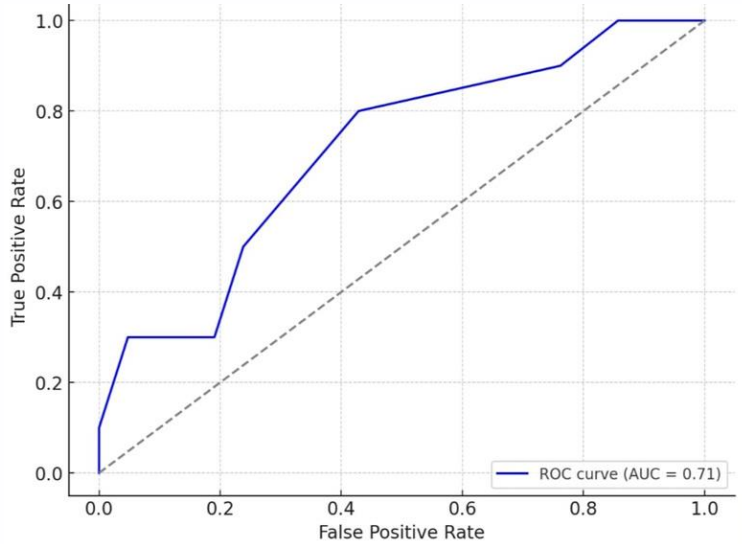

Fig 2-ROC Curve for morality prediction using clinical score

Performance:

1. AUC : 0.71
2. Sensitivity : 80%
3. Specificity : 57.6%
4. Score Threshold : 10 = High Risk

Clinical Impact :

1. Quick bedside tool.
2. Supports clinical decisions.
3. May improve early intervention and outcomes

Conclusion: The model facilitates early risk stratification, enabling more informed decisions regarding patient management and resource distribution. Further research with larger sample sizes is recommended to refine the model and improve predictive accuracy.

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https://www.rcemlearning.co.uk/reference/necrotising-fasciitis// Necrotising Fasciitis-RCEMLearning

Reducing Inpatient Falls:
A Multi-Cycle Quality Improvement Project in Medical Ward

Talha Arfan Butt NHS Lothian, UK

Introduction

Patient safety is key focus in healhcare.
Preventing Inpatient falls
is a key factor in maintainaig
a safe hospital environment

Aims & Methodology

CYCLE1

Falls reduced from
12 to 6/month

CYCLE2

Fall risk assessment compliance
improved from 72% to 98%

Results and Discussion

60%

Inpatient falls reduced by 60%
and fall risk assessments rose to 98%

Conclusion

A structured, multi-cycle PDSA approach led to a significant reluction in inpatient falls and improvement in fall prevention compliance

Revolutionizing Young Adult Diabetes Care: A Patient-Centred Transformation to Improve Access, Engagement, and Outcomes in One of England's Most Deprived Areas

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Mersey and West Lancs Teaching Hospitals NHS Trust, St. Helens Hospital, St. Helens, United Kingdom

NHS
Mersey and West Lancashire Teaching Hospitals
NHS Trust

St. Helens and Knowsley Young Adult Diabetes service provides care to 18-25 year olds with diabetes in the 34th most deprived authority nationally. Over three transformative years, we have embarked on a multifaceted project to revolutionise our care provision.

Strategic Collaborations: Partnerships with Digibete and Diabetes UK enhance patient education through digital resources and support.

Pre-Appointment Interventions: Patients are contacted via phone before their appointment, reducing new patient non-attendance rates from 50% to 18%, improving attendance and wait times.

Transition Clinic: All patients between 16 and 18 now attend a newly designed transition clinic, led by the paediatric service and attended by a member of the young adult team, to facilitate a seamless shift from paediatric to adult care, monitored via feedback surveys.

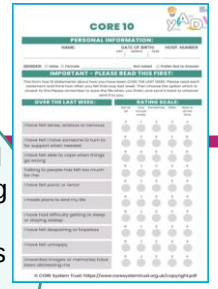
Emergency Admissions: Diabetes emergencies admissions are audited annually, ensuring appropriate follow-up and intervention for these patients.

Key Care Processes: An annual audit has been created, to monitor the 9 key care processes, initiating further project to improve outcomes if not meeting national standards

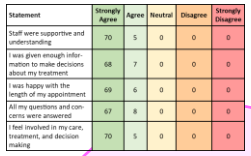
Pre-Clinic Questionnaire: A topic led questionnaire designed to enable patients lead their own consultations. With most selections including, weight loss, food and diet and mental health.

Patient support accessibility: We have set up a dedicated email inbox and urgent access clinic

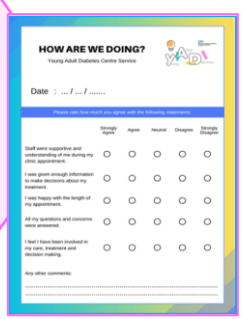
Mental Health Screening: Accredited mental health screening tool (CORE 10) implemented, to assess and monitor wellbeing and prompt psychological intervention.



Diabetes Technology: Expand access to advanced diabetes technologies, empowering patients to better manage their diabetes.



Patient Feedback: Continuous use of feedback questionnaires to actively incorporate feedback from young adults, fostering stronger relationships between patients and clinicians.



Conclusion

These initiatives have redefined our young adult diabetes care, setting new benchmarks for patient-centred care, elevating standards, improving patient engagement, support and clinic satisfaction.

#TeamMWL

RCP Medicine 2025

Improving Frailty Documentation from Admission to Discharge: A Quality Improvement Project in an Elderly Care Ward

T Kirwin, C Halevy, Y Hatahet, I Soteriou, M Geyer, R Mizoguchi, I Safiulova

Chelsea and Westminster Hospital NHS Foundation Trust

Background

- The British Geriatrics Society advocates for the development of local protocols to address frailty (1). A Cochrane Review on the use **of Comprehensive Geriatric Assessment (CGA) has shown improved survival** and fewer admissions to nursing homes at one year (2).
- **Early identification of frailty allows timely intervention, optimising patient care and improving outcomes**.
- Key components of CGA, including Treatment Escalation Plans (TEPs), Universal Care Plans (UCPs), and the Abbreviated Mental Test Score (AMTS), play pivotal roles in recognising frailty, guiding appropriate management, and ensuring holistic care from hospital to community.

Methods

- A retrospective analysis of documentation of three CGA parameters (TEP, UCP, AMTS) in clinical notes on admission to a Care of the Elderly Care ward was conducted over four cycles.
- Patients included were aged 65 or older and survived to discharge. Cycles three and four extended the project to assess whether frailty parameters were also documented in discharge summaries, ensuring continuity of holistic geriatric care in the community.

Cycle 1: April 2024 (n = 34)
Retrospective review of documentation for TEP, UCP, AMTS in clinical notes

Interventions:
- Teaching sessions for medical staff
- Posters
- Cerner documentation shortcut introduced

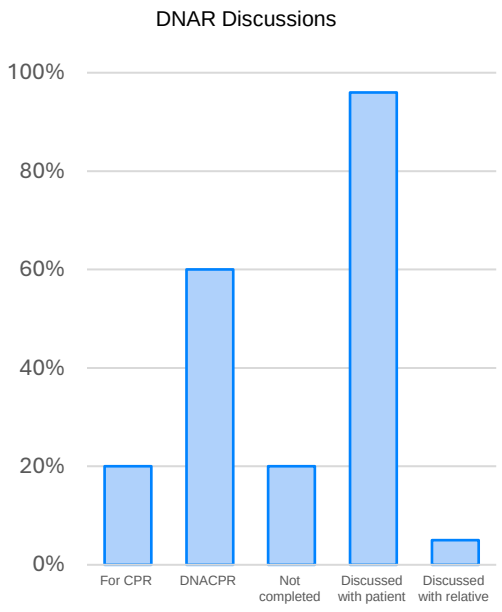
Frailty admission checklist
TEP:
UCP:
Clinical frailty score:
AMTS:
4AT:

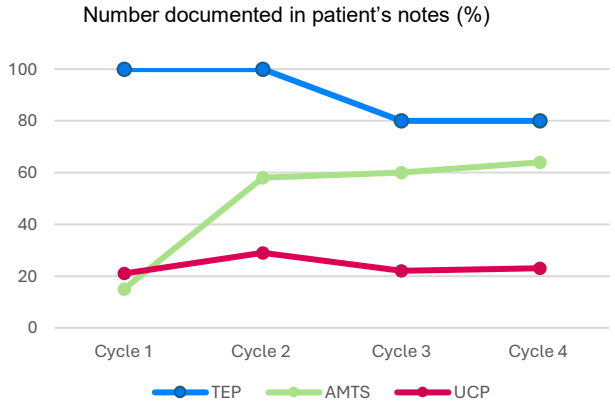
Cycle 2: June 2024 (n = 24)
Retrospective review post intervention

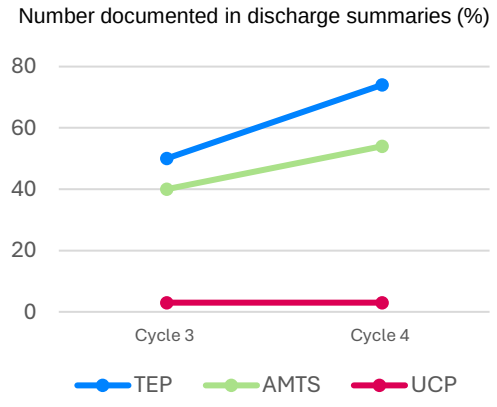
Cycle 3: October 2024 (n = 55)
Expanded to include discharge summary documentation

Interventions:
- Emphasis on correct clinical coding
- Wider teaching sessions including frailty team in ED
- Re-distribute Cerner shortcut

Cycle 4: February 2025 (n = 35)
Final review pot-intervention







Results

- A total of 148 patient's patients were included in the audit
- Documentation of frailty parameters in clinical notes remained stable following initial interventions, demonstrating sustained improvements. TEP documentation remained high (100% in cycles 1 and 2, decreased to 80% in cycles 3 and 4).
- UCP documentation remained low across all cycles
- **AMTS documentation saw a substantial and sustained improvement, increasing from 15% in cycle 1 to 62% in cycle 4.**
- For discharge summaries, documentation of TEP and AMTS improved following targeted interventions. CPR decisions were recorded in 50% of discharge summaries in cycle 3, increasing to 74% in cycle 4.
- **However, UCP inclusion remained low (3% in cycle 3, 2% in cycle 4).**

Conclusion

- Sustained improvements in documentation of TEP and AMTS with key interventions, including **staff education, use of visual aids and documentation shortcuts**
- Discharge summary documentation improved after targeted interventions
- UCP documentation remained low throughout, likely due to time-intensive conversations being deprioritised. This highlights the need for further interventions, such as education or frailty nurse-led discussions, to promote early UCP completion and improve continuity of care for frail patients.

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Enhancing Clinical Skills in Geriatrics: High-Fidelity Simulated Scenarios for Fourth-Year Medical Students

Dr Sophie Lansley (1,2), Dr Aditya Maney (1,2)

1 – Manchester University NHS Trust, 2– University of Manchester Medical School

Background/Aims

Older people represent two thirds of acute admissions (1) and 85-89 year-olds have the highest consultation rate in primary care in the UK (2). It is predicted that in the future there will be more older people being supported by a smaller number of working age adults. Therefore, it is essential our future doctors are prepared to manage this ageing population with an emphasis on co-mobility, determining risk-benefit and working in an MDT (3). Simulation has been identified as the new approach to do this, with a Northumbrian study finding it outperformed traditional ward-based teaching due to the ability for students to make mistakes in a risk-free setting (4).

This study aimed to identify whether a simulated teaching session, focusing on a patient with Parkinson's disease, is effective at improving student's clinical management.

Method

The programme includes four high-fidelity simulated scenarios, each representing a different phase of patient care: community, A&E, Acute Medical Unit, and inpatient ward. Simulations cover managing an unwell patient, prescribing and navigating end-of-life discussions. Students provided feedback via an e-form. Data has been collected from September 2023 to April 2025.

Results

138 students completed the form. 95% of participants found the teaching effective, and 96% reported an increased awareness of managing complex geriatric cases. 99% found the topics relevant to their practice. Instructor engagement was highly rated by 96%, and 95% felt debriefing sessions effectively identified areas for improvement.

"There's no better way to learn than experience"

"We need these on every placement"

"It was a comfortable environment to make mistakes and learn"

"I liked how useful these scenarios are at preparing me for FY1 and clinical practice, rather than just exams"

"Maybe to have a short break between cases"

Conclusion

High-fidelity simulations are an effective tool for enhancing medical students' competence in managing complex geriatric cases. The positive feedback highlights the programme's impact on student learning and engagement. Further feedback will guide ongoing improvements.

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Histological Assessment of Inflammatory Infiltrates in Interstitial Cystitis/Bladder Pain Syndrome (IC/BPS): A Comparative Study of Mast Cell Quantification Techniques

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[2]Advanced Diagnostics, Health Services Laboratories

HEALTH SERVICES LABORATORIES ADVANCED DIAGNOSTICS

NHS University College London Hospitals NHS Foundation Trust

Background

Interstitial Cystitis / Bladder Pain Syndrome (IC/BPS) is a chronic bladder condition of unknown aetiology, characterised by pelvic pain and urinary symptoms[1].

Despite its prevalence, there are no universally accepted clinical or histological diagnostic criteria.

Urothelial inflammation and mast cell activation have been consistently observed in IC/BPS cases[2,3].

However, there is no standardised method for evaluating or reporting inflammatory markers in bladder histology.

Aim

To assess and grade bladder inflammation in IC/BPS, compare mast cell detection methods (toluidine blue, Giemsa, CD117), analyse lymphocytic subset profiles, and explore the diagnostic relevance of inflammatory cell infiltrates.

Methods

- Haematoxylin & Eosin staining → **Inflammation** categorised as acute, chronic, or mixed based on predominant cell types (neutrophils, lymphocytes plasma cells and eosinophils).
- **Toluidine Blue**, **Giemsa** (Artisan), and **CD117** (1:500) staining → **Mast cells** quantified per high power field (HPF) and graded: **0**: <5 (negative), **1**: 6–10 (suspicious), **2**: 11–20 (positive), **3**: >20 (high-positive). Sensitivity (%) calculated based on mast cell detection rate
- **CD3** (1:100) and **CD20** (1:100) staining → T- and B-**lymphocyte** predominance assessed in detrusor muscle in cases with moderate-to-severe inflammation.

Results

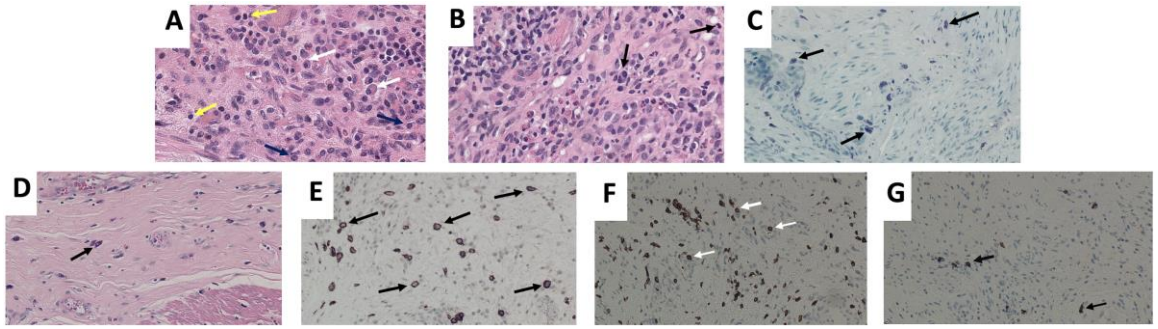

Figure 1: Histological identification of inflammatory cells in IC/BPS. **(A)** Mixed inflammatory infiltration with neutrophils (yellow arrows), lymphocytes (dark blue arrows), and plasma cells (white arrows), observed in **96.2%** cases. **(B)** Eosinophilic infiltration (black arrows) identified in **76.9%** of cases. **(C)** Mast cells visualised using toluidine blue stain (black arrows). **(D)** Mast cells stained with Giemsa (Artisan) (black arrows). **(E)** Mast cells detected using anti-CD117 immunostaining (black arrows). **(F)** T-lymphocytes identified by CD3 immunostaining (white arrows) and **(G)** B-lymphocytes identified by CD20 immunostaining (black arrows).

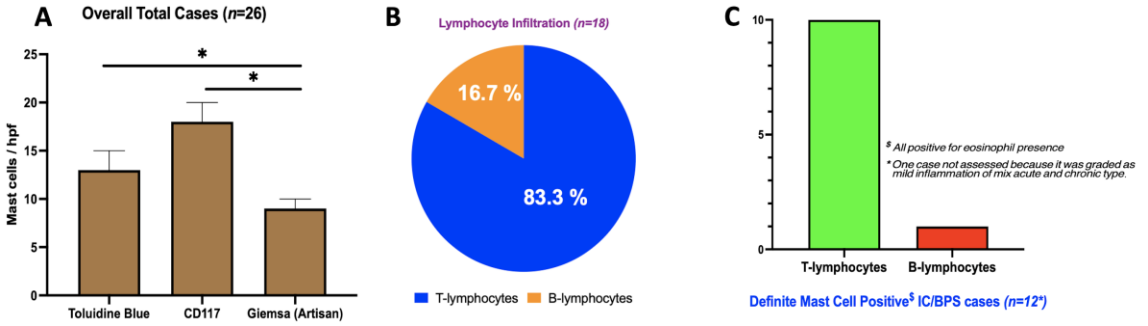

Figure 2: (A) Quantitative comparison of mast cell detection using three staining techniques: toluidine blue, artisan Giemsa, and anti-CD117 immunostaining, in IC/BPS cases (*n=26*). Mast cell positivity was observed in 46.2% of cases. Anti-CD117 immunostaining demonstrated the highest sensitivity (**73.1%**, *P=0.002*). **(B)** Analysis of lymphocyte subset predominance (T- vs B-lymphocytes) in cases exhibiting moderate-to-severe inflammation (*n=18*) showed **T-lymphocyte predominance** in **83.3%** of cases. **(C)** In mast cell-positive IC/BPS cases (*n=12*), all were eosinophil-positive, and T-lymphocyte predominance was observed in **83.3%** cases.

Discussion

Chronic inflammatory infiltrates comprising lymphoplasmacytic, eosinophilic, and mast cell components were confirmed in bladder histology of IC/BPS cases, aligning with existing literature[1–5].

This is the **first study** to compare mast cell detection techniques in IC/BPS and revealed significant variation in staining sensitivity. Among the methods used, anti-CD117 immunostaining was the **most sensitive** for mast cell identification.

Importantly, all mast cell–positive cases were also **eosinophil-positive**, and the majority exhibited **T-lymphocyte predominance** in areas of moderate-to-severe chronic inflammation. These findings underscore the diagnostic value of detailed inflammatory cell profiling in IC/BPS.

Conclusion

This study highlights the importance of integrating inflammatory grading, mast cell quantification, and lymphocyte subset analysis into routine histopathological reporting to enhance diagnostic precision and guide clinical management of IC/BPS

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This study was **approved** by the UCL/UCLH Biobank Ethical Review Committee (Approval No: EC26.21).

TRENDS OF HYPERTENSION DIAGNOSIS AND CONTROL IN LAGOS, NIGERIA FROM MAY MEASUREMENT MONTH 2023

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1. Department of Medicine, College of Medicine, University of Lagos, Nigeria. 2. Acute Speciality Medicine, King's College Hospital, Denmark Hill, London, SE5 9RS, United Kingdom. 3. Festac Primary Health Center, Amuwo-Odofin Local Government, Lagos, Nigeria

Introduction

- May Measurement Month (MMM) is a global campaign run by the International Society of Hypertension.
- Established in 2017, it aims to raise awareness of hypertension and generate evidence intended to drive health policy change at a national level.
- This study presents the results from the 2023 MMM campaign in Lagos, Nigeria, and provides valuable insights into the trends of prehypertension and hypertension prevalence, awareness, and control amongst this population.

Materials and methods

- Cross-sectional study. Opportunistic participant recruitment at three sites across Lagos, Nigeria.
- Participants were 18 years and older, and data was collected from May to July 2023. Demographic data, information on lifestyle and comorbidities and, three blood pressure readings, were collected into the designated questionnaire (blood pressure readings were taken using the OMRON M7 Intelli IT AFib).
- Hypertension was defined as systolic BP >/= 140 mmHg and/or diastolic BP >/= 90 mmHg and/or taking antihypertensive medication.
- Among participants diagnosed as hypertensive,
  - Awareness of hypertension was defined as a previous diagnosis of hypertension by a health worker and/or the self-reported use of antihypertensive medication.
  - Control of hypertension was defined as systolic blood pressure lower than 140 mmHg and diastolic blood pressure lower than 90 mmHg in a participant receiving treatment for hypertension.

Results and discussion

- 1455 study participants with an average age of 47.53±13.8 years; 49.3% being females.
- 49% of men were hypertensive compared to 52.4% of women (p = 0.201), with an overall prevalence of 50.7%.
- Prevalence of hypertension increased with age, with the 60-69 age group having the highest prevalence (72.8%, p<0.001).
- Among the 738 individuals with hypertension, 18% were newly diagnosed through blood pressure measurement during the screening, roughly half (363) had their blood pressure controlled, whilst 32.8% were uncontrolled on their current medication regimen.
- Hypertension was associated with tobacco use (p=0.013), history of heart attack (p=0.004), renal failure (p=0.013), stroke, heart failure, irregular heartbeat and diabetes (all p<0.001).

Results

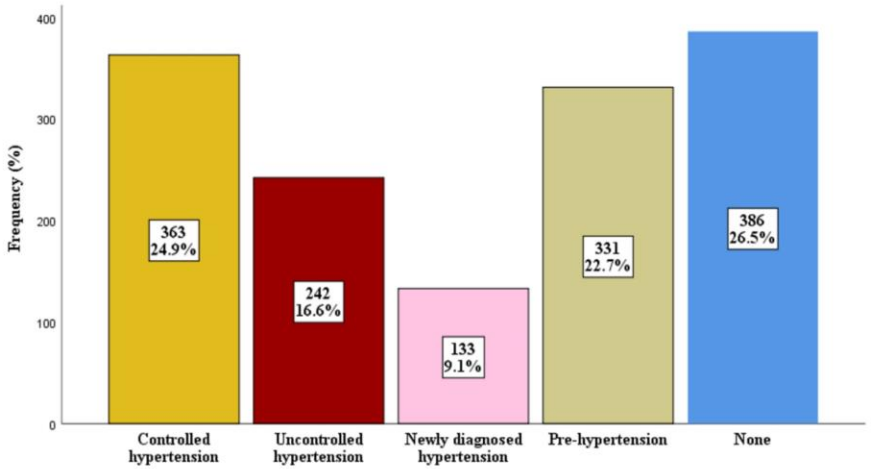


Figure 1: Prevalence of prehypertension and hypertension among respondents

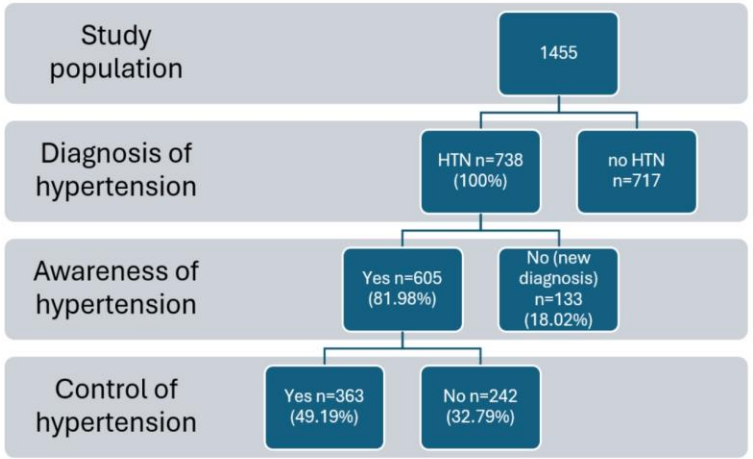


Figure 2: Hypertension care cascade among the study participants

Conclusion

- Diagnosis and control of hypertension in Nigeria is suboptimal.
- Implementing measures aimed at regular blood pressure screening to aid in early diagnosis and control of hypertension should be a public health priority in Nigeria.

University Hospitals Sussex
NHS Foundation Trust

OPTIMISING IV ZOLEDRONIC ACID TREATMENT FOR NECK OF FEMUR FRACTURES: A QUALITY IMPROVEMENT INITIATIVE

DR. SEAN VON HAGT
DR. UMA SIRISHA PUSAPATI

INTRODUCTION

Osteoporosis reduces bone density, increasing fracture risk [1-3]. Fragility neck of femur (NOF) fractures are treated with IV Zoledronic Acid (IV Zol) to reduce future fractures by increasing bone mineral density, lower bone turnover, aid in bone healing and overall recovery [1-4]. **However, delays in treatment impact hospital stay duration and consequently patient outcomes [5].**

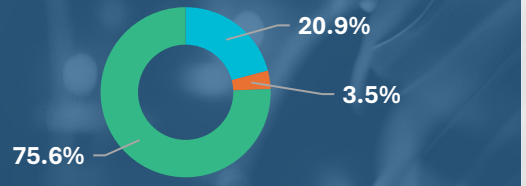
OBJECTIVES

- Investigate IV Zol administration delays in fragility NOF fractures
- Identify contributing factors
- Propose interventions

METHODS

Study of 85 patients **(Oct–Dec 2024)** from the acute hip fracture unit and surgical ward outliers. Treatment timelines were analysed for vitamin D loading and IV Zol. IV Zol delays were quantified as failure to administer on the day post vitamin D loading.

TREATMENT COHORT



KEY FINDINGS

Mean Vitamin D Delays: Prescribed at 3.03 days, administered at 3.77 days

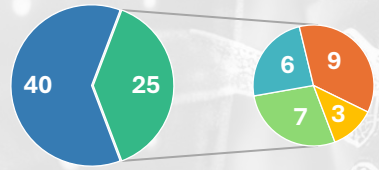
Mean IV Zol Delays: Initiated 9.46 days post-admission, with discharge at 19.8 days, 7.8 days after IV Zol.

Discharge Delays: 18 patients discharged within a day of IV Zol. Mean Vitamin D loading started 4 days post-admission, with a further 3.47 days before IV Zol.

Treatment Delays by Admission Day: Thursday had the longest delays for both **Vitamin D loading (4.75 days)** and **IV Zol (13.25 days).**

Factors: Surgical vs Medical wards, admission day, pre-treatment inefficiencies, post-operative complications, lack of formal consent

REPORTED REASONS FOR IV ZOLEDRONIC ACID DELAY



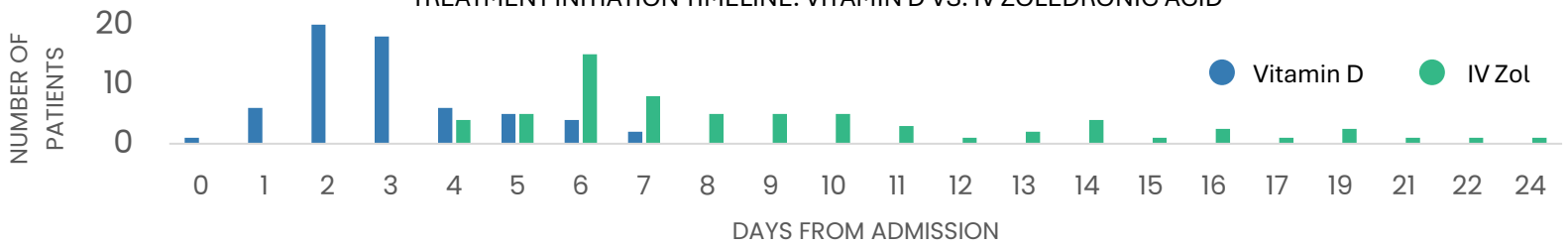
PROPOSED SOLUTIONS

Faster Vitamin D loading → Earlier IV Zol → Potentially **shorter** hospital stays

- **Vitamin D loading protocols → Earlier IV Zol initiation**
- **BPP sticker & pathway poster for clinical visibility**
- **SHO/F1 training sessions (quarterly)**
- **Proactive calcium monitoring upon admission**
- **Stage 2 QIP cycle planned 6 weeks post-intervention to assess impact**

QR code references, abstract and more information

TREATMENT INITIATION TIMELINE: VITAMIN D VS. IV ZOLEDRONIC ACID



CONCLUSION

- Treatment delays correlate with longer hospital stays
- Early Vitamin D loading could accelerate discharge & recovery
- Clinical awareness and structured interventions leads to better patient outcomes

Atypical Presentation of Celiac Disease: Long-Term Infertility Without Gastrointestinal Symptoms

Author: Dr. Usman Ghani MRCP UK
Affiliation: Div. HQ-Teaching Hospital Mirpur AJK / MBBS-MC-Mirpur
Email: sabzadaughani@gmail.com

Background

Celiac Disease (CD) is primarily known to cause digestive complications, though it can also manifest in variegated ways which are not typical. For example, one of these atypical presentations is infertility, a condition that can remain undiagnosed for a long time. In this report, we describe the case of a thirty-four-year-old woman who suffered from primary infertility of seven years duration before being diagnosed with CD even when she had no bowel symptoms at all.

Case Presentation

A 34-year-old woman presented to medical OPD at DHQ Teaching Hospital, Mirpur AJK with an infertility problem that has continued for a long time. The patient reported that her periods were regular, there was no history of recurrent abortions, and no abdominal distension, bowel movements, or appetite changes were mentioned. Despite undergoing multiple evaluations, hormonal and ovulatory tests, as well as radiological exams, did not explain the issue. Her spouse's sperm analysis was normal as well. However, routine blood work showed mild anemia (Hb: 11.2 g/dL) and low iron levels, even though her thyroid function and hormone levels were normal. Given these findings, her doctors decided to test for celiac disease. Surprisingly, her celiac serology came back positive, showing elevated anti-tissue transglutaminase (tTG) IgA and endomysial antibodies. A biopsy of her small intestine confirmed celiac disease, despite her complete lack of gastrointestinal symptoms. Following her diagnosis, she adopted a strict gluten-free diet. Over the next six months, her iron levels improved, and within a year, she conceived naturally—without needing any fertility treatments.

Discussion & Conclusion

This case illustrates that the absence of conventional symptoms does not exclude the disease. In this case Infertility without symptoms of celiac disease anemia should be considered as a possible manifestation of celicina le celiac disease. The aim of the case helps to make the diagnosis of celiac disease timely and not delay it until severe forms of the disease progress. The Spanish medicina cuts a masterpiece on celicini disease relatively tends it to women whose disease remains unknown without traditional symptoms. Since celiac disease can impact fertility through chronic inflammation, malabsorption, and immune dysfunction, early screening and dietary changes can significantly improve reproductive health. This case serves as a reminder that sometimes, the root cause of infertility isn't where we expect to find it.

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Compassionate Leadership - A Resident Doctor's Perspective

Dr Victoria O'Flaherty MBChB BSc, Dr Leah Argus MBChB MRes PGCertMedEd

Manchester University NHS Foundation Trust

A reflective testimonial, informed by personal experience and supported by literature, on the lessons learnt from a compassionate leadership training course consisting of five half-day small group sessions.

Transitioning from university to becoming a doctor is a testing period. Doctors aim to flourish in a new workplace, work 60-hour weeks and stay abreast of the hidden curriculum. Compassionate leadership emphasises attending to, understanding, empathising with, and taking intelligent action to alleviate these hardships.

Attending

Paying attention to self and others

- Noticing what is occurring, naming emotions
- Where you stand – withdrawing – moving towards
- Awareness of your own judgements about yourself

Understanding

The situation, challenges, difficulties to be faced

- Acting to encourage dialogue
- Reducing judgement in order to hear
- Making deeper enquiry to build understanding of self and context
- Awareness of needs

Empathising

Acknowledging the situation

- Accounting for yourself or situation
- Sit with the issue and not have the answer
- Not offer false help by rescuing or colluding

Intelligent Action

Taking action to alter the situation

- Modelling leadership
- Focus on both outcomes and process
- Act to address difficulties and distresses
- Demonstrate awareness of person and context

Take Home Points

- Compassionate leadership is underpinned by acting with integrity - you might not always get things right, but if you're attending, understanding, empathising and taking intelligent action, you can be confident you are on the right path
- Compassionate leadership training to address hidden curriculum, enhance workplace dynamics, psychological safety and resident doctors' overall experience by fostering self-compassion
- Transitional period during foundation years is an optimal opportunity

Source: West, M. (2021) *Compassionate Leadership: Sustaining Wisdom, Humanity and Presence in Health and Social Care.* The Swirling Leaf Press.

Nitrofurantoin-Induced Lung Fibrosis: A Clinical Misstep

NHS Manchester University NHS Foundation Trust

Introduction

- Nitrofurantoin is an antibiotic with a broad range of efficacy, often prescribed for urinary tract infections (UTI). Its prolonged use can lead to uncommon but serious side effects, including pulmonary and liver damage.
- Nitrofurantoin-induced lung injury has a varied presentation ranging from acute hypersensitivity to insidious fibrosis and Interstitial Lung Disease (ILD). This case underscores the dangers of missed recognition, and stresses the importance of vigilance for drug toxicity.

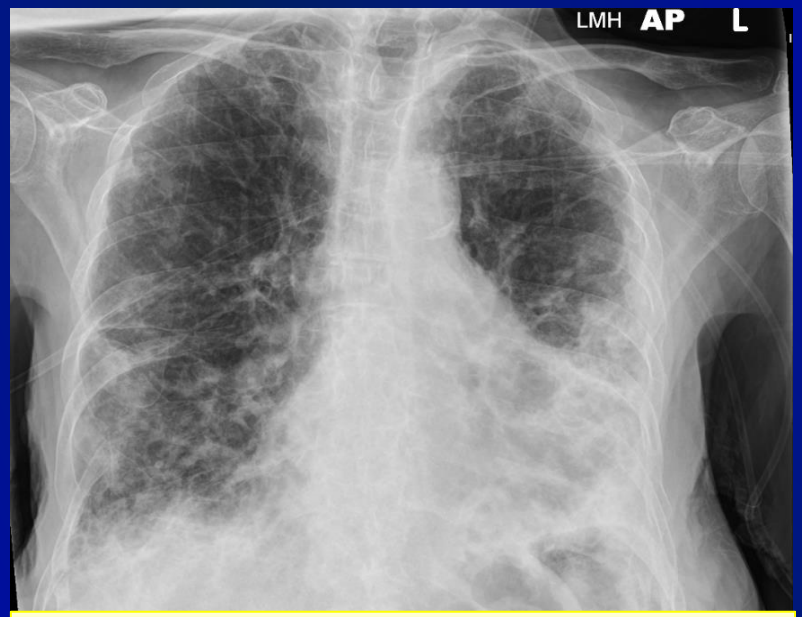


Figure 1: Chest X-ray during first admission

Case study

- A 76-year-old frail patient with COPD, vascular dementia was on long-term prophylactic nitrofurantoin for recurrent UTI.
- The patient was admitted with shortness of breath, cough and fever. A chest X-ray (CXR) showed bilateral reticular pattern and consolidation, leading to a pneumonia diagnosis **(*Figure 1*).**
- Four months later, the patient had a similar episode with worsened CXR, but nitrofurantoin was continued without consideration of potential lung fibrosis.
- A third presentation with recurrent infection and radiological decline **(*Figure 2*)** queried the possibility of lung fibrosis secondary to nitrofurantoin. Previous spirometry results showed severe restrictive pattern. Considering the patient's frailty, further tests were felt to be inappropriate, and nitrofurantoin was discontinued.
- Follow-up respiratory reviews suggested drug-induced fibrotic lung disease as the likely cause, confirmed by progressive changes on subsequent CXR.

Authors: Dr Vishalini Venkatachalam, Dr Elaine Tang
North Manchester General Hospital
Manchester University NHS Foundation Trust

Conclusion

- This case highlights the critical need for close monitoring of patients, especially elderly and frail patients on long – term nitrofurantoin therapy, for any new or worsening pulmonary symptoms (MHRA guidance, 26 April 2023).
- Its vague presentation often leads to misdiagnosis, causing delays in treatment and subsequent mortality.
- Discontinuation of the offending drug is a key step in the management.

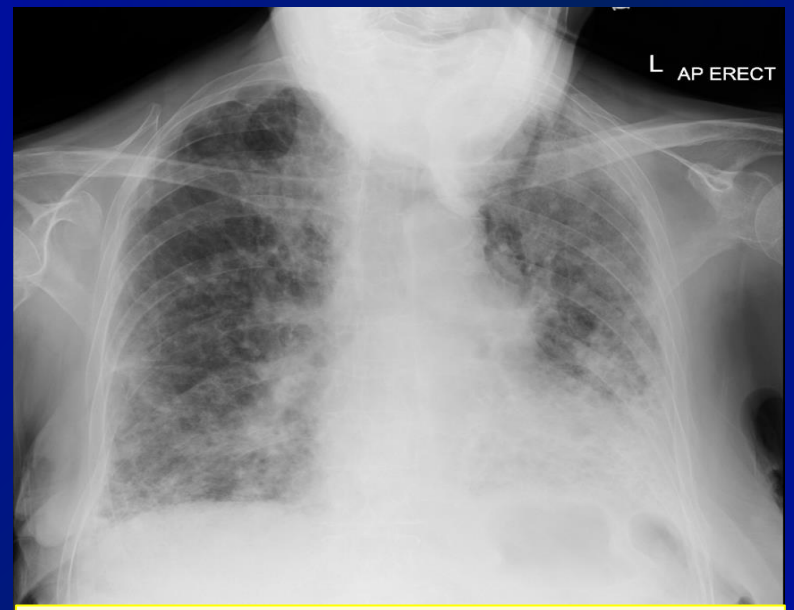


Figure 2: Chest X-ray during third admission

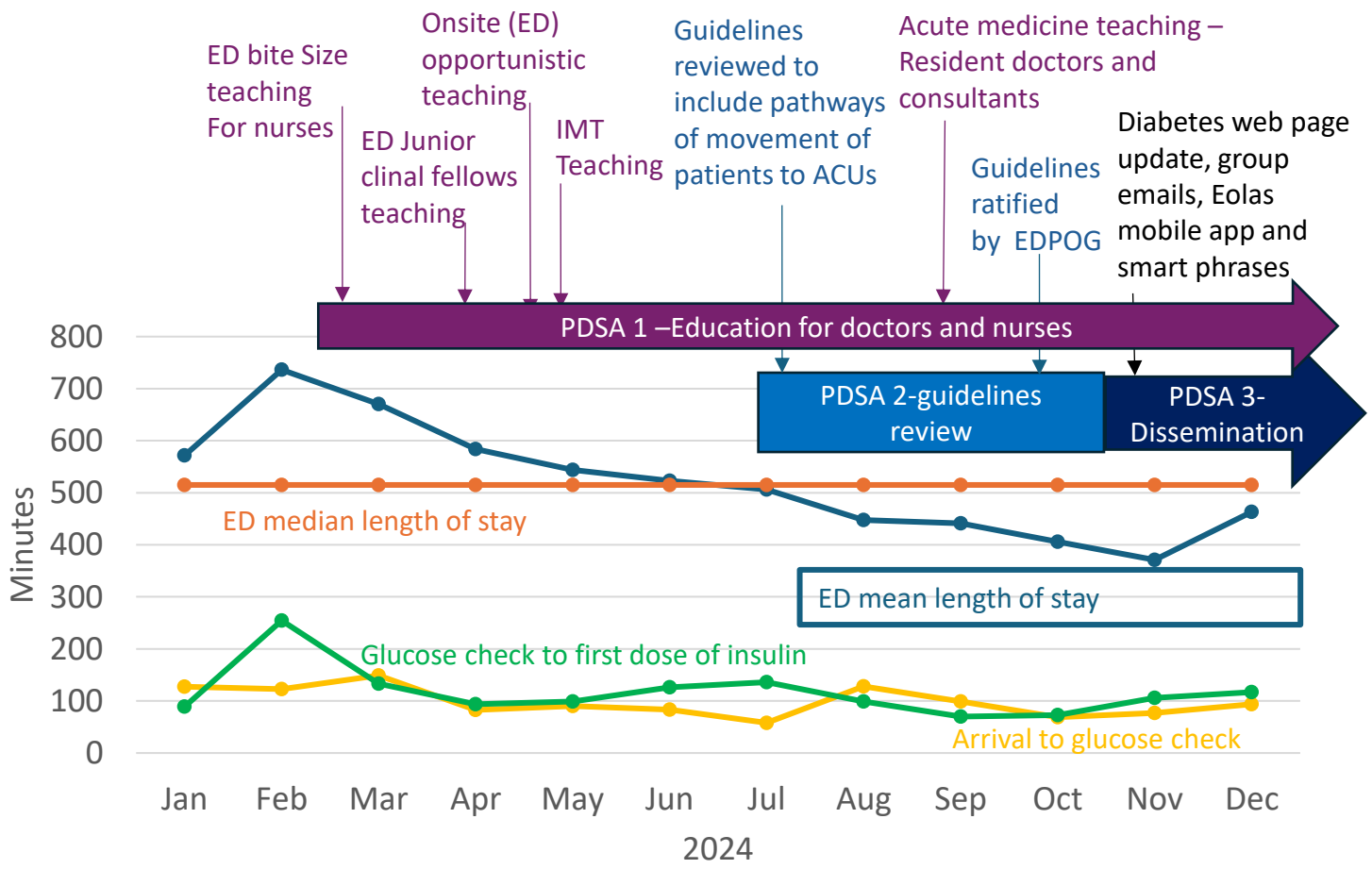
Improving flow of patients with hyperglycaemia (non- DKA/non-HHS) from Emergency Department

Vithiya R Umaipalan, Sophie Harris, Omar G Mustafa
Department of Diabetes, King's College Hospital, Denmark Hill, London

1. Problem

Length of stay for hyperglycaemia (non- DKA/non-HHS) in the Emergency Department(ED) is longer due to inadequate insulin treatment, lack of pathways to mobilize patients to ambulatory care-units(ACU) and poor awareness of clinicians regarding availability and access of existing guidelines.

2. Quality improvement methods and results



	A	B
A-%of readmission B-%of appropriate insulin doses		
Jan	7	36
Feb	8	16
Mar	20	20
Apr	10	20
May	25	38
Jun	20	40
Jul	20	30
Aug	10	50
Sep	13	50
Oct	20	33
Nov	0	63
Dec	0	55

3. Conclusion

This QI project improved length of stay for patients being admitted to ED with hyperglycaemia with no readmissions.

4. Lessons learned

- Planned health care professional education in the ED was difficult due to unpredictable work load and time pressures.
- Bedside opportunistic teaching and dedicated teaching hours out of ED were more effective.

5. Next steps

- To develop a sustainable inpatient diabetes education plan.
- To Implement blood glucose check for all diabetes patients on arrival to ED.

References:
Diabetes – Initial management of hyperglycaemia in adults in the ED - GIRFT - Pathways [Internet]. GIRFT - Pathways - GIRFT - Interactive Pathways. 2022.

Acknowledgement: Dr Eleanor Jones, Dr Simon Calvert, Georgia Noble Bell, Dr Vivek Sharma, Mariam Issac Rebekah Bowen,

South Tees Hospitals NHS Foundation Trust

END OF TREATMENT OUTCOMES OF PHARMACIST-LED COpAT FOR BONE AND JOINT INFECTIONS:

A COMPARATIVE ANALYSIS WITH OVIVA STUDY DATA

Weiyi Xia, Megan Cain, Jacqueline Gregson, John Widdrington

Centre for Clinical Infection, James Cook University Hospital, Middlesbrough, UK

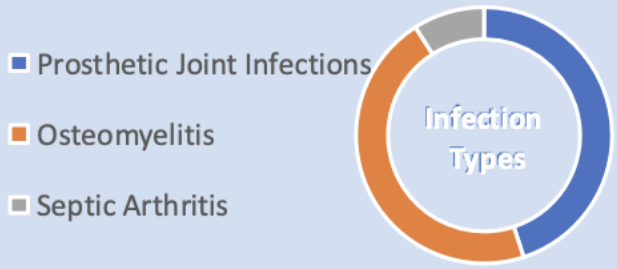
1 BACKGROUND

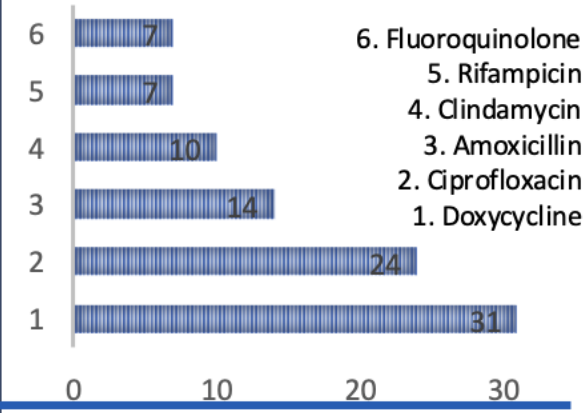
Bone and joint infections (BJIs) are associated with **significant morbidity** and **healthcare costs**. The OVIVA trial demonstrated that oral antibiotics are **non-inferior to intravenous (IV) therapy, reducing hospital stays** and **complications** [1]. Building on this evidence, **Complex Outpatient Antimicrobial Therapy (COpAT)** programs, particularly those led by pharmacists, have emerged as a promising approach to further optimize the management of BJIs by **enhancing adherence, monitoring, and patient-centered care** [2].

? However, **the end of treatment outcomes and patient satisfaction of pharmacist-led COPAT programs** remain **underexplored**.
This study evaluates the **efficacy** and **patient-centered outcomes** of a pharmacist-led COPAT clinic compared to OVIVA trial data.

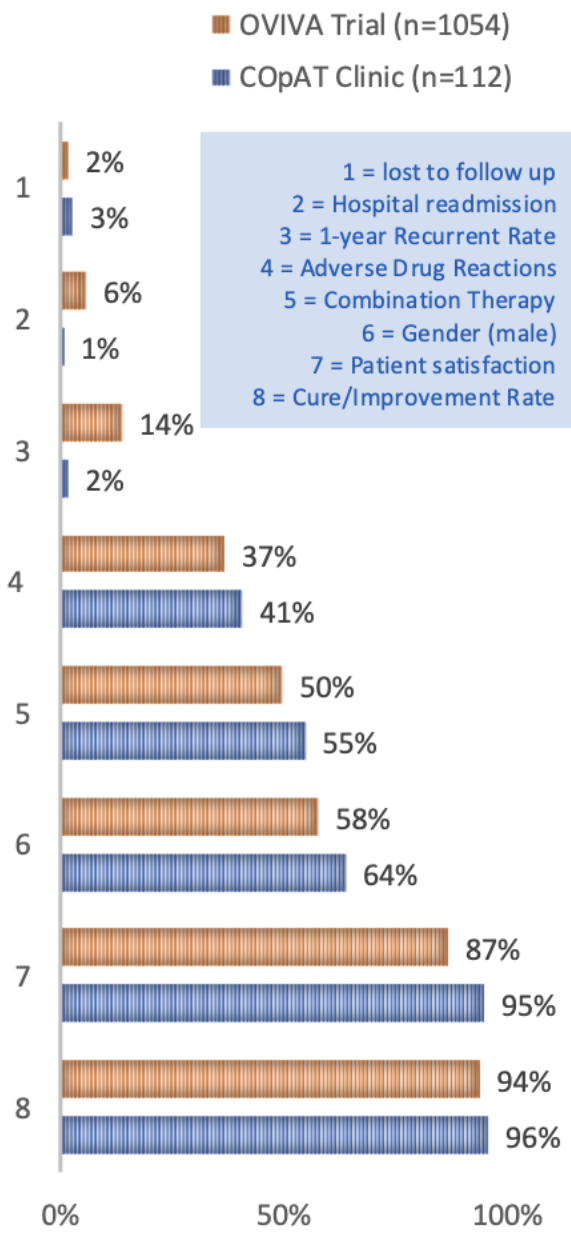
2 METHOD

Study Design	Retrospective cohort COPAT clinic (2020-2024)
Patient Selection	N=112 Data from EHR/Written Record
Comparison	OVIVA Trial data
Data Collection	Demographics Adverse Drug Reaction 1-year outcomes Infection type Antimicrobials





3 RESULTS



4 CONCLUSION

Pharmacist-led COPAT clinic is

Safe **Effective**

Compared to OVIVA:

- **Superior end of treatment outcomes**
- **Higher patient satisfaction**

These findings support the broader implementation of COpAT programs, highlighting the critical role of pharmacists ***in optimizing antimicrobial therapy*** and ***reducing healthcare costs***.

5 FUTURE DIRECTIONS

1. **RCT** study to compare this model to traditional care
2. Future **multicenter studies** are needed to validate these results and explore cost-effectiveness
3. Moving towards implementing **a new trust guideline**

6 REFERENCE

1. Li HK, Rombach I, Zambellas R, et al.Oral versus Intravenous Antibiotics for Bone and Joint Infection. *N Engl J Med.* 2019;380(5):425-436. doi:10.1056/NEJMoa1710926.

2. Seaton RA, Bellamy MC, MacKenzie AR, et al. Outpatient Parenteral Antibiotic Therapy (OPAT) in the UK: A Consensus Statement by the British Society for Antimicrobial Chemotherapy. J Antimicrob Chemother. 2012;67(5):1053-1062. doi:10.1093/jac/dks003.

Electronic Health Record = HER , Prosthetic Joint Infection = PJI
Complex Outpatient Antimicrobial Therapy =COpAT

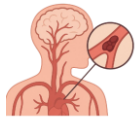
Direct Anticoagulant (DOACs) Vs Warfarin In Inflammatory Bowel Disease (IBD) Patients with Atrial Fibrillation: A Comprehensive Analyses of Efficacy and safety

Okunlola, Ayoyimika[1]; Otabor, Emannuel[2]; Karim, Abbas[3]; Ajao, Temitope[3]; Udoji, Chimobi[4]

[1]Nottingham University Hospital, NHS Trust; [2]Jefferson Epstein Philadelphia Hospital ; [3]United Lincolnshire Hospitals, NHS Trust ; [4]Dorset County Hospital , NHS Trust

Royal College of Physicians

Introduction & background



- ❑ IBD + AF Confers Hight Thromboembolic risk

- ❑ Anticoagulation is required

- ❑ Uncertainty in choice due to differences in efficacy and safety outcomes

Aims

Compare used of **DOACS** vs **Warfarin** in Patients with AF and IBS in terms of :

- ❑ **Efficacy** : Reducing thromboembolism risk
- ❑ **Safety profile** : Conferring lower Bleeding risk

Method

STUDY DESIGN

Retrospective cohort study using TriNetX global research network

Propensity matching produced balanced groups

POPULATION

Patients aged > 18 years with IBD

- Crohn's disease
- Ulcerative colitis

INTERVENTION

DOACs

Rivaroxaban Apixaban (n = 2 480)

COMPARATOR

Warfarin n = 2 480

OUTCOME

Assessed over 5-year period for

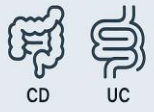
- cerebral infarction (stroke)
- venous thromboembolism (VTE)
- intracranial hemorrhage (ICH)
- gastrointestinal (GI bleeding, mortality

Results

Outcome	Result Summary	Hazard Ratio (95 CI)	p-value
Stroke	No significant difference	1.085 (0,815–1,445)	0,574
VTE	Higher risk with Warfarin	1.310 (1,005–1,708)	0,045
ICH	Higher risk with Warfarin	1.915 (1,230–2,984)	0,003
GI Bleeding	No significant difference	0.913 (0,730–1,142)	0,427
All-Cause Mortality	Higher risk with Warfarin	1.693 (1,510–1,889)	< 0,001

Consistent Across IBD Subtypes

DOACs were associated with lower ICH and mortality in both Crohn's disease and Ulcerative Colitis groups



Conclusion

- ❑ DOACs are safer alternative to warfarin in IBD patients with AF, particularly in reducing the risk ICH and mortality.
- ❑ DOACs should be considered as the preferred anticoagulant in this population, given their comparable efficacy and superior safety profile.
- ❑ Further studies are warranted to confirm these findings and assess long-term outcomes.

References

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2. Choi YJ, Choi EK, Han KD, et al. Increased risk of atrial fibrillation in patients with inflammatory bowel disease: A nationwide population-based study. World J Gastroenterol. 2019 Jun 14;25(22):2788-2798. doi: 10.3748/wjg.v25.i22.2788. PMID: 31236001; PMCID: PMC6580358

A Rare Complication of DRESS Syndrome in the Treatment of Cardiac Device Related Lead Thrombus and Infective Endocarditis

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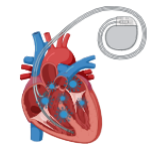
[1]Royal United Hospital, Bath

Royal United Hospitals Bath NHS Foundation Trust

No conflict of interest

History

- 65-year-old male collapses after consuming 8 pints of beer.
- PMH: Dual-chamber PPM for heart block, IDDM, COPD.
- WCC 14.8, N 10.2, CRP 7, Hb 157, Troponin 323, Cultures -ve
- Treated for IE COPD and Type 2 MI

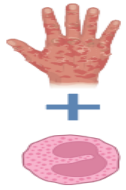


1st week of Admission

- CTPA shows mass formation around the pacing lead. (Figure 3)
- Transthoracic ECHO and TOE demonstrates large masses attached to the ventricular pacing lead within the right atrium (Figures 1, 2).
- PET CT shows no abnormal uptake.

3rd week of Admission

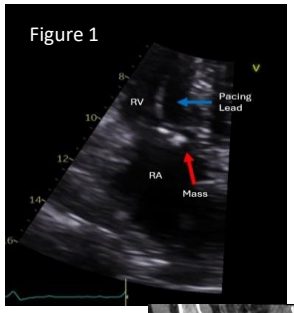
- MDT recommendation for culture negative IE antibiotics (Vancomycin, Gentamicin, Rifampicin), oral anticoagulation (Rivaroxaban) and device extraction.

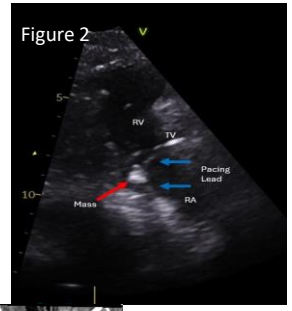


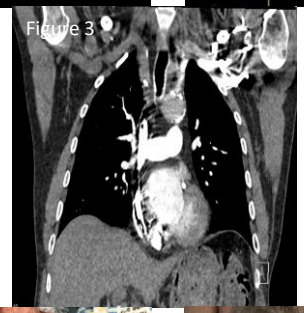
5th week of Admission

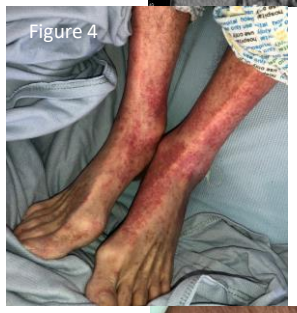
- Develops widespread macular rash (Figure 4, 5, 6), fever, and new eosinophilia consistent with DRESS.
- Evolving multi-organ failure despite cessation of antibiotics and Rivaroxaban.

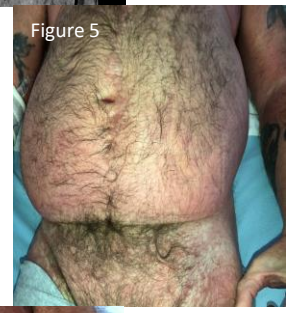
- Post-mortem (PM) examination confirms non-infective thrombus associated with the pacing lead measuring 5mm x 4cm.
- Allergic reaction evidenced by findings of dermatitis, highly elevated PM mast cell tryptase levels and atypical lymphocytosis.

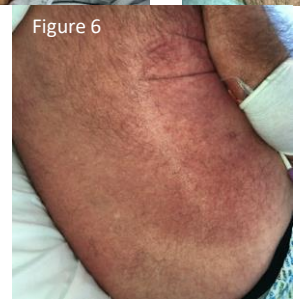












Discussion

- DRESS is a rare, serious adverse drug reaction (ADR) marked by an extensive morbilliform rash, involvement of visceral organs, generalised lymphadenopathy, eosinophilia, and atypical lymphocytes.[1]

- Despite stopping the offending drug (Table 1), disease flares may persist, and the disease course is typically prolonged between 2-8 weeks.[2]
- Corticosteroids can be considered in severe cases of DRESS.

Medications associated with DRESS (Table 1)	
Highlighted in Red are more common	
Drugs category	Drugs
Anticonvulsants	Phenytoin, Lamotrigine, Carbamazepine, Valproic acid, Gabapentin
Antidepressants	Fluoxetine, Bupropion
Antihypertensives	Amlodipine, Captopril
Antimicrobials	Amoxicillin, Tazocin, Vancomycin, Sulfonamide, Ciprofloxacin, Metronidazole, Rifampicin, Streptomycin, Terbinafine, Isoniazid
Antivirals	Abacavir, Nevirapine, Zalcitabine
Biologics	Efalizumab, Imatinib
NSAIDS	Celecoxib, Ibuprofen, Diclofenac
Proton Pump Inhibitors	Omeprazole, Pantoprazole, Ranitidine
Miscellaneous	Allopurinol, Amiodarone, Epoetin alfa, Mexiletine

- The prevalence of intracardiac thrombi on transvenous leads from cardiac implantable devices varies widely, ranging from 1.4% to 30%.
- Most of these thrombi are found incidentally during lead extraction or on intracardiac echocardiography during ablation procedures.[5]
- Anticoagulation therapy is the mainstay of treatment for most intracardiac pacemaker lead thrombus.
- Lead extraction is generally recommended due to the risk of recurrence.[6]

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PATIENT AND FAMILY UPDATES IN A DISTRICT HOSPITAL; A QI PROJECT

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Manchester University NHS Foundation Trust[1], Southport and Ormskirk Hospital NHS Trust[2], Bolton NHS Foundation Trust[3]

INTRODUCTION

- Regular patient updates and involvement of family members in updates could impact patient's outcome and quality of care in a beneficial way[1].
- Assuring proper and structured family involvement will improve quality of care for both patients who have capacity and under Deprivation of Liberty Safeguards (DoLS).

AIMS

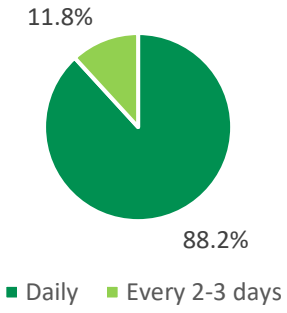
- 100% of patients, with and without capacity, to have their families involved and updated at least twice a week within 12 months.

METHODOLOGY

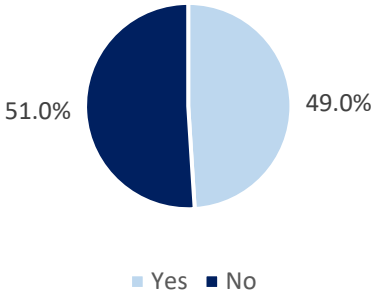
- A survey was distributed across medical and surgical departments to explore patients' perspectives on patient and family updates of clinical progress
- Following this, patients' data was collected from the electronic system on these variables: **Family members who were updated within 48 hours, Family members who were updated within 1 week, Information provided during family updates**
- Two PDSA cycles were conducted over a period of 6 months.

PATIENTS' SURVEY AND PERPSECTIVES RESULTS (n=51)

Do patients get updates by the doctors regarding their clinical progress on a daily basis?

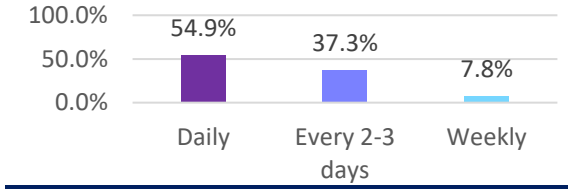


Have the patients been asked by the doctors if they would like their family members to be updated?

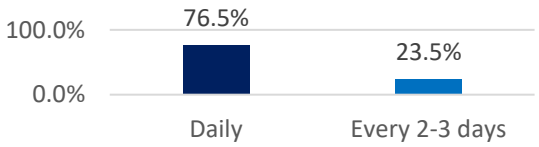


PATIENTS' SURVEY AND PERPSECTIVES RESULTS (n=51)

How often do the patients want their family members to be updated?

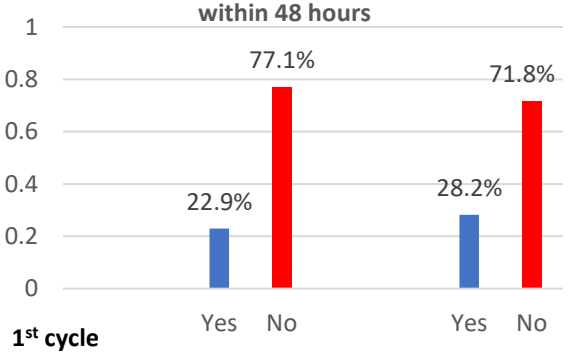


How often do the patients want their family members to be updated if they do not have capacity?



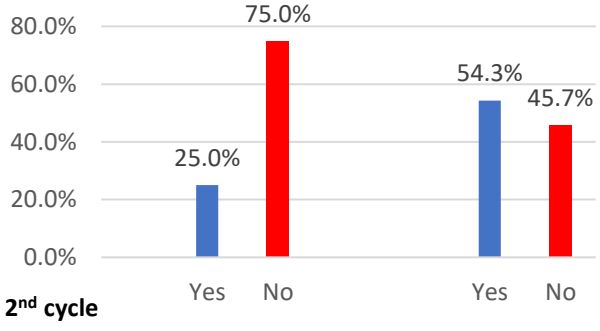
AUDIT RESULTS (n=46)

Family members who were updated within 48 hours



1st cycle

Family members who were updated within 1 week



2nd cycle

Number of patients who are under DOLS who had their relatives updated

1st cycle

2nd cycle

CONCLUSIONS

This project highlights the need to ensure **patients and family members are being updated regularly** especially the patients who lack capacity as family involvement will improve patient's satisfaction.

Vitamin D deficiency: Prevalence and Risk Factors in Hypothyroid patients of Kashmiri population.

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Introduction

Hypothyroidism is a prevalent endocrine disorder, often linked to various metabolic imbalances, including vitamin D deficiency. This study aims to assess the prevalence of vitamin D deficiency among hypothyroid patients in the Kashmiri population of Mirpur and identify associated risk factors.

Methods

A total of 150 hypothyroid patients aged between 18 and 70 years were recruited in Mirpur, Kashmir, for a cross-sectional study. The diagnosis of hypothyroidism was entertained on the basis of thyroid-stimulating hormone and free thyroxine. Serum 25-hydroxyvitamin D [25(OH)D] levels were measured to categorize vitamin D status as deficient (<20 ng/mL), insufficient (20-29 ng/mL), and sufficient (≥30 ng/mL). Data on demographic details, dietary intake of food items, sun exposure, and lifestyle factors of the respondents were collected using a semi-structured questionnaire. Chi-square tests were performed, as well as multivariate logistic regression, to ascertain which of the risk factors in the study were significant.

Results

Vitamin D deficiency was common, 76% with 18% insufficiency, while only 6% had sufficient levels. Females, 83%, were more affected than males, 68% ($p < 0.01$). Significant risk factors for deficiency included limited sun exposure (OR: 3.2, 95% CI: 2.1–4.8), high BMI (OR: 2.8, 95% CI: 1.7–4.2), and a sedentary lifestyle (OR: 2.5, 95% CI: 1.6–3.9). Dietary pattern showed low consumption of food items rich in vitamin D, which are fish and dairy products. So, high TSH had a higher risk of vitamin D deficiency with a significance of $p \leq 0.05$.

Conclusion

In the Kashmiri population of Mirpur, the common entity among hypothyroid patients is Vitamin D deficiency, especially the female sex. In this relation, modifiable risk factors are to a great deal related to sun exposure, obesity, and dietary habits. All these results bring into focus the need for routine vitamin D screening and selective interventions to enhance nutritional and lifestyle practices in this high-risk population. Further research is needed on how the addition of vitamin D could affect thyroid function and overall health outcomes.

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Temporal Trends in the Burden of Chronic Obstructive Pulmonary Disease in the United Kingdom Over the Past 3 Decades

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2)Royal Papworth Hospital NHS Foundation Trust, Cambridge, United Kingdom

Introduction

- Chronic obstructive pulmonary disease (COPD) imposes a significant global health and socioeconomic burden due to the resultant morbidity, diminished quality of life, and mortality.
- Accordingly, evaluating the temporal trends in the incidence and Disability-Adjusted Life Years (DALYs) of COPD in the United Kingdom (UK) is of vital importance as it enables risk stratification and introduction of health policy measures

Methods and Materials

- Data was retrieved from the Global Burden of Disease database.
- Evaluating the temporal trends in the age-standardized incidence rate (ASIR) and age-standardized DALY rate (ASDR) in the UK, and across the 4 nations (England, Northern Ireland, Wales, and Scotland) over the period 1990-2019.
- Joinpoint analysis software was used to calculate the Annual Percent Change (APC) and Average Annual Percent Change (AAPC).

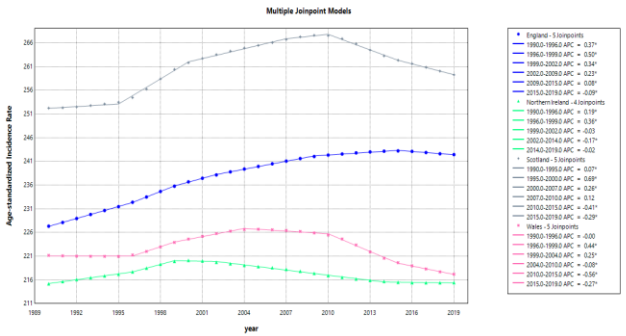

Figure 1:Temporal trends in the ASIR across the UK during 1990-2019.

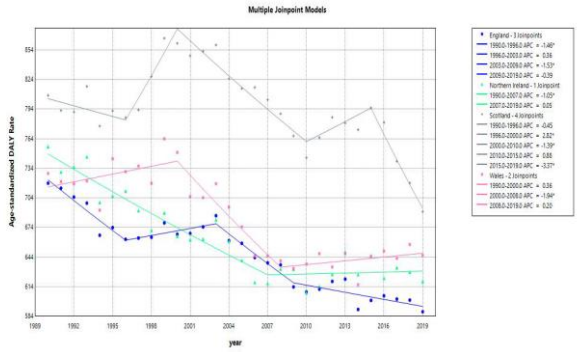

Figure 2:Temporal trends in the ASDR across the UK during 1990-2019.

Results

- Over the period 1990-2019, an estimated total of 7,135,764 COPD cases with a 54.2% female predominance was reported in the UK.
- A statistically significant increase in the ASIR was noted across the UK with an AAPC of 0.190 (95%CI 0.186 to 0.191, p<0.001).
- Interestingly, a variation in the trends was noted across the 4 nations. England and Scotland encountered a statistically significant increase in the ASIR with an AAPC of 0.24 and 0.16, respectively, whereas Northern Ireland and Wales encountered a statistically nonsignificant decline in the ASIR (Figure 1).
- Across England, a statistically significant increase was noted across all regions, with East of England encountering the highest increase with an AAPC of 0.280 (95%CI 0.278 to 0.281, p<0.001), followed by South West England (AAPC 0.275, 95%CI 0.273 to 0.277, p<0.001), and South East England (AAPC 0.275, 95%CI 0.273 to 0.277, p<0.001).
- Across the UK, a statistically significant decline in the ASDR was noted with an AAPC of -0.614 (95%CI -0.687 to -0.538, p<0.001).
- A similar trend was identified across the 4 nations, where a statistically significant decrease in the ASDR was noted, with England encountering the highest decline (AAPC -0.671, 95%CI -0.743 to -0.593, p<0.001), followed by Northern Ireland (AAPC -0.594, 95%CI -0.719 to -0.467, p<0.001), Scotland (AAPC -0.512, 95%CI -0.648 to -0.406, p<0.001), and Wales (AAPC -0.339, 95%CI -0.451 to -0.219, p<0.001) (Figure 2).
- Across England, a statistically significant decline in the ASDR was also observed across all regions, with Greater London encountering the highest decline (AAPC -0.966, 95%CI -1.03 to -0.886, p<0.001), followed by West Midlands (AAPC -0.729, 95%CI -0.817 to -0.635, p<0.001), and North West England (AAPC -0.688, 95%CI -0.777 to -0.588, p<0.001).

Conclusions

Over a span of 3 decades, the UK observed a significant increase in the incidence of COPD while also encountering a significant decline in the disability-adjusted life years. These findings present a worrisome trend in the incidence and thus requires prompt recognition to evaluate the factors contributing to such findings.

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INTEGRATED SDEC PATHWAY: STREAMLINING SPECIALTY REVIEWS FROM PRIMARY CARE AT BASILDON UNIVERSITY HOSPITAL

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INTRODUCTION

Unnecessary hospital admissions strain resources and disrupt patient flow. The COVID-19 pandemic worsened outpatient backlogs, resulting in 6–12 month waits for specialty reviews at Basildon University Hospital.[1] Semi-urgent referrals that don't meet urgent 2-week criteria but need timely specialist input often lead to admissions due to a lack of alternatives. To address this, we developed an Integrated SDEC pathway, allowing direct specialty reviews for semi-urgent primary care referrals. This pathway provides timely input for suitable cases and does not replace routine outpatient clinics.

METHODS

- ❑ Collaborated with specialty leads to establish SDEC integration
- ❑ Inclusion criteria :NEWS <3, already reviewed by GP and referred as semi-urgent
- ❑ Assessments were conducted by consultants or specialist registrars from the relevant specialty. (Figure1)
- ❑ Data was collected to evaluate the number of patients reviewed through SDEC specialty review pathway ,its effectiveness and cost savings over 3 months in year 2023 and 2024.

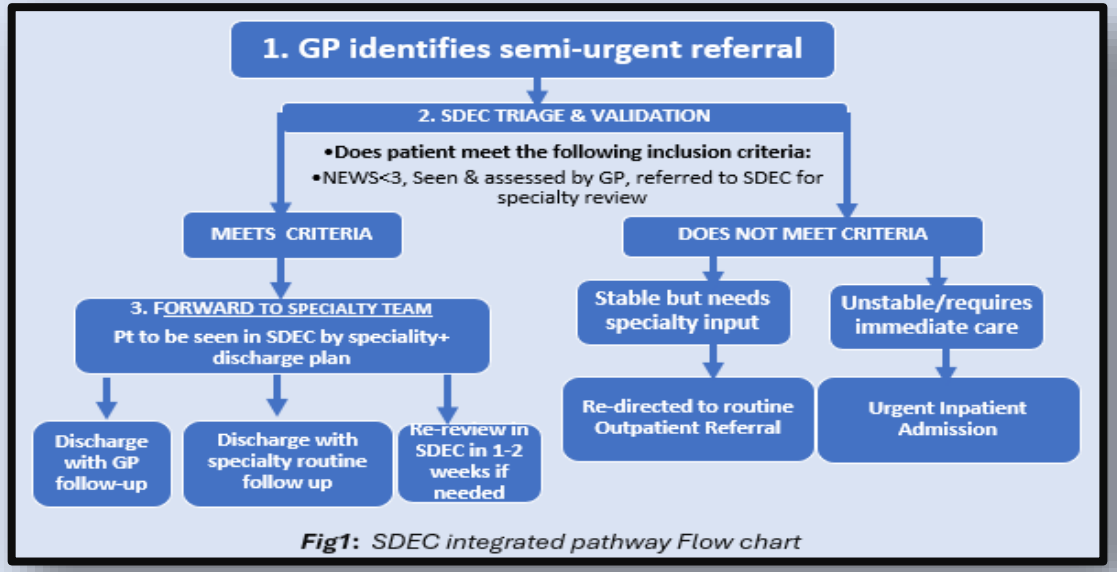

Fig1: *SDEC integrated pathway Flow chart*

RESULTS

In 2024, specialty reviews via the SDEC pathway rose by 28.4%. Average wait time dropped to one week, compared to the usual 3–6 months.[2] This avoided 24–48-hour inpatient stays, saving an estimated £76,145–£152,290 over three months, with projected annual savings of £304,580.

Fig 2: *Increase in SDEC Specialty Reviews (Left-Blue) & Estimated cost savings (Right-Orange) (2023 VS 2024)*

DISCUSSION

This pathway shows that structured triage and collaboration between primary and secondary care can improve outcomes and reduce unnecessary admissions. It was first piloted with high-demand specialties—neurology, dermatology, and rheumatology—chosen through data analysis to target areas where outpatient delays often led to admissions.
Strict inclusion criteria ensured appropriate patient selection and avoided system overload.[3] While early results are promising, continued evaluation of outcomes and resources is key to long-term success. Future plans include expanding to more specialties while maintaining manageable capacity.

CONCLUSION

The Integrated SDEC Specialty Pathway enables timely reviews, easing outpatient backlogs, avoiding unnecessary admissions, and saving costs.

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In-reach clinical pharmacology and toxicology service at a tertiary care hospital: preliminary audit findings

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b *National Poisoning Information Services, Cardiff*
c *All Wales Therapeutics and Toxicology Centre, Cardiff*

Funding: *None*
Conflicts of interest: *None to declare*
Acknowledgements: *Dr. Stephen Yu (data collection)*

Introduction

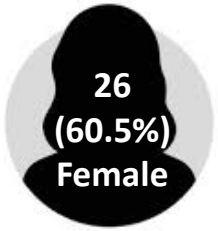
- Adverse drug reactions - 16.5% hospital admissions. [1]
- In-patient medical toxicologist service reduces length of hospital stay & improved outcomes [2-4]

Methods

- Service commenced October 2024 with twice weekly rounds
- Specialist input on overdose (OD), adverse drug reactions (ADRs), complex hypertension and drug allergies
- Prospective data collection from emergency department & medical assessment unit on secure MS Forms
- Screened through in-patient electronic lists & verbal handover
- 43 pts reviewed over 24 service days
- Data analysed using SPSS ver 22.0
- Illustrations and graphs using ChatGPT & BioRender

Results

Figures: 1 – Patient characteristics



30 (69.8%) Emergency

14 hrs 23 mins
(IQR 8hrs 39mins – 33hrs 11mins)

Length of stay:
1 day (0 - 3 days)
Discharge:
12 (27.9%)
Mortatlity:
1 (2.3%) -Sepsis

Fig: 2 – Age distribution

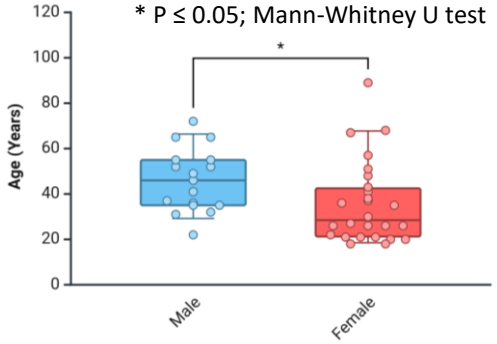


Table: 1

Case presentations	n (%)
DRESS/ TEN	1 (2.3)
Hypertension urgency	1 (2.3)
ACE-i angioedema	1 (2.3)
Smoke inhalation injury	1 (2.3)
Single OD – Paracetamol	12 (27.9)
Mixed OD - Paracetamol	8 (18.6)
Single OD - Psychotropics	6 (14)
Mixed OD – Psychotropics	3 (7)
Mixed OD - Others	7 (16.3)
Illicit substance misuse	3 (7)

Discussion

- Significantly younger female population
- Paracetamol OD remains common & affects morbidity/ mortality
- A 5-day service would reduce time to specialist review
- Length of stay is lower compared to 2023 /24 Cardiff acute admissions (8 days) [5]
- Adverse drug reactions – under-recognised/ overlooked/ better managed by other specialties

Conclusion

- In-reach service feasible with a scope to increase the service days
- Service integration with ED/ MAU facilitates early reviews/ discharges

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4.Curry SC, et al. J Med Toxicology. 2015 Mar 16;11(1):65–72.
5.CHKS report: Length of stay between Welsh & English NHS

Adherence to Guidelines in the Diagnosis and Management of Autoimmune Hepatitis

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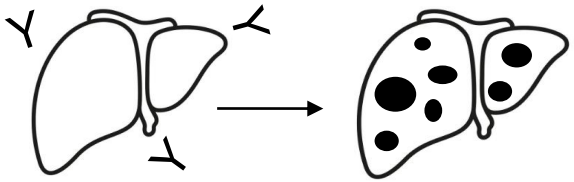
1. Oxford University Hospitals NHS Foundation Trust, Oxford, UK. 2. Frimley Health NHS Foundation Trust, Frimley, UK

Background and Aims



Autoimmune hepatitis (AIH) can cause high morbidity and mortality; around 30% of patients present with cirrhosis at diagnosis[1].

Prompt initiation of appropriate management and early identification of remission can prevent complications, including those associated with steroid use[2].

Aim: to evaluate the standard of care provided to confirmed AIH patients managed at Wexham Park Hospital (WPH) against EASL guidelines, to identify opportunities for improved practice.

Methodology

Medical records for AIH patients managed at WPH were retrospectively reviewed.

Data, as of November 2024, were collected for:

- Baseline characteristics
- Presentation and work-up at diagnosis
- Steroid provision and immunosuppressives
- Achievement of biochemical remission

Results

27 patients were included: 85% female, mean age of 59 years old (range 19-88).
Several patients were diagnosed outside of WPH (non-UK, private and other Trusts).
37% of patients were symptomatic on presentation, of which only 4% also had deranged liver function tests (LFTs). A separate 26% presented only with deranged LFTs and no symptoms.

Figure 1 (right) demonstrates overall presenting complaints, with the most prevalent symptom being jaundice. 14% presented acutely unwell as inpatients.

Table 1: *Percentage Achievement of Diagnostic Tests in the Total Cohort*

Diagnostic Test	LFTs	Viral Screen	Ig Levels	Auto-Ab Levels	Liver Imaging
Achieved in (%)	100	78	85	96	100

Biopsy was discussed in 89% of cases and successfully conducted in 74% overall. 60% of biopsy reports were deemed appropriate, with a mean wait of 41 days from date of biopsy to report. Of those biopsied, 35% had cirrhosis, 20% are known to have had steroids pre-biopsy and 75% had seen a Hepatologist. Post-biopsy, the latter rose to 95%. Mean simplified AIH score was 4.94 (range 3-7).

In all, 85% were managed solely as outpatients: Hepatology 52%, Gastroenterology 48%. 48% and 15% of cases were discussed in local and regional multidisciplinary meetings (MDM) respectively. Figure 2 shows combinations of pharmacological management in AIH.

Only 48% of patients had achieved biochemical remission; reasons for persistently active biochemistry include superimposed viral hepatitis, drug toxicity causing hepatic injury, suboptimal medication dosing and the need for further assessment of overlap syndromes under tertiary centres.

Few patients poorly engaged with outpatient services, and some were empirically commenced on steroids in primary care or prior to biopsy with subsequent loss to follow-up.

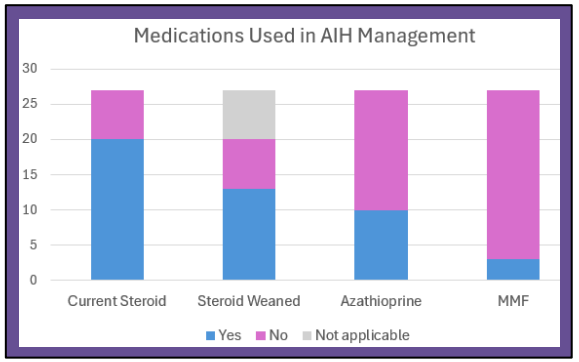


Figure 2: *Medications Used in AIH Management*

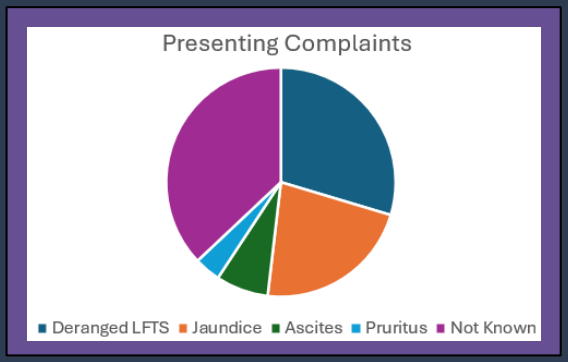


Figure 1: *Presenting Complaints of Patients with AIH*

Conclusion

For WPH AIH patients, a holistic work-up prior to diagnosis is well-achieved.

However, we can improve clinical practice with:

- Consistency in documenting disease course
- Appropriate and timely reporting of biopsies
- Referring for multidisciplinary discussion
- Organising early and ongoing Hepatologist review
- Closely monitoring for other liver disease, including drug-induced injury

Achieving better biochemical remission with:

- Careful titration of pharmacological management
- Identifying and treating other precipitating causes for deranged liver function tests

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Prescribing with Precision: Fluids, Food and Furosemide

Walsall Hospitals NHS
NHS Trust

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Introduction: Fluid prescription is a critical aspect of patient care, especially among inpatients aged over 65years, who are more susceptible to fluid and electrolyte imbalances due to aging and comorbidities (1). Studies show significant patient harm from inappropriate fluid management, with NICE reporting that one in five patients receiving IV fluids suffer complications, including pulmonary oedema in 67-89% (2). The West Midlands Better Training Better Care pilot demonstrated that 47% of resident doctors would prescribe 3L/24hrs maintenance fluids for a 70kg patient, exceeding NICE recommendations of 2.1L (3) and 22% of patients made nil by mouth (NBM) remained without oral intake for >72 hours without reassessment plans (4). This study examined fluid, nutrition and diuretic prescribing practises within the elderly medical patients.

Methods: This retrospective study examined electronic and paper records of individuals over 65-years admitted to medical wards. Data collected included patient demographics, weight documentation, rationale for NBM status or maintenance fluids, prescribed fluid volumes and types, electrolyte abnormalities and corrections, and renal function (including community and/or hospital-acquired AKI). Accuracy of fluid balance documentation and NBM resolution processes were assessed.

Results: **37** patients (mean age 80.9 ± 9.1 years) were included. Key results are summarised in (Table 1). There was a negative correlation between total IV fluid administered and longer length of stay (LOS) *(Figure 1)*.

Results: The study population was small and revealed trends rather than statistical significance. NBM patients had longer LOS (16.4 ± 14.2 days) than non-NBM (9.62 ± 7.34 days), p=0.2. NBM patients received more IV fluids (0.76 L/day) than non-NBM patients (0.46 L/day), p=0.19. Furthermore, higher volumes of fluid administration and greater changes in weight were associated with 90-day mortality (Figures 2 & 3 respectively).

Variable	Value
Total Patients (n)	37
Mean Age (years)	80.9 ± 9.1
NBM Patients (%)	27%
Median NBM Duration (days)	3.5
Diuretics Appropriately Withheld (%)	37.5
SALT Assessment in NBM Patients (%)	10%
Final Weight Missing (%)	51.4
Mean Weight Loss (kg)	2.56 ± 4.24
IV Fluids (NBM, L/day)	0.76
IV Fluids (Non-NBM, L/day)	0.46
Length of Stay (NBM, days)	16.4 ± 14.2 (p = 0.21)
Length of Stay (Non-NBM, days)	9.62 ± 7.34
Fluids in 90-day Mortality Group (L/day)	0.79 (p = 0.19)
Fluids in 90-day Survivors (L/day)	0.37

Table 1: Summary of Patient Characteristics, Fluid management and outcomes

Conclusion: This study highlights notable deficiencies in fluid management for elderly inpatients, including excessive fluid administration, poor documentation, and prolonged NBM status without timely SALT review. Preliminary survey data from Resident Doctors showed inconsistent adherence to prescribing guidelines. These gaps increase patient risk and contribute to extended hospital stays. Targeted education, clearer protocols, and improved access to clinical information are needed to optimise fluid management and patient safety.

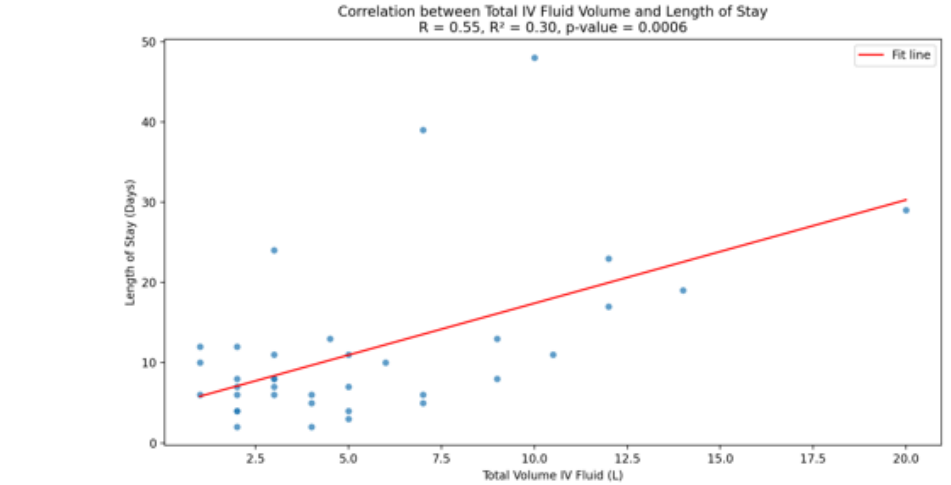

Figure 1: Average daily fluids by length of stay.

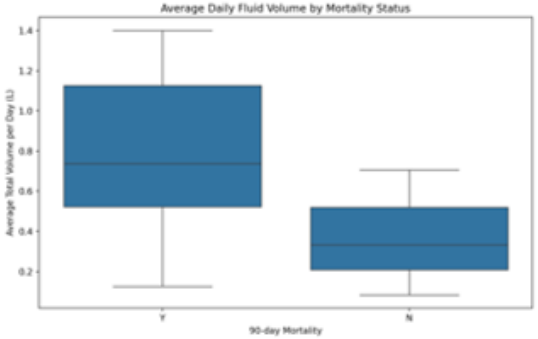

Figure 2: Average Daily Fluid Volume by Mortality status

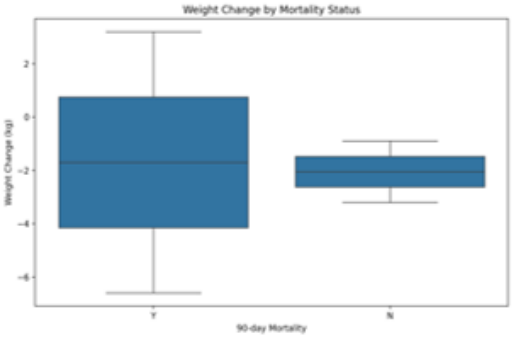

Figure 3: Weight change by Mortality Status

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Temporal Trends in the Burden of Multiple Sclerosis in the United Kingdom Over the Past 3 decades

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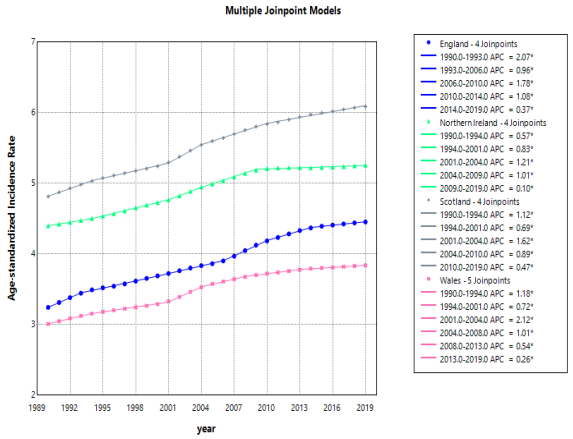
2)Royal Papworth Hospital NHS Foundation Trust, Cambridge, United Kingdom

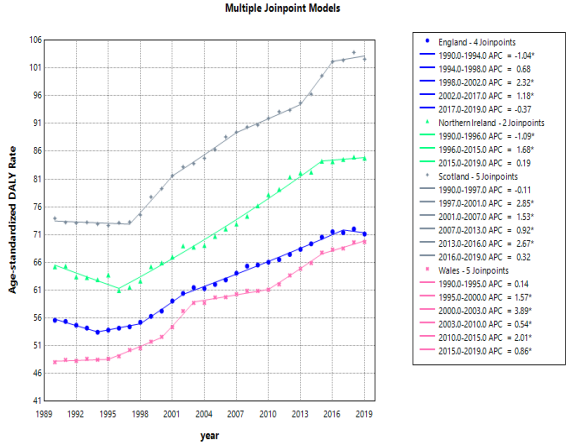
Introduction

- Multiple sclerosis (MS) imposes a significant global burden due to the associated morbidity and progressively diminishing quality of life.
- Evaluating the temporal trends in the incidence and the Disability-Adjusted Life Years (DALYs) of MS in the United Kingdom (UK) is of paramount significance as it enables risk stratification and introduction of health policy measures to tackle the associated burden.

Methods and Materials

- Temporal trends in the age-standardized incidence rate (ASIR) and age-standardized DALY rate (ASDR) in the UK, and across the 4 nations (England, Northern Ireland, Scotland, and Wales).
- Over the period 1990-2019.
- Evaluated by retrieving data form the Global Burden of Disease database.
- The Annual Percent Change (APC) and Average Annual Percent Change (AAPC) were calculated using Joinpoint Analysis software.





Results

- Over the span of 3 decades, an estimated total of 75,126 MS cases with a female predominance of 63.9% were reported across the UK.
- A statistically significant increase in the ASIR was noted across the UK with an AAPC of 1.03 (95%CI 1.02 to 1.04, p<0.001).
- A statistically significant increase in the ASIR was also noted across all 4 nations with England encountering the highest increase (AAPC 1.10, 95%CI 1.09 to 1.11, p<0.001), followed by Wales (AAPC 0.84, 95%CI 0.83 to 0.85, p<0.001), Scotland (AAPC 0.82, 95%CI 0.80 to 0.82, p<0.001), and Northern Ireland (AAPC 0.61, 95%CI 0.61 to 0.62, p<0.001) (Figure 1).
- Similarly, a statistically significant increase in the ASIR was noted across all regions in England with East of England encountering the highest increase (AAPC 1.23, 95%CI 1.22 to 1.24, p<0.001), followed by South East England (AAPC 1.23, 95%CI 1.22 to 1.24, p<0.001), and North East England (AAPC 1.19, 95%CI 1.18 to 1.20, p<0.001).
- A statistically significant increase in the ASDR was noted across the UK with an AAPC of 0.90 (95%CI 0.85 to 0.95, p<0.001).
- A statistically significant increase was noted across all 4 nations with Wales experiencing the highest increase (AAPC 1.29, 95%CI 1.24 to 1.32, p<0.001), followed by Scotland (AAPC 1.18, 95%CI 1.13 to 1.22, p<0.001), Northern Ireland (AAPC 0.90, 95%CI 0.79 to 0.99, p<0.001), and England (AAPC 0.85, 95%CI 0.80 to 0.90, p<0.001) (Figure 2).
- Across England, all regions encountered a statistically significant increase in the ASDR with North East England encountering the highest increase (AAPC 1.12, 95%CI 1.05 to 1.19, p<0.001), followed by East Midlands (AAPC 1.09, 95%CI 1.03 to 1.15, p<0.001), and Yorkshire and the Humber (AAPC 1.03, 95%CI 0.98 to 1.09, p<0.001).

Conclusions

Overall, the UK witnessed a significant increase in the incidence and disability-adjusted life years of multiple sclerosis over the past 30 years. These worrisome findings warrant prompt recognition and introduction of measures to effectively tackle the associated burden.

Figure 1:Temporal trends in the ASIR across the UK during 1990-2019. Figure 2:Temporal trends in the ASDR across the UK during 1990-2019.

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Association Between Insulin Pumps and Hospital Mortality in Patients with Myocardial Infarction: Insights from the Myocardial Ischaemia National Audit Project (MINAP)

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Introduction

- NICE (National Institute of Health & Care Excellence) recommends using insulin pumps in patients with poorly controlled Type 1 diabetes and disabling hypoglycaemia despite multi-dose insulin therapy.
- Insulin pump therapy indication is now extending to Type 2 diabetes.
- Does insulin pump therapy influence hospital mortality in patients with myocardial infarction?

Method

- 32,575 patients with insulin-treated diabetes in the MINAP (Myocardial Infarction National Audit Program) from 2012-2022.
- Comparison between patients with and without insulin pump therapy (3,321 vs 29,254).
- Multivariable regression and propensity score matching

Insulin pump users have higher hospital mortality following myocardial infarction.

Results

- Insulin pump users had a higher in-hospital mortality rate compared to non-users (11.4% vs. 5.9%, p<0.001).
- Insulin pump use remained an independent predictor of mortality after adjustment (OR: 1.75, 95% CI: 1.45–2.10, p<0.001).
- This association persisted even after propensity score matching, suggesting that unmeasured factors may contribute to the increased risk

Conclusion

Insulin pump use in MI patients is associated with higher in-hospital mortality, likely reflecting the complex metabolic risks of pump users rather than an adverse effect of the pump itself. These findings emphasise the need to carefully manage pump users during acute cardiac events, including close glucose monitoring and individualised treatment strategies.

Figure 1

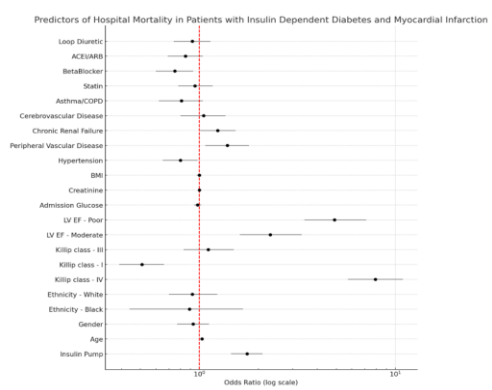


Figure 2

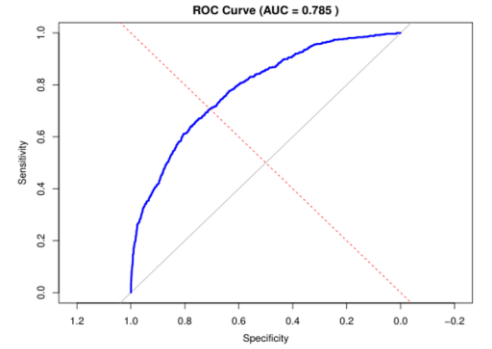


Table 1

Multivariable Logistic Regression Results

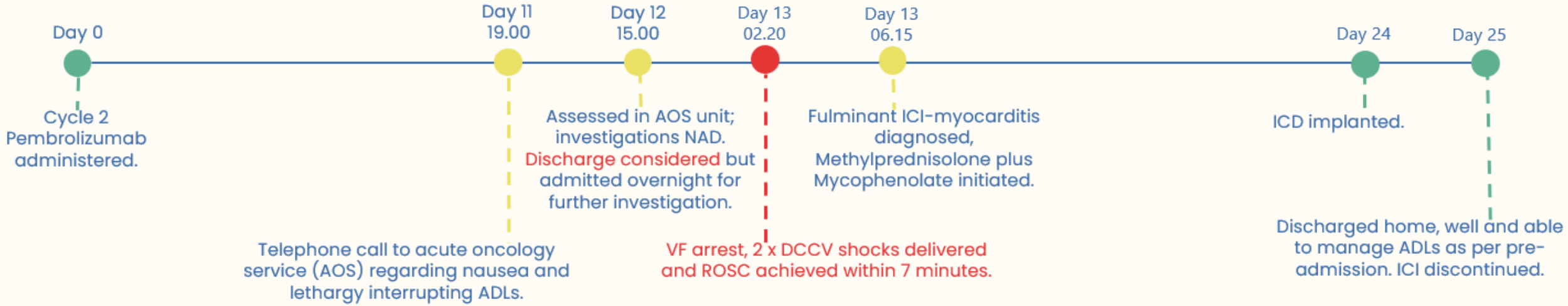
Variable	Odds Ratio (OR)	Confidence Interval (CI)	P-value
Insulin Pump	1.75	1.45 - 2.10	<0.001
Age	1.03	1.03 - 1.04	<0.001
Gender	0.93	0.77 - 1.12	0.46
Ethnicity - Black	0.89	0.44 - 1.67	0.73
Ethnicity - White	0.92	0.70 - 1.23	0.58
Killip class - IV	7.9	5.73 - 10.94	<0.001
Killip class - I	0.51	0.39 - 0.66	<0.001
Killip class - III	1.11	0.83 - 1.50	0.47
LV EF - Moderate	2.3	1.61 - 3.33	<0.001
LV EF - Poor	4.89	3.43 - 7.10	<0.001
Admission Glucose	0.98	0.94 - 1.02	0.26
Creatinine	1.0	1.00 - 1.01	0.17
BMI	1.0	0.97 - 1.02	0.69
Hypertension	0.8	0.65 - 0.98	0.03
Peripheral Vascular Disease	1.39	1.07 - 1.79	0.01
Chronic Renal Failure	1.24	1.01 - 1.53	0.04
Cerebrovascular Disease	1.05	0.80 - 1.36	0.72
Asthma/COPD	0.81	0.62 - 1.04	0.1
Statin	0.95	0.78 - 1.17	0.65
Betablocker	0.75	0.60 - 0.93	0.01
ACEI/ARB	0.85	0.69 - 1.04	0.12
Loop Diuretic	0.92	0.74 - 1.14	0.44

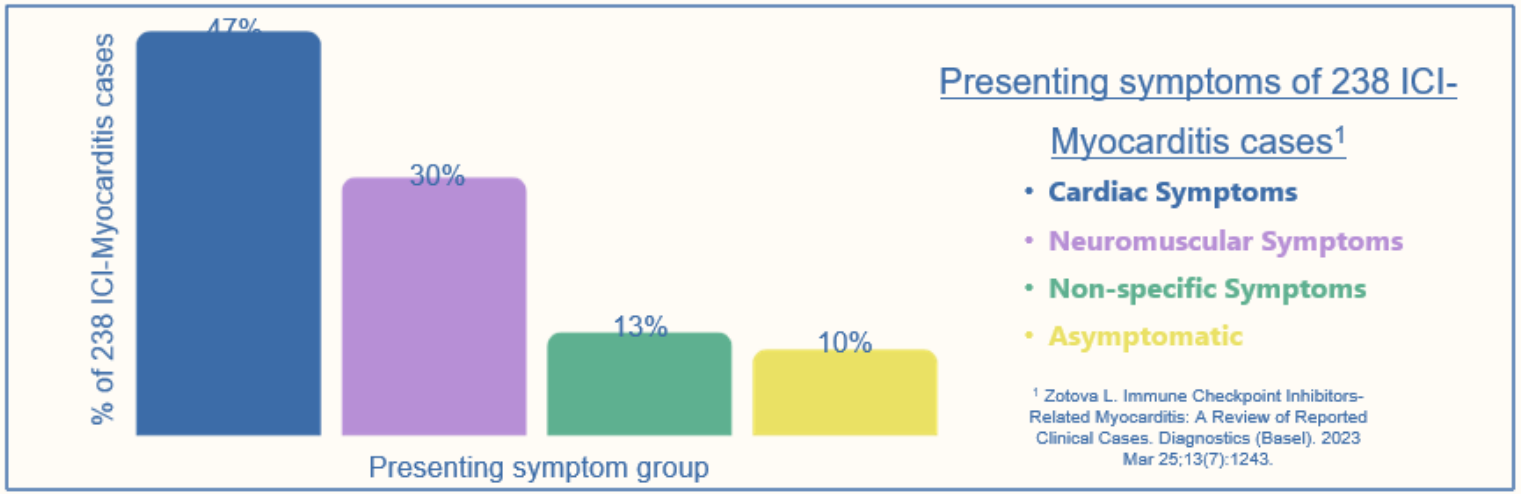
VF ARREST SECONDARY TO IMMUNE CHECKPOINT INHIBITOR (ICI) ASSOCIATED MYOCARDITIS

Dr Victoria Floyd-Ellis, Swansea Bay University Health Board, Wales

A 74 year old female was treated with PDL-1 ICI, Pembrolizumab, for stage 2 malignant melanoma.

Relevant past medical history included hypertrophic cardiomyopathy and a 50 pack year smoking history.





Maintaining a high clinical suspicion for ICI toxicity in patients who report non-specific symptoms can significantly improve patient outcomes.

The Frequency and Patterns of Neonatal Mortality in Maternity and Childhood Hospital in Mukalla, Hadhramaut Governorate (2020-2021)

Abdullah, Abdullah; Alhamimi, Areej; Batarfi, Abdullah; Bawazir, Asma; Bin Damnan, Sarah; Alsebaii, Alia; Molaldawila, Aisha; Bugshan, Rahaf; Alkatheri, Safa; Baqalaql, Fatima; Mouladwelleh, Salim; Balfaqiah, Khadijah; Alobathani, Raghad; Binalshaikh Abobaker, Ibrahim; AL-thybani, Aseel; Ba Musa, Mohammed; Alsakkaf, Mohammed; Al-aidroos, Mohammed; Obied, Sadeq; Baabbad, Abdulrahman; Alawbathani, Jana; Al-obady, Osama; Al-Ammari, Sahar; Bin-Ghouth, Abdullah

Introduction

The neonatal period is defined as the first 28 days of life; it is a core indicator of neonatal health and well-being, and it is becoming a prominent component of overall under-five mortality.1 Children face the highest risk of dying in their first month of life at an average global rate of 17 deaths per 1,000 live births in 2020.2 Since there is one case-control study done regarding neonatal mortality at Maternity and Childhood Hospital.3 There is a pressing need for updated data to improve health care. Therefore, this study aims to determine the frequency and patterns of neonatal mortality in Maternity and Childhood Hospital in Mukalla, Hadhramaut Governorate.

Materials and methods

A cross-sectional study was carried out on 221 medical records of neonates admitted to Maternity and Childhood Hospital during the period from January 2020 to December 2021. Data was obtained from neonates' medical records using a checklist adapted from the World Health Organization guideline on neonatal mortality review and audit.4 Then, the collected data was checked for accuracy and completeness, organized and entered into SPSS software (version 25) to summarize the data frequency and percentage.

Results

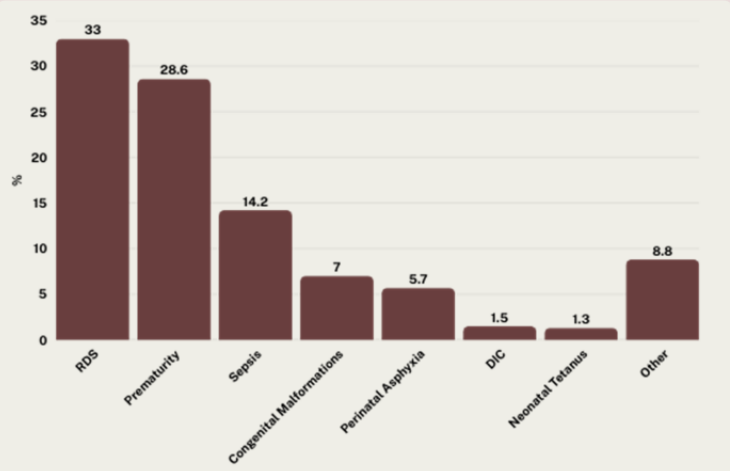


Figure 1. Causes of Neonatal Mortality in Maternity and Childhood Hospital

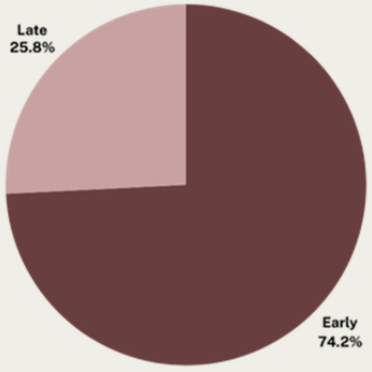


Figure 2. Death Occurrence in Neonatal Periods

Conclusion

Most of the deaths occurred in the early neonatal period. RDS, prematurity, and LBW were the major causes of neonatal mortality. Upon these findings, intensive efforts are needed from the Ministry of Public Health and Population to improve neonatal care during the first week of life.

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Enhancing Clinical Shock Management: Integrating Point-of-Care Ultrasound in Internal Medicine Wards: a quality improvement project

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Co-author: Mohamed Alsaman , senior medical officer, Mohamed.alsaman@moh.gov.bn

Introduction

Clinical shock is a life-threatening condition that requires urgent identification and intervention to prevent organ failure and reduce mortality, which ranges from 20–50% depending on the underlying cause. Traditional diagnostic tools may be delayed or limited in internal medicine wards, where immediate access to imaging is not always available. Despite widespread adoption in emergency and ICU settings, POCUS remains underutilized in general medical wards. The aim of this QIP is to implement POCUS in internal medicine wards as a standard diagnostic tool for shock, improve clinician confidence, and enhance patient outcomes through earlier, targeted interventions.

Methods

- Two PDSA cycles (3 months each) conducted
- Cycle 1: Baseline data (n 43 / mean age 49 years) – admitted with clinical shock - no routine POCUS
- Cycle 2 Intervention:
- 📚 2 CME sessions on RUSH protocol
- 🩺 12 bedside training sessions (internal medicine staff)
- 🖥️ 3-week radiology rotation for skill reinforcement
- 📱 Deployed 2 handheld ultrasound devices
- start FAMUS accreditation providers
- Re-audit: POCUS used on 40 new shock cases ((mean age 46 years) in Cycle 2

Results

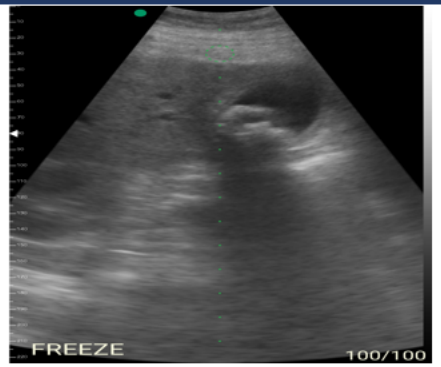

Fig.1 POCUS showing acute cholecystitis with large GB stones in shocked patient in cycle 2 – informed consent attained

	PrePOCUS (CYCLE 1)	PostPOCUS (CYCLE 2)
Number of clinicians using POCUS	0	14
Clinician confidence in RUSH scan	Not applicable	100% (n.14) confidence
Need of advanced imaging in diagnosis during 1st 24-48 hours of admission	Common (23 CT scans, 3 MRI, 5 ultrasound, 5 TTE)	Reduced via bedside POCUS (20 CT scan, 2MRI, neither ultrasound or echo needed)
Early objective diagnosis of underlying pathology (e.g., acute cholecystitis)	Often delayed till getting departmental scan	Made promptly using POCUS in 23 cases (out of 40)

Fig. 2 tabulated main QIP outcomes

Conclusion

The use of point-of-care ultrasound (POCUS) in internal medicine wards shows significant benefits in expediting diagnosis, improving patient outcomes. We aim to expand FAMUS-led training / accreditation program, maintain POCUS as routine bedside tool and scale project to other departments and hospitals.

References

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Burnout among hospital doctors working at a West Midlands Major Trauma Centre: a cross-sectional study

Author: Mr Alexandro Basso, Supervisor: Dr Amy Attwater

Background

The National Health Service (NHS) **is currently experiencing a workforce crisis among its doctor cohort** who are **now more likely than ever to leave the United Kingdom (UK) medical profession** (General Medical Council, 2024a) and a **risk of burnout that has steadily increased since 2018** which peaked in 2023 (General Medical Council, 2024b).

The GMC looks at risk of burnout in trainee doctors and trainers but **does not look at burnout across socio-demographic variables such as different age groups, gender identities, or professional grades**, and **does not explore whether there is an association between those at highest risk of burnout and who are contemplating leaving the UK profession**.

The GMC **uses a subset of the Copenhagen Burnout Inventory (CBI) consisting of seven questions** to determine risk of burnout and measures the extent to which **exhaustion is a result of work burnout** (Kristensen et al., 2005).

The Oldenburg Burnout Inventory (OLBI) is a widely validated tool (Halbesleben and Demerouti, 2005; Khan and Yusoff, 2016; Tipa, Tudose, and Pucarea, 2019) that can be used to measure burnout.

The OLBI has two primary advantages over the CBI:

1. The OLBI consists of **16 questions** and **captures burnout across its two core dimensions, exhaustion and disengagement**.
2. The OLBI **contains both positively and negatively phrased questions**, whilst the CBI contains only positively phrased question, and this **reduces the influence of response bias by introducing cognitive 'speed bumps'** (Podsakoff et al., 2003).

Objectives

Use the OLBI to determine prevalence of burnout among doctors working at University Hospital Coventry, a major trauma centre located within the West Midlands.

Investigate the association between socio-demographic variables, including thoughts on leaving the profession or the NHS, and the two dimensions of burnout

Investigate the association between socio-demographic variables, including thoughts on leaving the profession or the NHS, and burnout

Examine the potentially predictive relationship between socio-demographic variables and burnout.

Method

Online questionnaire → **Categorise into burnout group** → **Statistical analysis**

Table 1: Burnout group criteria

Burnout group	Mean exhaustion score	Mean disengagement score
Burnout	≥ 2.25	≥ 2.10
Exhausted	≥ 2.25	< 2.1
Disengaged	< 2.25	≥ 2.10
Non-burnout	< 2.25	< 2.1

References

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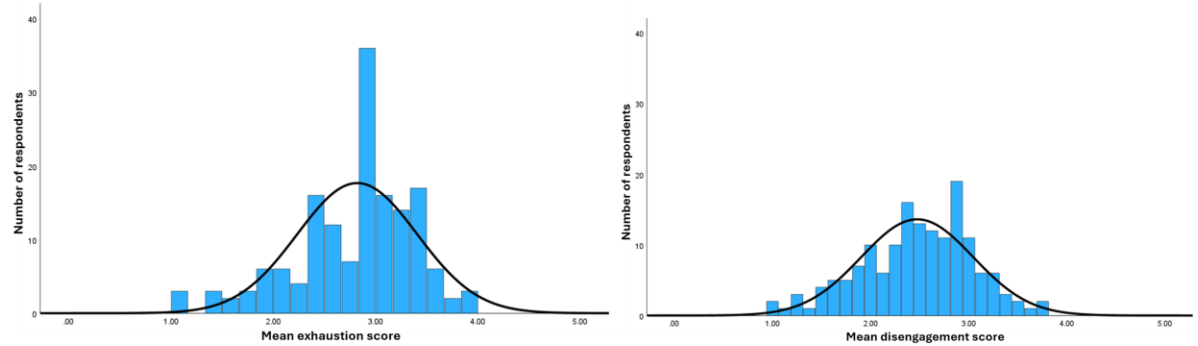
Results

156 participants total - mean exhaustion score of 2.82 and **mean disengagement score of 2.47.** The distribution of scores is seen in Figure 1.

Figure 1: Frequency distribution of mean exhaustion and disengagement scores



One-way ANOVA:
- Significant differences in exhaustion scores according to professional grade (F = 3.74, *p* = <0.05) and thoughts of leaving the profession or the NHS (F = 30.87, p < 0.001)
- Significant differences in disengagement scores according to professional grade (F = 5.34, *p* < 0.001) and thoughts of leaving the profession or the NHS (F = 31.95, *p* < 0.001).
- No statistically significant differences in either exhaustion or disengagement scores according to gender, ethnicity, age, or specialty.

Tukey's post-hoc:
- Resident doctors in lower training have a significantly higher exhaustion and disengagement scores than consultants.
- Foundation doctors and locally employed doctors/locum/SAS were found to have a significantly higher disengagement score than consultants.
- Those that answered **'strongly agree'** to thoughts of leaving the profession or the NHS showed significantly higher mean exhaustion and disengagement scores compared to all other responses.

Table 2: Pearson correlation table of socio-demographic variables, including thoughts on leaving the UK profession or the NHS, and mean exhaustion and disengagement scores

Variable	1	2	3	4	5	6	7	8
1. *Mean exhaustion score*	1							
2. *Mean disengagement score*	**0.76****	1						
3. *Gender*	0.0064	0.052	1					
4. *Ethnicity*	0.12	0.075	0.064	1				
5. *Age group*	**-0.20***	**-0.23****	-0.031	**-0.25****	1			
6. *Specialty*	-0.14	-0.045	0.12	-0.0074	**0.23****	1		
7. *Professional grade*	**-0.26****	**-0.30****	-0.068	**-0.28****	**0.67****	**0.22****	1	
8. *Thoughts on leaving the profession or the NHS*	**0.67****	**0.65****	0.019	0.087	**-0.22****	-0.017	**-0.37****	1

*** Correlation is significant at the 0.05 level (2-tailed).**

**** Correlation is significant at the 0.01 level (2-tailed).**

Table 3: Association between socio-demographic variables, including thoughts on leaving the profession or NHS, and burnout group, using Fisher-Freeman-Halton test

Variable	Value	*p value*
Gender identity	5.91	0.44
Age group	20.48	0.11
Ethnicity	7.60	0.37
Professional grade	12.39	0.29
Specialty	14.51	0.20
Thoughts of leaving the profession or NHS	68.42	**< 0.001**

Figure 2: Percentage of participants by burnout group

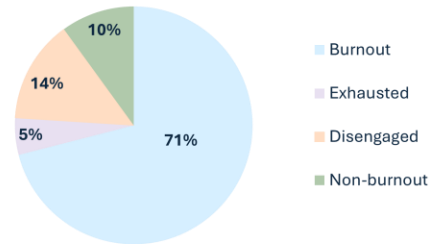


Table 4: Binary linear regression results between socio-demographic variables and burnout/non-burnout

Variable	*B*	*SE*	*Odds Ratio* [95% CI]	*p value*
Gender identity	0.09	0.32	1.09 [0.58, 2.05]	0.78
Ethnicity	-0.15	0.39	0.86 [0.40, 1.87]	0.71
Age group	-0.32	0.23	0.73 [0.47, 1.15]	0.17
Specialty	0.01	0.13	1.01 [0.78, 1.30]	0.96
Professional grade	-0.32	0.21	0.73 [0.49, 1.10]	0.13
Model X^2 = 11.39 (DF = 5, p < 0.05)				
Model Hosmer-Lemeshow test X^2 = 6.87 (DF = 8, p = 0.55)				
Nagelkerke R^2 = 0.10				

Conclusion

Burnout is a persistent and prevalent issue that affects doctors across all societal and demographic groups working at University Hospital Coventry.

Doctors who were **earlier in their careers were found to have statistically significant higher scores in both burnout dimensions compared to more senior doctors**.

Those experiencing burnout had a statistically strong association with thoughts of leaving the profession or the NHS.

Socio-demographic variables, collectively, are predictors of burnout, but **only 10% of the variation in burnout is accounted for by these variables.** Given the statistically strong association between burnout and thoughts on leaving the profession or NHS, this may indicate **factors not captured in this study such as those external to a doctor's locus of control play a key role in burnout.**

Introduction

- Group B Streptococcus (GBS), is a gram-positive, beta-hemolytic bacterium that was identified as a cause of fatal peripartum infections in 1938.
- Streptococcus agalactia is associated with life-threatening infections in the adult population such as blood stream infections, necrotizing fasciitis, and toxic shock syndrome.
- Streptococcus species are associated with 10-15% of continuous ambulatory peritoneal dialysis or CAPD-associated peritonitis,
- Only scarce data about GBS peritonitis exists in the literature.

Materials and Methods

- We reviewed the literature for culture-proven GBS CAPD peritonitis. Databases searched included PubMed, Google Scholar, and Scopus. Articles involved in the review originated from multiple geographic locations including the USA, Europe and Brazil.

Author	Age	Septic shock	Fatal infection	Treatment
Schröder *et al.* 1991	13 months	Yes	No	Tobramycin (IP) Cephalothin (IP)
Schröder *et al.* 1991	5 years	Yes	No	Tobramycin (IP) Cephalothin (IP)
Borra *et al.* 1992	52 years	Yes	Yes	Vancomycin (IV) Amikacin (IM)
Yinnon *et al*. 1993	63 years	No	No	Vancomycin (IP) Gentamicin (IP)
Pagniez *et al.* 1995	25 years	No	No	Piperacillin (IP) Cephalothin (IP)
Scanziani *et al.* 1999	23 years	No	No	Netilmicin (IP) Cephalothin (IP)
Liakopoulos *et al*. 2004	27 years	No	No	Tobramycin (IP) Ceftazidime (IP) Vancomycin (IV)
de Los Santos *et al*. 2010	52 years	No	No	Tobramycin (IP) Ceftazidime (IP) Vancomycin (IV)

Table 1. Summary of GBS peritonitis case reports with author information, patients' characteristics and antimicrobial treatment with route of administration. IP: intraperitoneal, IV: intravenous, IM: intramuscular.

Results and Discussion

- We found publications of culture-proven GBS peritonitis in the form of case reports describing eight cases.
- Five cases were reported between 1991-1995 including pediatric and adult patients.
- The course was complicated by septic shock in three of them. While one case was complicated by pleuroperitoneal fistula, two cases were complicated by bacteremia. One patient did not survive the infection. Presentation was similar to other forms of peritonitis and included fever and abdominal pain.
- **Table 1** summarizes the discussed cases.

Conclusions

- In the presence of limited data, no wide-scale conclusions can be made on CADP-associated GBS peritonitis. More research is needed to identify the epidemiology, complications and mortality rate of CADP-associated GBS peritonitis.

UTILITY OF SHORT FORM 36 (SF-36) HEALTH SURVEY QUESTIONNAIRE IN HEALTH-RELATED QUALITY OF LIFE ASSESSMENT IN PATIENTS WITH MYOSITIS

Almurtada Razok (Cook County Health), Ethan Ritz (Rush University), Jasmin Taylor (Rush Medical College), Kristin Wipfler (FORWARD, The National Databank for Rheumatic Diseases), Kaleb Michaud (University of Nebraska Medical Center), Didem Saygin (Division of Rheumatology, Rush University Medical Center)

INTRODUCTION

- Myositis is an autoimmune disease marked by weakness, fatigue, and pain, which significantly impair patients' quality of life, however there are no validated questionnaires to assess quality of life in patients with myositis
- This study aims to assess the utility of the short form (SF) 36 in quality-of-life evaluation of myositis patients

METHODS

- FORWARD is a U.S databank containing patient-reported data on rheumatic diseases. Information include quality of life, treatments, and hospitalizations biannually
- The SF-36 produces two scores: Physical and Mental Component Summary (PCS and MCS), ranging from 0 to100 each. Higher scores indicate better health
- Floor/ceiling effects were calculated as proportion of patients scoring 0-5 and 95-100, respectively. Discriminant and construct validity were assessed using proportion of a priori hypotheses. Responsiveness was assessed using a linear mixed models

RESULTS

- Data from 168 patients with myositis was included (77.3% female, 78.5% White) with an average age of 54.3 ± 13.8 years. Mean PCS and MCS were 36.5 ± 11.2 and 47.0 ± 12.0, respectively
- Distribution of PCS and MCS did not show floor and ceiling effects (Figure 1)
- Majority of a priori hypotheses for construct validity were met for both PCS and MCS (Table 1)

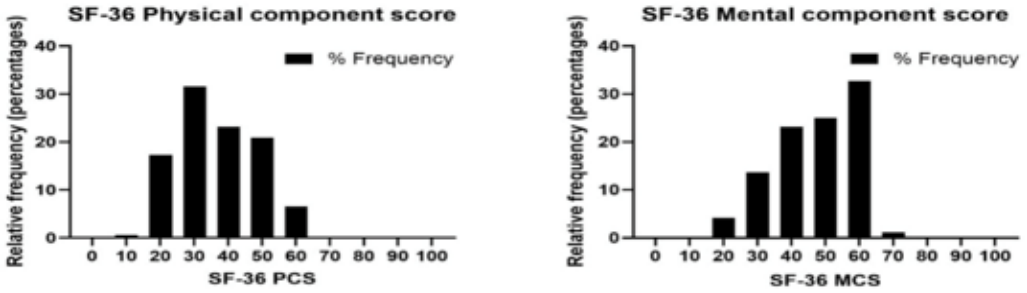


Figure 1. Distribution of SF-36 PCS and MCS scores

Table 1. A priori and observed correlations between SF-36 and variables

Variables	SF-36 PCS			SF-36 MCS		
	A Priori Hypotheses	Rho	Met?	A Priori Hypotheses	Rho	Met?
Symptom duration	Weak	-0.05	Yes	Weak	0.11	Yes
Age	Weak	0.12	Yes	Weak	0.21	Yes
Body mass index	Weak	-0.25	Yes	Weak	-0.01	Yes
Education level	Weak	0.17	Yes	Weak	0.21	Yes
Annual income	Weak	0.24	Yes	Weak	0.28	Yes
Pain level	Moderate	-0.56	Yes	Moderate	-0.43	Yes
Fatigue level	Moderate	-0.66	Yes	Moderate	-0.49	Yes
Patient global disease activity	Moderate	-0.66	Yes	Moderate	-0.43	Yes
HAQ-II	Strong	-0.79	Yes	Moderate	-0.30	Yes
PAS-II	Strong	-0.77	Yes	Moderate	-0.44	Yes
Rheumatic disease comorbidity index	Moderate	-0.27	No	Moderate	-0.27	No
Health satisfaction	Moderate	0.66	Yes	Moderate	0.42	Yes

- After controlling for age, sex, and obesity, all parameters including pain level, fatigue level, patient global disease activity, HAQ-II, PAS, and PSD were found to be significantly associated with changes in PCS and MCS over time (Table 2)

Table 2. Longitudinal relationship between change in SF-36 PCS and MCS and other outcome variables

Variables	SF-36 PCS		SF-36 MCS	
	Beta [CI]	P value	Beta [CI]	P value
Pain level	-1.68 [(-1.88) - (-1.47)]	<0.0001	-0.64 [(-0.91) - (-0.36)]	<0.0001
Fatigue level	-1.31 [(-1.51) - (-1.11)]	<0.0001	-1.29 [(-1.54) - (-1.04)]	<0.0001
Patient global disease activity	-1.22 [(-1.42) - (-1.02)]	<0.0001	-1.01 [(-1.26) - (-0.76)]	<0.0001
HAQ-II	-8.16 [(-8.93) - (-7.39)]	<0.0001	-2.50 [(-3.61) - (-1.38)]	<0.0001
PAS	-3.11 [(-3.37) - (-2.86)]	<0.0001	-1.43 [(-1.80) - (-1.05)]	<0.0001
Polysymptomatic Distress Scale	-0.56 [(-0.65) - (-0.47)]	<0.0001	-0.55 [(-0.66) - (-0.43)]	<0.0001

CONCLUSIONS

- SF-36 was able to distinguish patient subgroups and had significant correlations with pain, fatigue, disease activity, physical function and health satisfaction in myositis
- SF-36 has adequate discriminant and construct validity and responsiveness for health-related quality of life assessment in myositis

TULIP: THE UK Life Induction Programme

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Introduction

The UK's National Health Service (NHS) relies heavily on the contributions of doctors trained outside of the UK – approximately half of non-consultant doctors are international medical graduates (IMGs). The transition from one healthcare system to another, a new professional culture, and personal life in the UK can present significant challenges for these highly experienced professionals. We investigate the experiences of IMGs adapting to the NHS and propose a bespoke induction program designed to facilitate a smoother integration.

Methods

A survey of UK-based IMGs explored challenges in communication, finances, daily living, and NHS workplace culture. It also measured the impact on their transition, wellbeing & integration due to lack of proper induction & accessibility to such programmes.

Results

A total of 157 IMGs who were already working in the UK responded to the survey. Upon joining the NHS, they encountered multitude of challenges, as illustrated in Figure 1.

Lack of Formal Induction

Only 9% of IMGs received any induction from their employing organizations, highlighting a critical gap in support during transition into NHS

Self-Reliance in Adaptation

66% relied on personal experiences and learning to adapt, facing challenges due to lack of guidance and mentorship.

Emotional Impact

48% of respondents felt "depressed or lost“.

Affect on their potential

52% felt this affected their potential & prolonged their adaptation over 6 months.

Interest in Structured Programs

Many IMGs expressed strong interest in such programs, even willing to pay for CPD points.

Conclusion

TULIP addresses key challenges faced by IMGs, helping them reach their full potential. It bridges the gap between international training and UK clinical practice, while fostering entrepreneurship & innovation among healthcare professionals. The TULIP framework is shown in Figure 2.

Magnitude of therapeutic inertia in the management of hypertension in a tertiary care hospital in Central India

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Background: Hypertension remains a leading cause of global morbidity and mortality, with prevalence exceeding 1.4 billion and rising, particularly in LMICs Despite extensive guidelines, therapeutic inertia (TI) impedes optimal blood pressure (BP) control, contributing to poor outcomes. Hypertension prevalence in India is rising, but awareness, treatment, and control lag due to patient factors, poor health awareness, clinical latency, and physician prescribing behavior, leaving over 90% with uncontrolled blood pressure.

Materials & Methods: This facility-based cross-sectional study used a quality improvement approach to assess therapeutic inertia (TI) in hypertension (HTN) management, involved patient interviews, duplicate BP measurements, and anonymised physician feedback. Patients with known HTN were selected via stratified systematic random sampling, with OPD tickets screened for eligibility. The definition of TI across groups is shown in Table 1. and data parameters are recorded in Figure 1 (a, b). A total of 279 patient samples and 51 physician samples were collected. Data on demographics, adherence, BP readings, and prescription patterns were gathered. Provider assessments included vignette-based evaluations to distinguish TI from clinical myopia.

Table 1

		↑↓ Incongruent ↑↑ Congruent BP Readings	Therapeutic action	Action categories
A		↑↑	Escalation of dose/Addition of new drug/Change to new drug	Appropriate Active Therapeutic Action †
B	B1	↑↑ Adequate Patient Adherence to Antihypertensive drugs	No change in therapeutic decision	Therapeutic inertia Ω
	B2	↑↑ Inadequate Patient Adherence to Antihypertensive drugs	No change in therapeutic decision	Therapeutic inertia (likely due to non-adherence) Ω *
C		↑↓	Escalation of dose/Addition of new drug/Change to new drug	Potential white coat hypertension, with active therapeutic action ξ
D		↑↓	No change in therapeutic decision	Appropriate Action ϕ

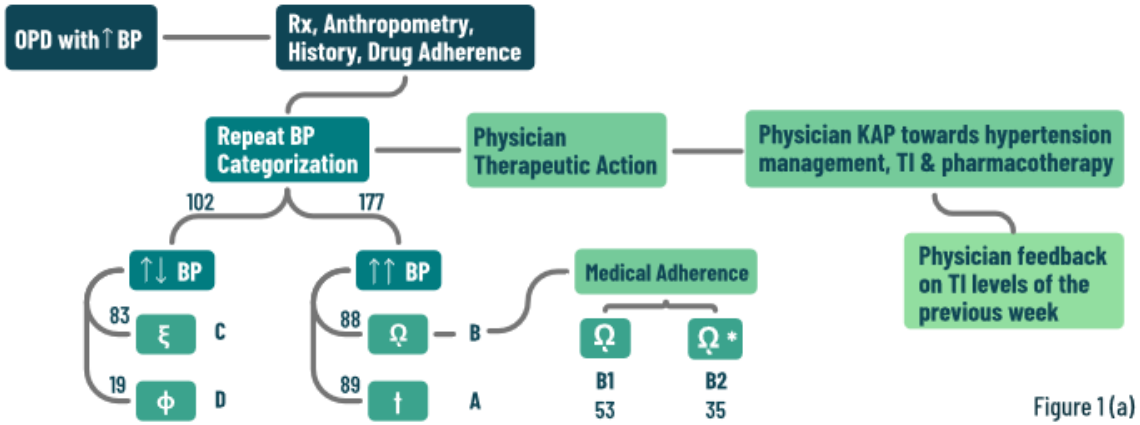


Figure 1 (a)

Results & Discussion: TI was acknowledged by 21.5% of physicians, with all citing erroneous BP readings as a barrier. Among patients, 63.7% had congruent elevated BP, of whom 49.7% (95% CI: 39.7–53.9%) did not receive appropriate intensification. Of this, 29.9% persisted despite adequate adherence. Conversely, 81.3% of patients with white coat hypertension received unnecessary therapeutic action. Repeat BP measurements reclassified one in three individuals as normotensive, underscoring its utility in reducing both over- and under-treatment. TI affects nearly half of patients with uncontrolled hypertension. Repeat BP measurement is a simple, scalable strategy to reduce misclassification and improve therapeutic decisions. Quality improvement initiatives targeting physician behaviour and diagnostic certainty are crucial for better hypertension control.

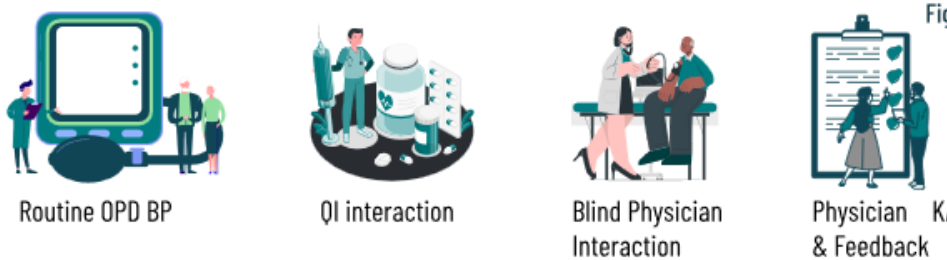


Figure 1 (b)

Quality Improvement Outcome: Repeat BP measurements reclassified one in three individuals as normotensive, underscoring its utility in reducing both over- and under-treatment. TI affects nearly half of patients with uncontrolled hypertension. Repeat BP measurement is a simple, scalable strategy to reduce misclassification and improve therapeutic decisions

1. Mills KT, Bundy JD et al. Global Disparities of Hypertension Prevalence and Control. Circulation. 2016 Aug 9;134(6):441–50.
2. Basile J. Clinical Inertia and Blood Pressure Goal Attainment. J Clin Hypertens. 2009 Nov 18;11(Suppl 12):S5–12.
Infographics designed and sourced from freepik.com

Patient Reported Outcomes for Menopause Management Interventions Study: PROMMIS

Annice Mukherjee[1,2], Anne Armstrong[3], Lucy Whitaker[4], Jackie Maybin[4], Rebecca Reynolds[4,5], Paula Briggs[6]

(1) Society for Endocrinology, Starling House, Bristol. **(2)** Centre for Intelligent Healthcare, Coventry University, Coventry. **(3)** The Christie NHS Foundation Trust, Manchester. **(4)** Centre for Reproductive Health, University of Edinburgh, Edinburgh. **(5)** Centre for Cardiovascular Science, Queen's Medical Research Institute, Edinburgh. **(6)** Department of Sexual and Reproductive Health, Liverpool Women's Hospital, Liverpool.

INTRODUCTION

Many women are now being offered hormone replacement therapy during menopause. However, there is a lack of real-world evidence, particularly concerning cardiometabolic, gynaecological risks, oestrogen-related cancers, and testosterone use in modern cohorts[1].

OBJECTIVES

To assess the impact of menopause management approaches on quality of life, measured by EQ5D and SF-36 questionnaires, with a focus on specific comorbidities and treatments, where clinical evidence is lacking.

Learn more about the UK PROMMIS Register by scanning the QR code in figure 1

STUDY DESIGN

PROMMIS, is an observational cohort study with retrospective and prospective components with data collection from the time of diagnosis of the comorbidity or start of index treatment and assessing variables of interest with up to five years of prospective data.

Figure 1

The data collection process allows the patient to use a secure online platform accessed via site-specific QR codes (Figure 1). Following patient consent, relevant data from primary care records will be obtained through automation, with options for additional input from secondary care.

METHOD

Data will be stored within a secure registry hosted by the Society for Endocrinology (SfE). The study is compliant with regulations (Figure 2), has received IRAS ethics approval, portfolio adoption onto the NIHR research delivery network and has now launched.

Figure 2

CONTACT INFORMATION; *Chief Investigator:* Annice Mukherjee. *Sponsor:* Society for Endocrinology, Bristol, UK. *Study contact:* research@endocrinology.org

Funding: Astellas, BESINS, Bayer and Lawley Pharmaceuticals have provided funding for this project via sponsorship. The project has been developed independently of these companies.

RESULTS

This study has now launched. The steering group chairs will share future developments and encourage stakeholders to engage with the registry through research questions and data access requests.

CONCLUSIONS

PROMMIS is a long-term study aiming to help shape the future of women's health and menopause-related research and practice.

REFERENCE

1. Mukherjee A, Davis SR. Update on Menopause Hormone Therapy; Current Indications and Unanswered Questions. Clin Endocrinol (Oxf). 2025 Jan 29. doi: 10.1111/cen.15211. Epub ahead of print. PMID: 39878309.

The Effect of Early Childhood Material Hardship Mitigation On Adolescent Success

Bria McKenzie & Frances Shofer, PhD

Introduction

- Academic outcomes are reduced in poor children and adolescents
- Income stratification corresponds with education outcomes
- Poverty & early exposure to material hardship (MH) found to negatively affect early childhood outcomes
- Yet some children 'beat the odds' and succeed
- Effect of mitigation of early MH on adolescent academic outcomes not fully explored

Specific Aims

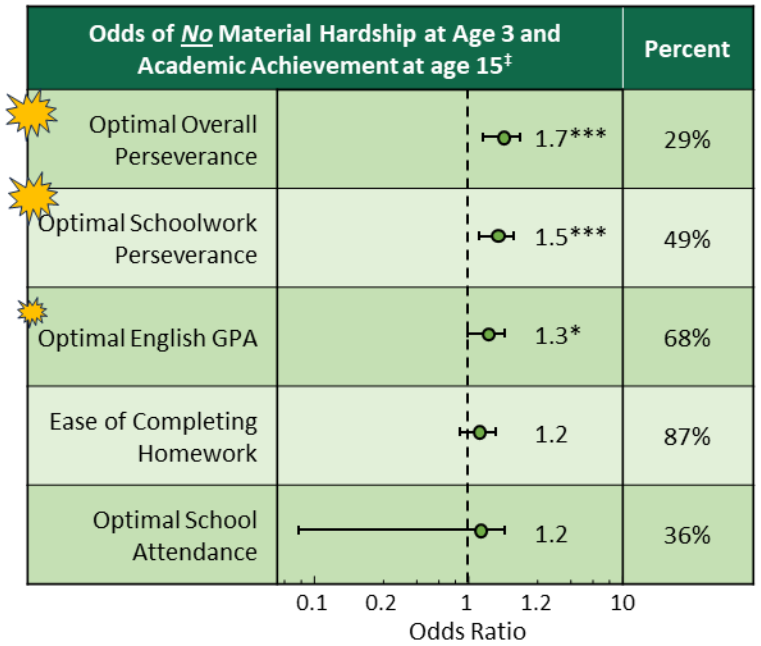
- To examine association between exposure to MH at age 3 & academic achievement at age 15 among adolescents, 200% below the poverty level
- To explore effect of MH mitigation at age 3 on adolescent academic success

Methods

- Cohort study - subjects were non-Hispanic Black adolescents in the Fragile Families and Child Well-Being (FFCW) database
  - Economically fragile families / children
  - N= 4,655 families
  - Data collection 1998-2000 to present
- Baseline demographics & MH survey from mother when child 3 yrs
  - MH variables: Housing, utility, and food insecurity, & medical hardship
- Academic achievement survey collected when adolescent 15 yrs
  - Variables: English GPA, school attendance, perseverance, homework completion ease
- Exclusion Criteria: No response to surveys
- Descriptive statistics characterized infant & mother demographics at birth, MH at age 3, Academic Success at age 15
- Logistic regression to determine odds of academic success at age 15, given MH at age 3

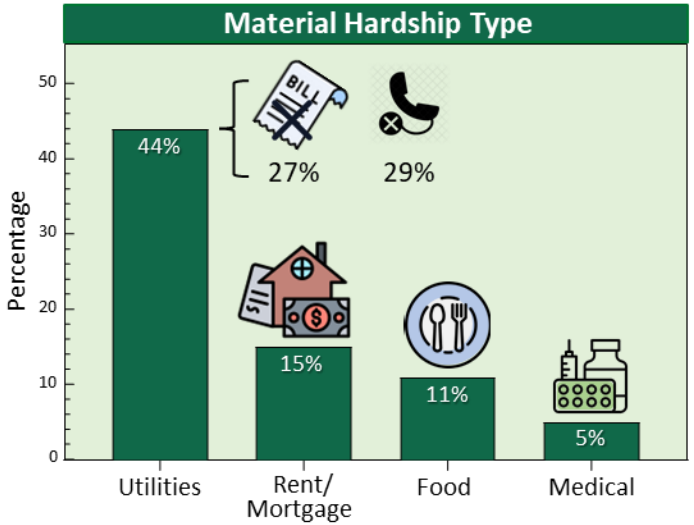
Results

- 956 non-Hispanic Black adolescents
  - 484 (51%) experienced one or more MH
- Mother's education level
  - < High school 40%
  - High school degree 39%
  - At least some college 21%
- Income-to-needs ratio
  - Below 50% 29%
  - 50%-100% 32%
  - Between 100%-200% 39%
- 447 (50%) female infant
- 843 (88%) normal birth weight infant



‡Models adjusted for mother's education, household income-to-needs ratio, infant's gender and birth weight status

*** p<0.001, ** P<0.01, * p<0.05



Discussion

- MH absence at age 3 significantly associated with optimal:
  - Overall perseverance
  - Schoolwork perseverance
  - English GPA
- Data suggest that absence of MH is protective for fragile, low-income children allowing them to 'beat the odds' and succeed during adolescence
- Poverty effect can be mitigated with added resources & home stability

Conclusion

- Significant positive impact of lowering instances of material hardship has policy implications
- Implications for adult health and success as poverty transmits intergenerationally
- Childhood MH impact should be considered when delivering clinical care to adolescents and adults

Dartmouth GEISEL SCHOOL OF MEDICINE

Microbiome-Driven Gene Dysregulation in Esophageal Cancer: A Multi-Omics Analysis

Dr. Chaitali Nath
College of Medicine and Sagore Dutta Hospital, Kolkata, India

Background

Esophageal cancer is increasingly recognized as not just a genetic disease, but one profoundly influenced by the host–microbiome axis. While chronic inflammation, immune evasion, and epithelial remodeling are well-established hallmarks of cancer progression, the precise mechanisms through which microbial communities drive these processes in esophageal tissues remain elusive. Previous studies have identified key microbial players—including Fusobacterium nucleatum, Campylobacter spp., and Porphyromonas gingivalis—as recurrently enriched in tumor microenvironments. These microbes may act as biological effectors, modulating host gene expression and orchestrating oncogenic shifts. This study seeks to uncover how specific microbial signatures influence host transcriptomic landscapes, and whether these alterations can be leveraged for early diagnosis, stratified risk prediction, and therapeutic innovation.

Methodology

Data Sources

- Host RNA-seq: GSE234304
- Microbial cfRNA: GSE174302

Analytical Pipeline

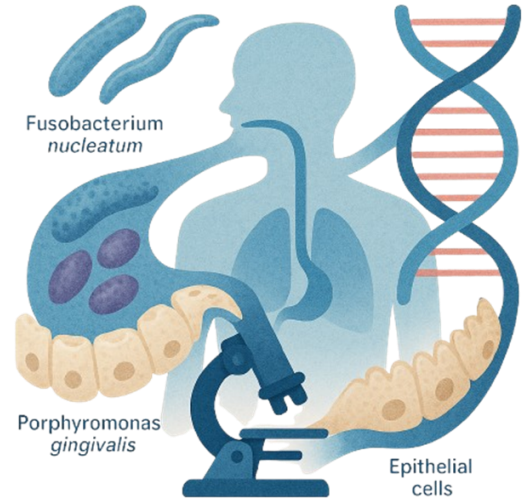
- Differential expression analysis using DESeq2 on ~57,500 genes.
- Focused on genes linked to immune activation and epithelial remodeling.
- Identified core microbial species using cfRNA profiles.
- Applied machine learning models to assess predictive potential.
- Compared findings with risk predictions from the Nath Score.

Objectives

- To identify host gene expression changes associated with esophageal cancer-linked microbial species
- To elucidate the interplay between immune activation, epithelial remodeling, and microbial dysbiosis
- To evaluate the diagnostic potential of microbial cfRNA signatures using machine learning

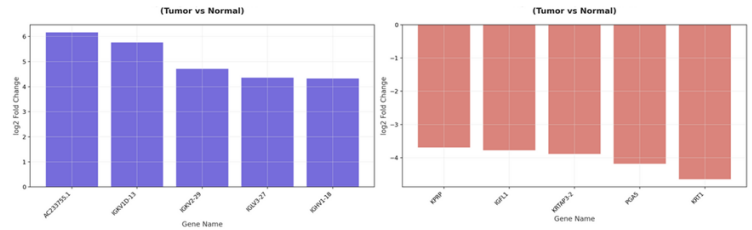
Conclusion

Our multi-omics analysis reveals that specific oral-origin microbes play a significant role in driving gene dysregulation in esophageal cancer. We observed an upregulation of B-cell immunoglobulin transcripts and a downregulation of genes linked to epithelial barrier function, suggesting a shift toward immune activation and tissue remodeling. Key species like Fusobacterium nucleatum and Porphyromonas gingivalis appear to mediate these changes, supporting a mechanistic link between the esophageal microbiome and carcinogenesis. The high predictive accuracy of our machine learning models based on transcriptomic data reinforces the clinical potential of microbial cfRNA as a biomarker for early detection. These findings emphasize the importance of integrating microbiome insights into oncologic research and open new avenues for non-invasive diagnostics and therapeutic strategies.



Results

- **Upregulated Genes:** B-cell immunoglobulins including IGKV1D-13, IGKV2-29, IGHV3-64D
- **Downregulated Genes:** KRT1, PGA5, KPRP – associated with epithelial integrity and gastric function
- **Key Microbial Species Identified:** *Fusobacterium nucleatum*, *Campylobacter spp.*, *Porphyromonas gingivalis*
- **Machine Learning Model:** Achieved >85% accuracy in predicting cancer from transcriptomic data
- **Strong alignment with Nath Score risk predictions**



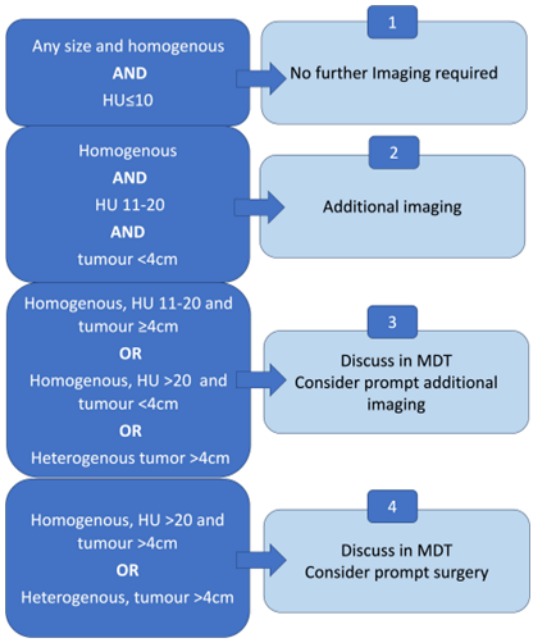
Future perspective

Building on these findings, future research should focus on validating microbial cfRNA signatures in larger, diverse cohorts to establish their reliability as non-invasive biomarkers for early esophageal cancer detection. Integrating microbiome profiling into routine screening protocols could revolutionize early diagnosis, especially in high-risk populations. Furthermore, understanding the functional impact of microbial species on host gene regulation may uncover novel therapeutic targets. Modulating the esophageal microbiome—through probiotics, antibiotics, or dietary interventions—holds promise as an adjunct strategy to existing treatments. Additionally, combining microbiome data with host transcriptomics can enhance personalized risk stratification using tools like the Nath Score. Expanding this multi-omics approach to include proteomics and metabolomics may provide deeper insights into host–microbe interactions in cancer. Ultimately, this research underscores the transformative potential of microbiome-informed precision oncology in improving outcomes for esophageal cancer patients.

Identifying Gaps and optimising Clinical Practice and Guideline of Adrenal incidentaloma management

York and Scarborough Teaching Hospitals NHS Foundation Trust

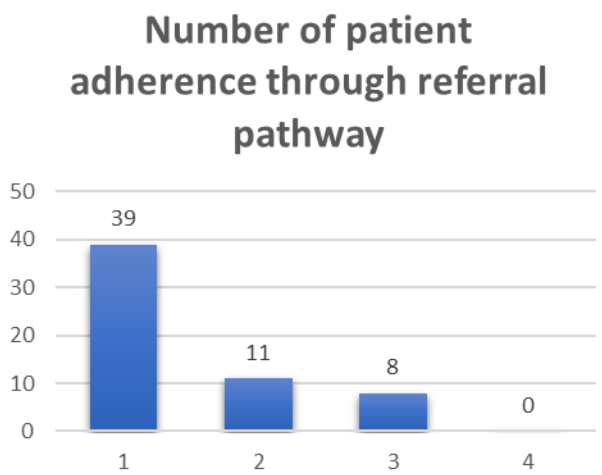
Dr C.Khin IMT3, Dr H.Riasat ST6, Dr S.Nafees IMT 3, Dr M.Adiat SpR, Dr F.Ali SHO, Dr R.Raphael IMT1, Dr N.McWhirter FY1



Flowchart illustrating the referral pathway for adrenal incidentaloma based on European Society of Endocrinology guidelines[1]

Abstract

Adrenal incidentalomas are adrenal masses discovered incidentally during imaging performed for unrelated medical reasons. Their management requires a systematic approach to exclude malignancy and hormonal hypersecretion while ensuring adherence to best practice guidelines.
This study audited the detection, investigation, and management of adrenal incidentalomas of 58 patients in Scarborough General Hospital.



Aims

1. To investigate adherence to the current referral guidelines of adrenal incidentaloma

2. To identify gaps in the clinical management of adrenal incidentaloma with the aim of optimizing clinical practice

64.1	Mean age of patient found to have adrenal incidentaloma
98.3%	Percentage of cases detected incidentally
53.4%	Percentage of patients in which a hormonal workup was conducted

Results

- Most lesions (87.9%) were unilateral (87.9%) and smaller than 4cm (94.8%)
- Only 32% of CT scans identified Hounsfield Units (HU) of the lesion.
  - Many of these (58.3%) were <10units on non-contrast CT, in keeping with a benign appearance.
- Half of the lesions identified on imaging were catagorised as low-risk based on HU and size.
  - Of these, 19% were indeterminate and required further imaging while 13% were referred to multidisciplinary team (MDT) discussion.
- Hormonal workup was performed in only 53.4% of patients with the 1 mg dexamethasone suppression test conducted in 32.8%.
  - Among these cases, 26.3% demonstrated serum cortisol levels >50 nmol/L.
- 46.5% of all cases were referred to MDT.

Conclusions

This audit identified critical gaps in the management of adrenal incidentalomas at Scarborough General Hospital, particularly in the areas of incomplete hormonal workup, inappropriate MDT involvement, and inconsistent documentation of imaging findings.

1. *European Society of Endocrinology clinical practice guidelines on the management of adrenal incidentalomas, in collaboration with the European Network for the Study of Adrenal Tumors, European Journal of Endocrinology, Volume 189, Issue 1, July 2023, Pages G1–G42, https://doi.org/10.1093/ejendo/lvad066*

Implementation of 'MEDLs': Regional Guidelines for management of clinical emergencies

Dr C Ainscough (ST6 Geriatrics/GIM), Dr E Jenkins (ST7 ICU/AIM), Dr M George (Consultant Clin Pharm), A Jarvis, T Hosanee, Dr J Down, S O'Callaghan

WHY?

- The fragmented landscape of emergency medical guidelines across individual Trusts has resulted in **inefficiencies** in accessibility, maintenance, and real-time applicability.
- Clinicians often struggle to locate relevant, up-to-date information quickly in **time-critical situations** which leads to delays in patient care and clinical decision-making.
- The absence of a centralised, user-friendly resource contributes to inefficiencies and **risks to patient safety**.
- This risk is recognised in multiple specialties and addressed in documents such as *Resus Council UK ALS algorithms*, the *WHO Surgical Checklist* and the anaesthetic *Quick Reference Handbook*.

A survey of 70 healthcare professionals:

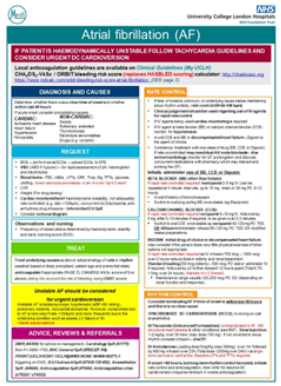
85% Regularly use guidelines from other trusts

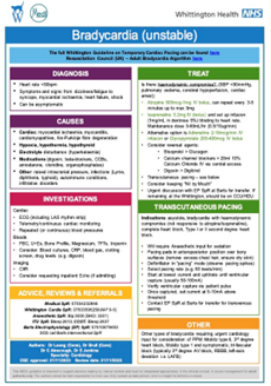
50% unable to find appropriate guideline when managing a medical emergency

57% Found existing long-form guidelines very difficult to navigate

>95% felt it would be extremely useful to have accessible one-page guidelines for medical emergencies

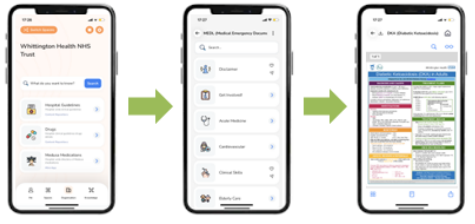
WHAT WE DID





- Collegiate working across Trusts (UCLH & Whittington) to build upon a project ongoing since 2012: the **Medical Emergency Document Library (MEDL).** These are standardised one-page, localised and evidence-based, guidelines for management of clinical emergencies
- Piloted expansion into a further Trust with the development of over 100 MEDLs in total covering: clinical emergencies, procedures, outpatient clinic crib sheets, discharge pathways
- Creation of rigorous local governance practices to embed in Clinical Guideline Groups and Drug & Therapeutic Committees.
- Available on the Intranet and on the Eolas App:

eolas MEDICAL



IMPACT

Creation of standardised MEDL proforma with >100 new guidelines across 3 NHS Trusts

>15,000 hits per month across all platforms

100% users found them useful and easy to use with a beneficial impact on patient safety and clinical care

Identification and documentation of clear governance structure creating sustainability

Collaborative and collegiate working within and between trusts

The MEDL initiative has successfully addressed challenges in emergency guideline accessibility, standardisation, and usability. By fostering regional collaboration and enabling a scalable model, MEDLs have improved consistency in emergency medical care, leading to enhanced clinical efficiency and patient safety.

This initiative serves as a model for broader NHS-wide implementation, driving sustainable improvements in emergency medicine and patient outcomes.

FUTURE AND SCALABILITY

- Working with Pan-London committees, including the Maternal Medicine Network, to bring in more 'top-down' MEDLs (Regional MEDL for Hypertensive Emergencies completed)
- Ongoing development of Paediatric 'PEDLs' at UCLH
- Early discussions with Society of Acute Medicine regarding the possibility of upscale and roll out on a National level

Visual Screening in Orthogeriatric Rehabilitation Setting - A Single Centre Pilot Study

CK Yan[1,2]; S Farid[1], J Chillala[1], R A Harper [2]

Manchester University NHS Foundation Trust

Introduction

Falls are a major cause of injury and mortality in older adults. Up to 30% are vision-related, yet routine vision screening is not embedded in rehabilitation care despite its potential impact.[1,2] In the UK, approximately 1 in 5 adults over 75 have vision loss, often undetected.[2] Conditions like glaucoma-related field loss are strongly linked to falls.[3-4] This pilot study aimed to evaluate the feasibility of structured bedside visual screening in an orthogeriatric setting, assess prevalence of visual impairment.

Methodology

This prospective pilot study was conducted at Trafford General Hospital in an orthogeriatric rehabilitation unit. Patients aged 65 or older, admitted following a fall, with an AMTS >6 and able to provide verbal consent, were included.

Screening Protocol conducted bedside by a trained resident doctor using:

- LogMAR chart for visual acuity (unaided, corrected, pinhole)
- Melbourne Rapid Fields (MRF) for low contrast VA and visual fields
- Ocular history, optician attendance, and postcode (IMD quintiles)
- Patient experience questionnaire (Likert Scale)

Results

- Mean age: 84.6 years
- 67% had unaided VA worse than LogMAR 0.3 (n = 21)
- 41% had low contrast VA of 1.0 or worse in at least one eye (n = 20)
- Many improved with pinhole, suggesting uncorrected refractive error

Socioeconomic Status (IMD):

- 48% were from least deprived areas, yet only 6% attended regular optician checks

Discussion

This study found a high prevalence of unrecognised visual deficits in older adults following falls, many of which were correctable with simple interventions like spectacles. The use of pinhole testing helped identify refractive errors, while the Melbourne Rapid Fields (MRF) tool revealed additional contrast and field impairments not detected through standard acuity tests.[5-6] These findings align with prior studies linking glaucoma-related field loss and low contrast sensitivity to increased fall risk in older adults.[2,3,6] Despite 48% of participants living in less deprived areas, only 6% had recent eye checks, suggesting that barriers to eye care may be more related to frailty and access than socioeconomic status.[1,4] This supports the case for routine inpatient vision screening and stronger links to community optometry.

Conclusion

Bedside visual screening is feasible, acceptable, and impactful in orthogeriatric care. Many visual impairments were either unrecognised or correctable, highlighting a clear gap in geriatric care. This model offers a low-cost, scalable intervention that could reduce falls and improve rehabilitation outcomes.

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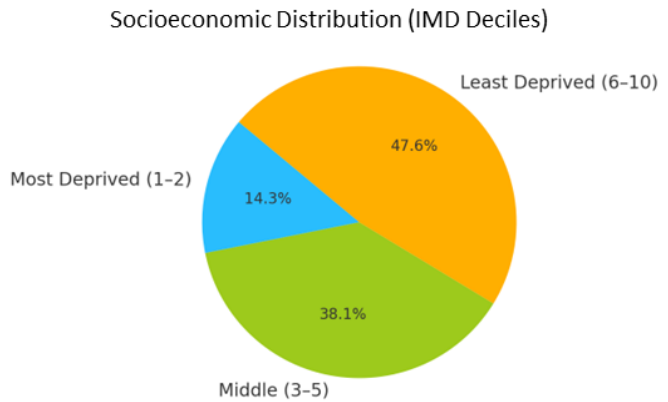

Figure 1. Distribution of IMD in this patient cohort

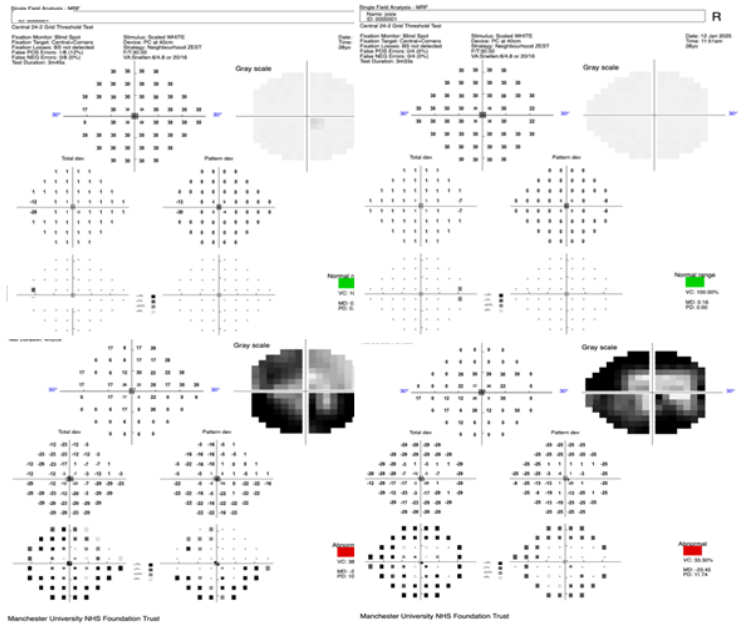

Figure 2. Example of MRF in healthy individual (Top) and MRF result in patient with suspected field loss (Bottom)

Identifying barriers to organisation of educational workplace visits

Dr Emma Hirons[1], Dr Victoria Naoui[2], Dr Imogen Koopmans[3], Dr Roma Singhal[3] & Dr Onn Shaun Thein[4]

[1]University Hospitals Birmingham NHSFT, [2]Nottingham University Hospitals NHST, [3]Guy's & St Thomas' NHSFT, [4]Institute of Inflammation and Aging, University of Birmingham

Introduction:

Workplace visits are valuable opportunities for experiential learning within occupational health (OH).[1] However, despite demand and training needs, access to workplaces is often challenging. We developed an inter-disciplinary learning project to improve access to workplace visits for doctors and nurses with training needs within OH.

Aim:

To identify and address barriers to visits through analysis of feedback collected for project evaluation.

Methods:

Visits were arranged in 3 deaneries from January to December 2024 and advertised to a variety of OH professionals (Table 1), at least 8 weeks in advance through multiple channels. These were identified by contacting OH clinicians or direct contact with businesses.

Cohort invitations	
Specialist registrars	Living or working locally
Doctors on portfolio pathway	
Nurses completing DipOHPrac or another course	

Table 1. Groups of OH professionals that workplace visits were advertised to.

Data was collected using a standardised sign up form and post-visit feedback tool. This enabled collection of demographic data as well as quantitative educational measures and free text for thematic analysis. Thematic analysis was done following Braun & Clarke.[2]

Results:

60 clinicians attended the visits across all regions, including 13 nurses. There was a 5-fold increased success rate in arranging visits in East Midlands.

75% of attendees used study leave to attend.
23% confirmed their employer would cover any associated expenses.

Discussion and recommendations:

1)Access to workplaces is a limiting factor in arranging visits:
- The success rate in East Midlands was attributable to receiving contacts from senior colleagues.
- Support from the OH community is needed to identify visit opportunities.

2) Logistical barriers to attendance can be overcome by:
- Considering visit timing – factor in travel and childcare arrangements.
- Considering PPE arrangements in advance.

3) Role-related barriers can be accommodated by:
- Providing regular visits to mitigate service requirements.
- Improving access to study leave and expenses.

4) Learning outcomes can be enhanced by:
- High quality tours led by experienced employees.
- Including a brief introductory talk in a quieter area.
- Requesting workplace information in advance to help with writing workplace risk assessments.
- Ensuring a range of clinicians attend each visit to improve learning outcomes for less experienced colleagues.

	WM	EM	London
How useful was the visit?	4.73	5	4.87
How likely are you to recommend this visit to others?	4.68	4.86	4.87
How likely are you to attend another visit on this pilot?	4.95	4.93	4.91
How much did the visit improve your confidence in identifying hazards and risk assessment?	4.36	4.60	4.61
How easy was it to sign up for the visit?	4.86	4.93	4.74

Table 2. Recorded educational value measures between regions (out of 5). The visits were of an equivalent standard across regions. Significance for non-parametric data calculated using a Kruskal-Wallis test with results displayed as mean. Significance was defined as $p<0.05$.

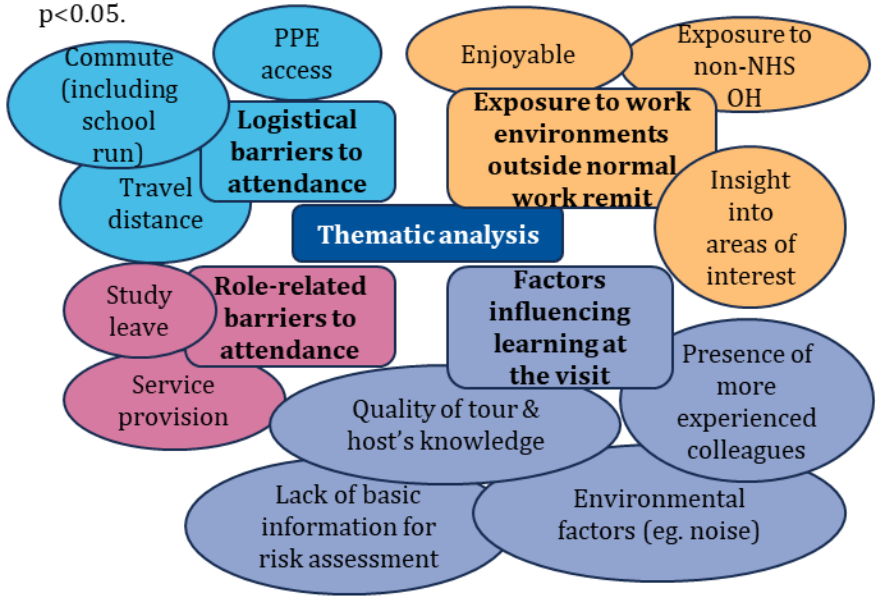

Figure 1. Thematic analysis of free-text feedback from workplace visits. Themes were generated from coding of data. Four key themes emerged from analysis.

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2. Braun V, Clarke V. Toward good practice in thematic analysis: Avoiding common problems and be(com)ing a knowing researcher. International Journal of Transgender Health. 2023;24(1):1-6.

THE UNSUNG TALE OF PIED PIPER OF HEMATOLOGY: INSIGHTS FROM A CASE OF RENAL TRANSPLANT FAILURE

Dr. Heera Shahir[1] Dr. Rohith Suresh[1] Dr.Vishnu B S [2] Dr. Saifudeen[3]

1.Resident, Department of Internal Medicine 2.Specialist , Department of Family Medicine 3.Senior Consultant, Thrombosis & Hemostasis Unit, Department of Hematology, KIMSHEALTH, Thiruvananthapuram

INTRODUCTION

Thrombotic events in young individuals demand prompt identification of underlying prothrombotic conditions to prevent severe complications. We report the case of a young gentleman with recurrent arterial and venous thrombosis, leading to renal transplant failure.

INITIAL PRESENTATION

- 21-year-old gentleman with no prior comorbidities presented with mild upper respiratory symptoms and fatigue of 3 days duration.
- BP recordings were high, and serum creatinine was elevated (8 mg/dl).
- Worked up and noted to have nephrotic range proteinuria.
- Renal biopsy showed **IgA nephropathy** and renal replacement therapy was initiated.

WORK UP

- Hereditary and acquired causes for thrombophilia considered
- Platelet aggregation test.

- **APS workup, Protein C, Protein S, Antithrombin III deficiency, Factor V Leiden mutation** — Negative
- **Genetic sequencing:** Factor V / Factor II / MTHFR / FGG /PROC /PROS1 / SERPINC1 — Negative

ON FOLLOW - UP

- 8 months later, underwent successful live-related donor renal transplant.
- 9 days later, decreased urine output, absent flow in doppler study of transplant kidney - renal artery thrombosis.
- Renal function worsened; hemodialysis sessions resumed.
- Arteriovenous fistula developed thrombosis; permacath insertion done.
- 3 months post – transplant, had graft site tenderness, doppler confirmed graft vein thrombosis.

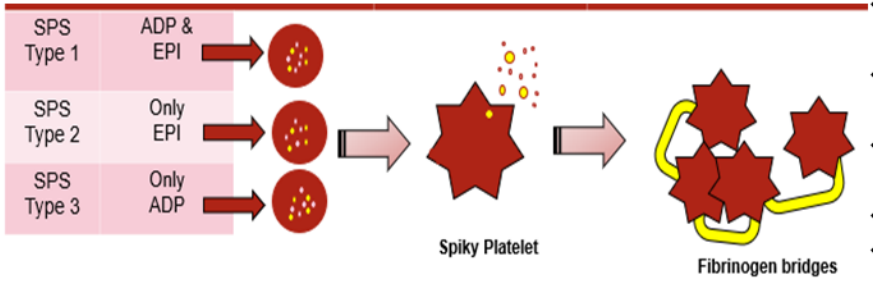
PLATELET AGGREGATION TEST

Agonist	Aggregation	Maximum aggregation (%)
Spontaneous aggregation of platelets	Absent	
ADP 2 µM	present	52.77
ADP 1 µM	present	73.20
ADP 0.5 µM	Primary wave of aggregation seen	14.20
ADP 0.25 µM	present	73.88
Epinephrine 10 µM	present	77.77
Epinephrine 1 µM	present.	74.35
Epinephrine 0.5 µM	present	74.5
Epinephrine 0.25 µM	present	70.10

Platelet aggregation seen to 1µM and 0.25 µM of ADP agonist and 1, 0.5 and 0.25 µM of Epinephrine agonist.

Test uses light transmission aggregometry

STICKY PLATELET SYNDROME (SPS)



- 48% of all thromboembolic disorders
- Unprovoked thrombosis: 21% of arterial, 13% venous
- Thrombosis in atypical parts of circulation
- Mode of inheritance not clear
- Diagnosis based on clinical features and lab parameters.

COURSE IN THE HOSPITAL

- Aspirin 75 mg daily
- Apixaban 2.5 mg twice a day
- On maintenance hemodialysis thrice weekly
- Scheduled for a second Renal Transplant
- No more thrombotic events till now.

TAKE HOME MESSAGE!

- **Suspect SPS** in unexplained thrombosis
- Simple **'Aspirin therapy'** can correct defect and prevent future thrombotic events
- Incorporate **'Platelet aggregation test'** to investigation panel in relevant cases.
- **Genetic polymorphisms** are challenges
- Anticoagulation may not alleviate thrombotic tendency in SPS.

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Improving the Timeliness and Accuracy of Diagnostic Ascitic Taps in a District General Hospital: A Patient Safety Initiative

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Background

- Spontaneous bacterial peritonitis (SBP) is a medical emergency in patients with ascites.
- Delayed diagnosis can result in significant morbidity and mortality.
- NICE and BSG guidelines recommend diagnostic ascitic tap within 6 hours of admission.

Aim

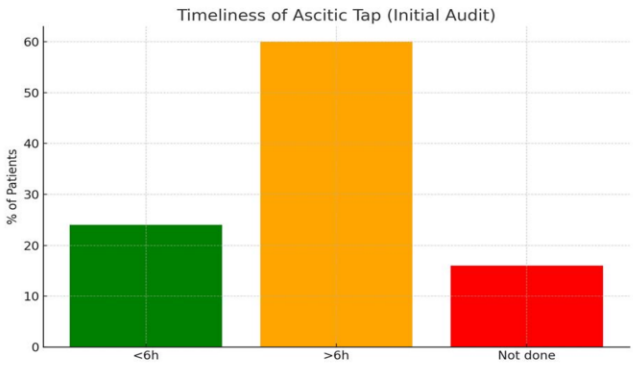
- Improve compliance with guidelines for timely diagnostic ascitic taps.
- Enhance patient safety through early identification and management of SBP.

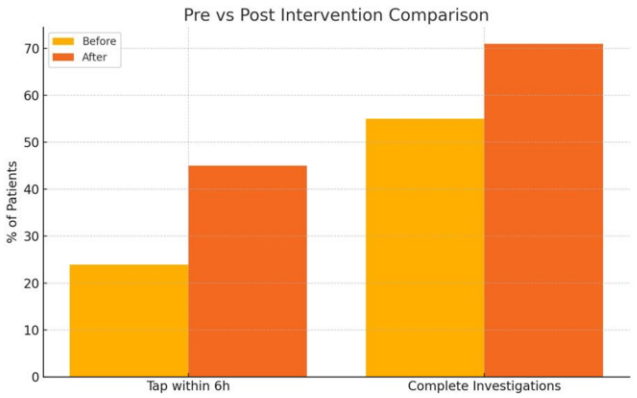
Standards

- Ascitic tap within 6 hours of admission for suspected SBP.
- Ascitic fluid to be sent for cell count, culture, and biochemistry.

Methodology

- Retrospective audit of patients admitted with suspected SBP over a 6-month period.
- Assessed time to ascitic tap and completeness of investigations.





Results

Initial Audit findings (n=38)

- 24% had tap within 6 hours
- 55% of ascitic taps had complete investigations

Interventions

- Teaching sessions (SBP recognition + tap technique)
- Procedural simulation practice
- Reminder posters and email notifications
- Clear escalation protocol for junior doctors

Re-Audit Results

- 45% of ascitic taps within 6 hours (vs 24%)
- 71% had all 3 recommended investigations sent (vs 55%)
- Improved confidence among junior clinicians (self-reported)

Lessons Learned

- Delays often stem from knowledge gaps and procedural hesitancy.
- Simple educational interventions are effective.
- Reminder tools (posters, emails) reinforce guidelines.
- Clinician confidence directly impacts patient safety outcomes.

Conclusion

- Targeted teaching and reminders improved compliance with ascitic tap guidelines.
- Sustained improvement requires ongoing education and reinforcement.
- Enhanced early diagnosis and treatment of SBP improves patient safety in DGH settings.

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What is known about simulating Advance Care Planning discussions for healthcare professionals and its impact on patients and learners?

J Irvine [1], A Spence [2]
[1] Northern Ireland Medical and Dental Training Agency, [2] Queen's University Belfast

Background

Good communication with patients and families as part of Advance Care Planning (ACP) and End of Life (EOL) care is key to ensuring our patients receive person-centred and respectful care. Simulation based education can be used to train healthcare professionals in communication skills used in ACP and EOL care discussions.

Simulation based education provides learners with the opportunity to experience how these discussions may feel as both a healthcare professional and as a patient, as well as learn from colleagues and their experiences. It can also highlight the challenges that may arise during such discussions and what other factors may need to be considered to ensure a compassionate and holistic experience for patients.

Aim

To examine what is known about simulating ACP discussions for healthcare professionals and its impact on patients and learners.

Methods

We applied Arksey and O'Malley's framework to identify relevant studies which met the inclusion criteria for our scoping review question. Three databases (MEDLINE, Embase and Web of Science) were searched with the keywords simulation based education, advance care planning and Do Not Attempt Cardiopulmonary Resuscitation (DNACPR). This resulted in 84 citations. There were 18 studies selected for inclusion.

Study Findings

Of the 18 included studies, 10 (56%) originated from the United States of America (USA) with 12 (67%) being published within the last 6 years of this scoping review. Twelve (67%) studies used a qualitative approach to their research. Five (28%) studies included more than two healthcare disciplines in their research. Seventeen (94%) studies used healthcare professionals from various stages of training. All studies used face-to-face simulation with a simulated or standardised patient. Seventeen (94%) studies found improvements in confidence and communication skills with regards to ACP and EOL. Two (11%) studies found improvements in attitudes towards ACP and EOL care with one (6%) study finding no improvement in patient reported communication skills in ACP or EOL discussions. Two (11%) studies reported efforts to ensure psychological safety for learners, screening for emotional distress and offering psychological support.

Conclusions

The use of simulation-based education as an educational modality for Advance Care Planning training has been proven to be effective in improving confidence and communication skills amongst healthcare professionals. There is scope to develop it further however to include a greater breadth of interdisciplinary learning, to examine the effect of cultural context and spiritual care on learning, and to determine the lasting effects this learning has on learners and on the care of their patients. It is also effective when used alongside other teaching techniques as part of a wider educational programme.

Workforce planning:

Catering for the next generation

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[2]St John Ambulance

Introduction

Opinions on the NHS begin at an early age. If the NHS is to retain doctors, and remain a positive environment for staff and patients, understanding the wants and needs of the next generation of medical professionals is essential and this needs to start early.

Our Method

A series of questions were sent to over 50 sixth form students intending to apply for medicine, Responses were collected with key demographics, attitudes towards NHS working conditions and medical career aspirations analysed.

Our Results

68.0% of the replies showed students felt that working in the NHS in the future would be more difficult than working in the NHS now, whilst 12% said that it would be easier. 84% of students felt that they are concerned about the current pay for NHS doctors, and 16% were not concerned. 96% of students said that they saw themselves working in the private healthcare sector in the future, with 48% working in the sector full-time, and 48% working in the sector part-time. Regarding working in healthcare abroad after finishing university, 48% of students said that they expect to be working abroad, whilst 44% remained undecided.

Conclusion

The survey results highlight key motivations and concerns among prospective medical students. It is concerning that such a significant number of potential doctors wish to move abroad in the future. Addressing issues such as pay, and environment could improve retention and long-term engagement within the NHS.

References

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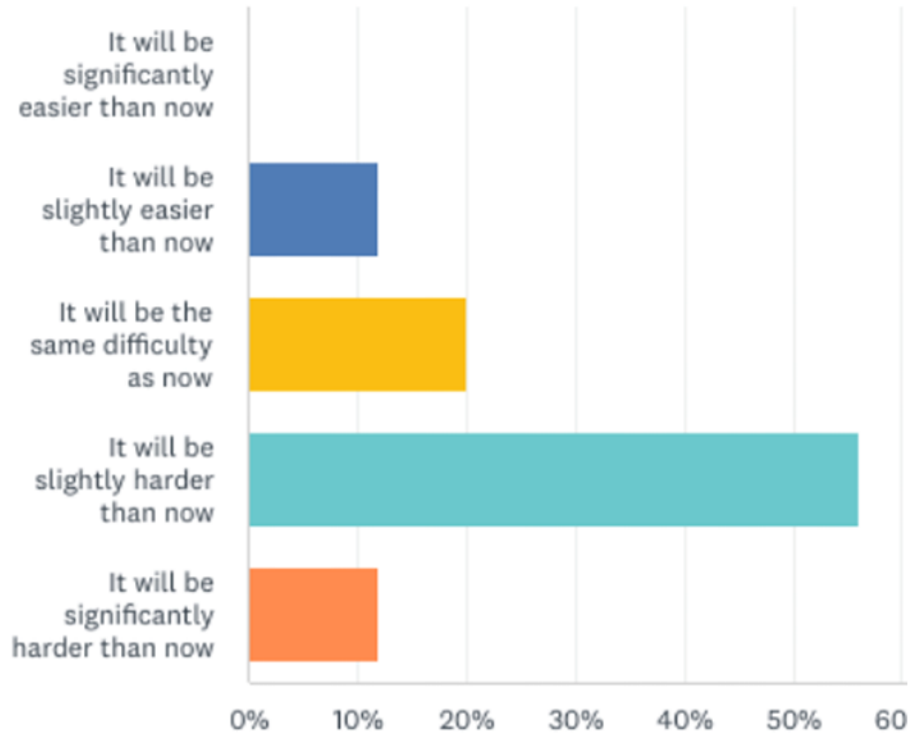
How do you feel about working in the NHS in the future?



Post acute asthma exacerbation care – Missed opportunities on discharge?

Jayden Patel[1*], Irem Karatas[1*], Siva Mahendran[1]

[1] Respiratory department, Kingston and Richmond NHS Foundation Trust *Joint first authors

Introduction

- Asthma is the most common lung condition in the UK, affecting 4.3 million people, with the UK amongst the highest recorded prevalence (1) and across Western Europe, the highest death rate (2).
- Acute exacerbations of asthma are harmful to patients and have a high health utilization leading to 60,000 admissions/year, of which 26% of patients re-present within 90 days
- British Thoracic Society (BTS) guidance is to review patients within 28 days of discharge to optimize asthma management and prevent re-admission.

Aim

- We audited the proportion of patients managed for acute, suspected or known, asthma who were seen in out-patient clinics as well as the possible impact of non-adherence to this standard.
- As part of a planned service improvement initiative, we also sought evidence to improve the pathway for patients living with Asthma.

Methodology

- Using ICD-10 codes (J45.0, J46) for acute asthma, we retrospectively identified all patients admitted with an admission diagnosis of acute asthma over a 3-month period (01/01/2023 – 31/04/2023)
- We conducted a medical case note review against the criteria below as well as accessing records through the London Care Record to identify if patients were prescribed an emergency course of steroids. The data was recorded and analysed using Microsoft Excel

Inclusion criteria:

1. Age >16 and admitted under adult services
2. ICD 10 coded diagnosis of acute exacerbation of asthma (ICD-10 codes J45.0, J46)

Exclusion criteria

1. Age <16
2. Discharged straight from ED or admitted for less than 4 hours

Data Analysis

- Over 3 months, 30 patients met the inclusion/exclusion criteria with a median age of 59 years old (23-98 years old). 26 were suitable for local follow up with 4 being known to respiratory services at other hospitals.
- Only 38% (10/26) of those suitable for local follow up were seen in outpatients with a median time to be seen of 94 days. 20% (2/10) of those seen were within 28 days
- Case note review identified that follow up was often recommended but this was not completed on discharge. Qualitative review identified ward areas had non standardised processes for arranging follow up on discharge
- 30% (9/30) suffered a further exacerbation within a 90-day period, requiring a course of oral steroids, with 44% of these (4/9) having to be admitted, resulting in 14 possibly avoidable cumulative additional inpatient days.

Conclusion

- Over this 3-month period, we found patients discharged were unlikely to be seen in follow up which was associated with a high readmission rate. Dedicated pathways together with improved awareness could lead to improved outcomes.
- The major limitation of the audit was the low number of included patients

Figure 1. Analysis of patients seen in outpatients

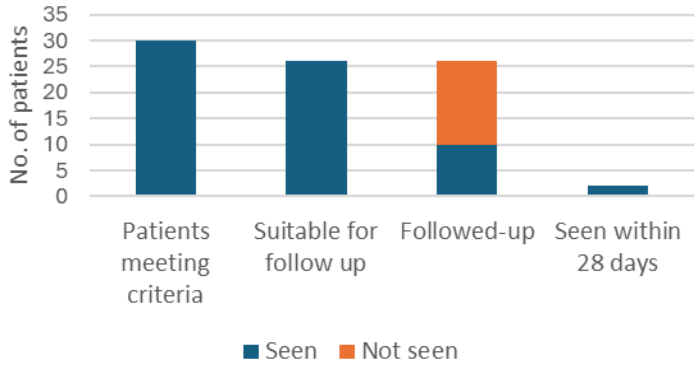
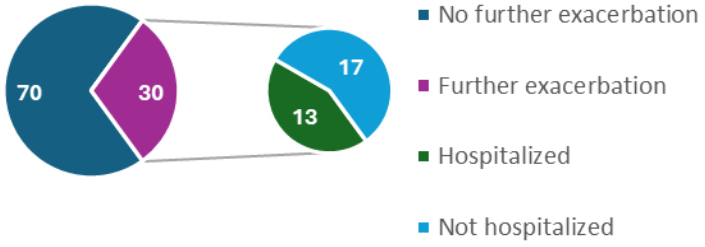


Figure 2: Patients suffering from further acute exacerbations (%)



Action Plan

1. The hospital has moved to e-referrals system embedded within the electronic patient records directly to the Respiratory department
2. Expanded our workforce to include a respiratory virtual ward team and an ongoing case for an asthma nurse
- We intend to run a second cycle of analysis to assess the improvement actions set out above

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Safe to Transfuse? An audit on quality and practices in blood transfusion sampling and labelling in the Accident and Emergency department

John G. Appiah[1], Lilian A. Yeboah[2]

1.Northern Lincolnshire & Goole NHS Trust 2.KNUST School of Medicine and Dentistry.

INTRODUCTION

- Blood transfusion sample labelling errors pose a significant risk to patient safety. Errors in labelling can lead to unnecessary repeat venipuncture, treatment delays and affect patient experience.[1]
- The British Committee for Standards in Haematology guidelines state that organizations should have a clear policy on the rejection of pre-transfusion blood samples that do not meet the minimum labelling requirements. There should be a "zero tolerance" approach to sample labelling errors.[2]

AIM

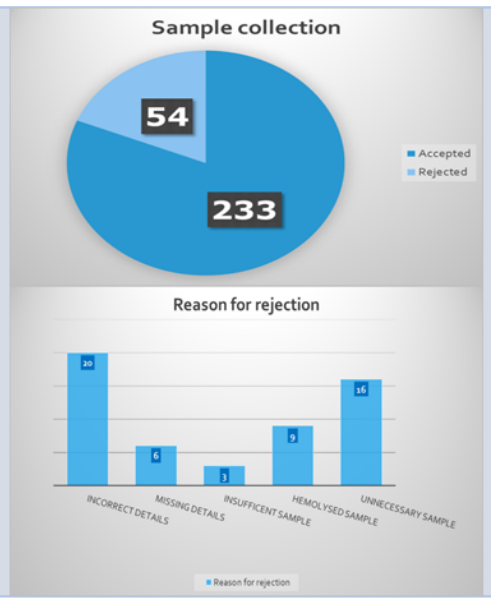
- To evaluate the quality of pre-transfusion sample collection and labelling practices in the A&E department.

METHODS

- Retrospective audit of all pre-transfusion samples received from the A&E department, Diana Princess of Wales Hospital in October 2024.
- The number of rejected BTS samples, the reasons for sample rejection and number of samples that resulted in a blood component transfusion were analysed.

RESULTS

- 287 transfusion samples were received from the A&E department over a month.
- 54 of these samples were rejected , resulting in an 18.8% rejection rate of all pre-transfusion samples.
- 61 samples led to blood transfusions, with 15 samples initially rejected due to sampling or labelling errors.
- The common reasons for rejection were: incorrect patient details, unnecessary sampling, insufficient/hemolyzed samples and missing details.



CONCLUSION

- This study found an overall 18.8% sample rejection rate.
- The increased rejection rate may be due to poor attitudes toward sample labeling, staff workload and non-adherence to the two-sample rule in blood transfusion.
- Regular education and training for healthcare staff involved in BTS sampling, along with feedback on rejected samples are recommended. This will improve the accuracy of transfusion labelling, reduce rejection rates and enhance transfusion safety.

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RELIEF IN SIGHT: KETOTIFEN AS A PROMISING THERAPY FOR UREMIC PRURITUS IN DIALYSIS PATIENTS

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Department of Nephrology, Meenakshi Mission Hospital & Research Centre

BACKGROUND

- Uremic pruritus affects 50–90% of chronic dialysis patients globally, severely impairing quality of life.
- Traditional antihistamines often fail due to the cowhage pathway being the primary neuronal itch route, not the histamine pathway.
- Ketotifen, a mast cell stabilizer with antihistaminic properties, may help by inhibiting Tryptase-mediated activation of PAR-2, thus modulating the cowhage pathway and reducing itch perception.

METHODS

1 PARTICIPANTS

- A total of 230 chronic dialysis patients from the dialysis unit of a tertiary care hospital were screened.
- Of these, 48 patients (20.87%) had clinically significant uremic pruritus.
- 24 patients with moderate to severe symptoms were enrolled in the trial after informed consent.

2 INTERVENTION

- Participants received Ketotifen 1 mg orally twice daily (BID) for 2 weeks.
- Non-responders (n = 5) were escalated to 2 mg BID for an additional 2 weeks.

3 ASSESSMENT

- Pruritus severity was evaluated using visual, verbal, and numerical rating scales at baseline and after treatment.

SINGLE CENTRE PROSPECTIVE OPEN LABEL CLINICAL TRIAL

230 PATIENTS SCREENED

CLINICALLY SIGNIFICANT PRURITUS: 48 (20.87%)

MALE: 42 (87.5%)

FEMALE: 6 (12.5%)

BASIC RENAL DISEASE

DIABETES MELLITUS: 21 (43.75%)

HYPERTENSION: 27 (56.25%)

AVERAGE DURATION OF DIALYSIS (IN MONTHS): 25.9 ± 29.5

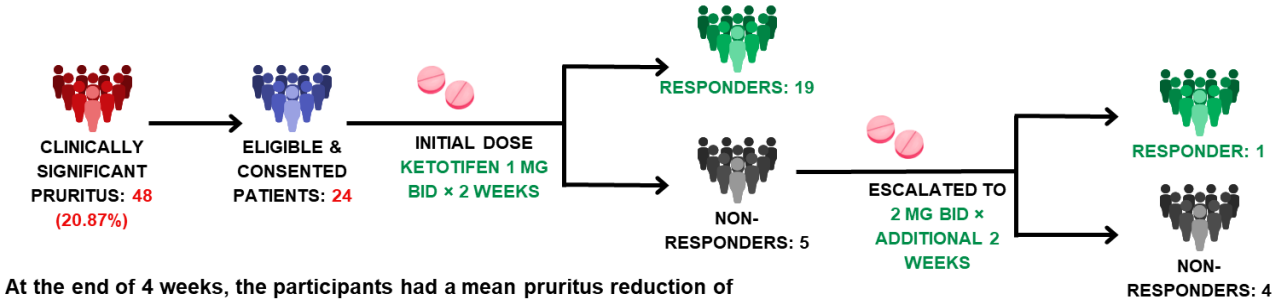
HEMOGLOBIN (NORMAL = 12-15 g/dL): 9.37 ± 1.53

CALCIUM (NORMAL = 8.5 - 10.2 mg/dL): 8.15 ± 2.33

PHOSPHORUS (NORMAL = 2.9 - 4.7 mg/dL): 4.96 ± 2.34

RESULTS AND DISCUSSION

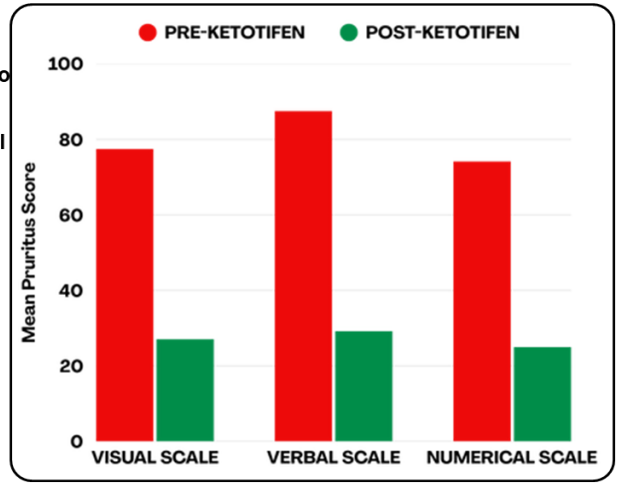
- After 2 weeks of 1 mg BID treatment, 19 of 24 patients (79.2%) exhibited meaningful improvement, compared to baseline.
- Among the five non-responders who escalated to dosage of 2 mg BID, only one showed improvement at 4 weeks.



- At the end of 4 weeks, the participants had a mean pruritus reduction of 65.77% (visual scale), 65.28% (verbal scale), and 67.30% (numerical scale).
- Paired t-tests confirmed the statistical significance of pruritus reductio across all scales ($p < 0.01$).
- Mean pruritus scores pre- and post-treatment also showed substantial reductions.

1. Visual Scale: 77.5 → 27.1
2. Verbal Scale: 87.5 → 20.8
3. Numerical Scale: 74.2 → 25

- Overall, 20 of the 24 patients (83.33%) who completed the trial demonstrated clinically significant relief, with four non-responders.
- In patients (N=5) who were given 2mg of Ketotifen developed mild drowsiness which were well tolerated.



CONCLUSION

- Ketotifen shows promise as a safe and effective first-line treatment option for dialysis-related uremic pruritus, warranting larger, multicenter trials.

REFERENCES

REDEFINING ANEMIA MANAGEMENT IN CKD: COMPARATIVE INSIGHTS ON DESIDUSTAT, ROXADUSTAT, AND MOLIDUSTAT AS ORAL HIF-PH INHIBITORS

Mohanraj, Kaandeeban1; Singla, Cheryl2; Mohanraj, Vidhya3; Venkatramanan, Vishnuvardan4

1 Meenakshi Mission Hospital & Research Centre, Madurai ; 2 Government Medical College, Patiala ; 3 Vinayaka Missions Medical College, Karaikal ; 4 United Lincolnshire Teaching Hospitals NHS Trust ;

BACKGROUND

ANEMIA IN CKD PATIENTS:

- AFFECTS MORE THAN 50 %
- ↑ CARDIOVASCULAR MORTALITY

LIMITATIONS OF ESA:

- INJECTABLE
- ↑ BP
- ↑ RISK OF THROMBOEMBOLISM

HYPOXIA-INDUCIBLE FACTOR PROLYL HYDROXYLASE INHIBITORS (HIF-PHIS)

MIMIC HYPOXIA — ORAL ROUTE

↑ERYTHROPOEITIN — ↑IRON METABOLISM

OBJECTIVES

To evaluate the efficacy, safety, and cost-effectiveness of 3 HIF-PHIs compared to traditional ESAs in CKD-related anemia management.

METHODS

Literature review of clinical trials, meta-analyses, and guidelines on the 3 HIF-PHIs were conducted.

KEY OUTCOMES

- HEMOGLOBIN RESPONSE
- CARDIOVASCULAR SAFETY (MACE INCIDENCE)
- IRON MARKERS
- TREATMENT COST

RESULTS AND DISCUSSION

1 EFFICACY

- Desidustat: Non-inferior to ESAs in dialysis-dependent (59.22% Hb response vs. 48.37%, p=0.0382) maintaining Hb of 10–12 g/dL and non-dialysis patients (77.78%, +1.95 g/dL vs. darbepoetin alfa, +1.83 g/dL, p=0.0181).
- Roxadustat: Maintained Hb levels of 10–12 g/dL in 78% of non-dialysis patients; non-inferior to darbepoetin alfa.
- Molidustat: Showed comparable efficacy to ESAs in ESA-treated patients (+0.36 g/dL vs.+0.26 g/dL for darbepoetin alfa) but was less effective in ESA-naive patients (+1.44 g/dL vs +1.70 g/dL).

2 SAFETY

Comparable CV Risk to ESA (MACE RR 0.99–1.08)

↓11% Hypertension (p=0.03)

↑Iron Availabiliity

Ferritin ↓ 16.8 ng/mL

Hepcidin ↓ 19 ng/mL

3 5 YEAR COST SAVINGS

- Desidustat (100 mg thrice weekly): Savings of £27,300–£35,880 compared to epoetin (£4,680–£6,240 vs. £33,540–£40,560).
- Roxadustat (70–100 mg thrice weekly): Savings of £18,720–£43,940 compared to darbepoetin (£13,260–£38,480 vs £57,200).
- Molidustat (25–50 mg daily): Savings of £30,420–£38,480 compared to epoetin (£2,080–£3,120 vs. £33,540–£40,560).

CONCLUSION

- HIF-PH inhibitors provide an oral, cost-effective, and safe alternative to ESAs in CKD anemia.

CAUTION

Long-term risks (e.g., vascular calcification, off-target HIF effects) remain under investigation (e.g., DREAM-CKD trial).

CLINICAL TAKEAWAY

Personalize treatment by dialysis status & iron availability.

SCAN THE QR CODE TO VIEW THE COMPLETE ABSTRACT & REFERENCES.

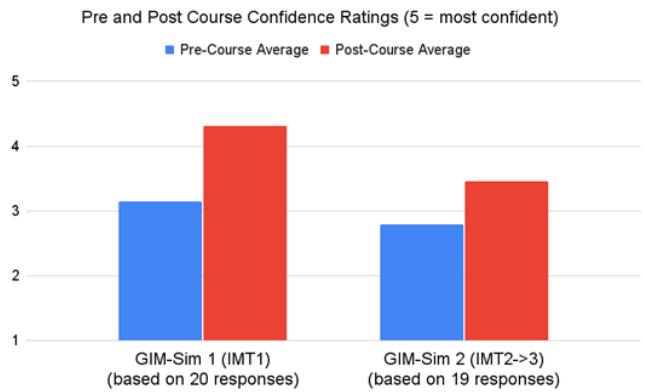
GIM-Sim:1 and 2 - addressing the need for curriculum-linked simulation for Internal Medical Trainees

Dr Kieran Hardern & Dr Hannah Parker

Background

The IMT Stage 1 curriculum demands "simulation teaching involving human factors", yet no national courses, guidelines or funding exist to support their delivery. In our experience, delivery relies on local departments and motivated resident doctors – often rotational trainees – with a passion for education. The huge effort required to produce a course of suitable quality is easily lost when these trainees rotate.

Recognising this gap, we have developed a series of realistic simulation courses addressing common medical emergencies, integrating human factors. Courses mapping to IM Stage 1 curriculum requirements are GIM-Sim: 1 and GIM-Sim: 2.



The Courses

The two courses are targeted to the start of IM Stage 1 training, and to the "step up" from IMT2 to IMT3, and the medical registrar role, with both covering key generic and clinical competencies from the curriculum. Candidates receive a pre-course questionnaire to guide our allocation of scenarios and curriculum needs.

Faculty for each course is designed to be sustainable, with Registrars that have attended previous courses being invited back to teach on the series, guided by more senior faculty with experience in simulation, debrief and simulation training. 6 former course participants are now regular faculty.

39 doctors attended since 2022

100% found relevant

100% would recommend

Approachable team

challenging but realistic

Relatable scenarios

Great to address non-clinical topics

Our Thoughts

Sustaining simulation courses is challenging for a non-Consultant medical team alongside full-time clinical duties. Research posts offer in-programme training for clinicians in the form of Academic Clinical Fellowships; however no such pathway exists for passionate clinical educators.

Our next goal is to expand our faculty and introduce these courses at additional centres, using the same model of inducting former participants to lead future iterations, allowing us to develop the course series without existing days faltering. In 2025, we will extend these courses to a larger neighbouring trust and launch a similarly sustainable programme for the Internal Medicine Stage 2 trainees, integrating human factors and ensuring coverage of broad curriculum requirements.

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Can Advance Care Planning (ACP) Improve Patients' Journey with Advanced Dementia and Their Families? A One-Year Follow-Up Study

Lam K.[1], Chan F.[2], Lai D.[2], Tong C.[2], Lum C.[2], Woo J.[2]
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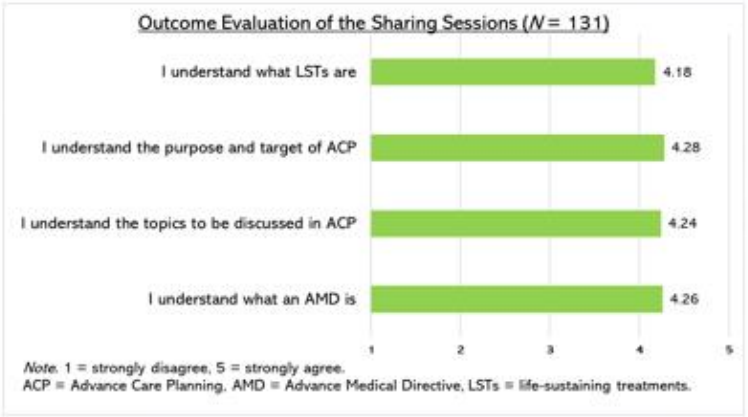
[2]Jockey Club Institute of Ageing, The Chinese University of Hong Kong

Keywords: advance care planning, advanced dementia, family caregivers

Introduction: With the recent legalization of Advance Medical Directive (AMD) in Hong Kong, public awareness in Advance Care Planning (ACP) has significantly increased. The study aims to explore the journey of patients with advanced dementia and their families after they have been equipped with knowledge about ACP.

Methods: Patients with advanced dementia admitted to the medical wards of a convalescent hospital were invited to participate in interactive sharing sessions with their family members. During these sessions, the concept of ACP and life-sustaining treatments (LST) were explained. For patients who expressed interest in completing ACP documents, follow-up appointments were arranged at the medical clinic to facilitate the signing process. One year after attending the sharing sessions, all participants were invited to take part in a telephone interview study to explore their experiences and perceptions.

Results: From March 2021 to October 2024, 31 sharing sessions were conducted, reaching 178 family members of 129 patients. Six patients completed the ACP documents. The overall feedback was positive among the 131 participants who responded to the evaluation surveys for the sharing sessions. After attending the sessions, participants indicated a significant improvement in their knowledge of ACP, AMD, and LST.



A one-year follow-up interview was conducted with 23 participants. They shared that attending the ACP sharing sessions helped family members reflect more deeply and engage in meaningful conversations with patients. Even in cases where ACP was not formally completed (i.e., no documents were signed), family members reported a better understanding of the patient's preferences. Additionally, family caregivers felt more emotionally prepared for the patients' passing. However, participants also highlighted challenges. Initiating conversations about ACP was difficult, as local Chinese culture often avoids the topic. Furthermore, participants expressed disappointment that their expectations for more follow-up care after ACP discussions were unmet. They emphasized the strong need for additional support at the community level.

Conclusion: This study demonstrates that ACP can improve patients' journey with advanced dementia and their families. However, cultural barriers and insufficient follow-up care remain significant challenges. Culturally sensitive strategies, enhanced community-level support, and empowering caregivers with knowledge of community resources are essential to fully realize the benefits of ACP and improve care for patients and their families.

Insight into a Rapid Access Angina Clinic (RAAC) - Are we capturing the right cohort of patients?

Dr Kumail Abbas Dewji[1], Dr Erica Zhang[1], Dr Taqiyah Nusrat[1], Dr Asgher Champsi[2], Dr Nadia Sunni[1]
1- Walsall Manor Hospital; 2 – University of Birmingham

Walsall Healthcare NHS Trust

Introductions and aims

The RAAC fast-tracks patients with suspected cardiac symptoms for specialist assessment. This study evaluated the characteristics and presenting symptoms of patients referred to our RAAC, and the proportion requiring investigations or management not feasible in primary care. We compared these to patients with no significant findings to identify ways to streamline the referral process.

Method

Study type: Retrospective observational study
Study setting: RAAC at Walsall Manor Hospital (Standard DGH)
Data Collection tool: Electronic patient records
Type of data collected: Demographics, co-morbidities, cardiac risk factors, presenting symptoms, investigations, diagnoses, and management outcomes
Analysis: Data were coded & analysed using Excel & Stata 18

Limitations:
- Small sample size limits generalisability of results
- Single centre study

References
- National Institute for Health and Care Excellence (NICE). Recent-onset chest pain of suspected cardiac origin: assessment and diagnosis. Clinical guideline [CG95]. 2010 [cited 2025 Mar 19].
- Rapid Angina Assessment Clinic (RAAC) Referral Guidance for Stable Angina [Internet] [cited 2025 Mar 19].

Results

Figure 1

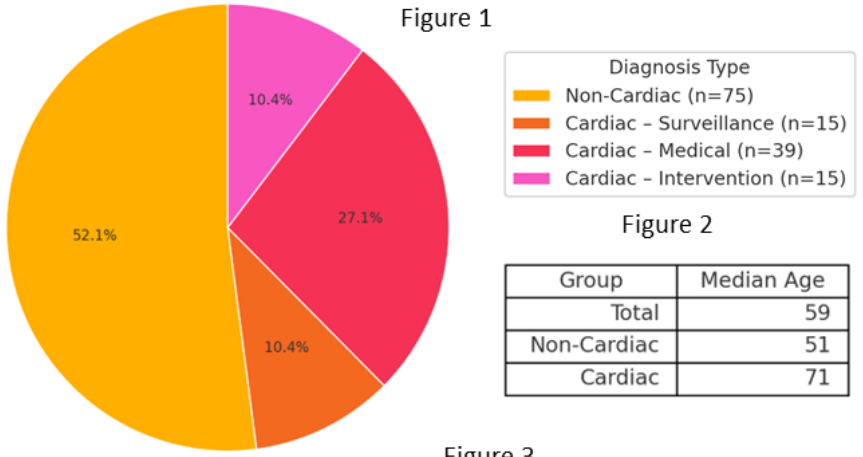
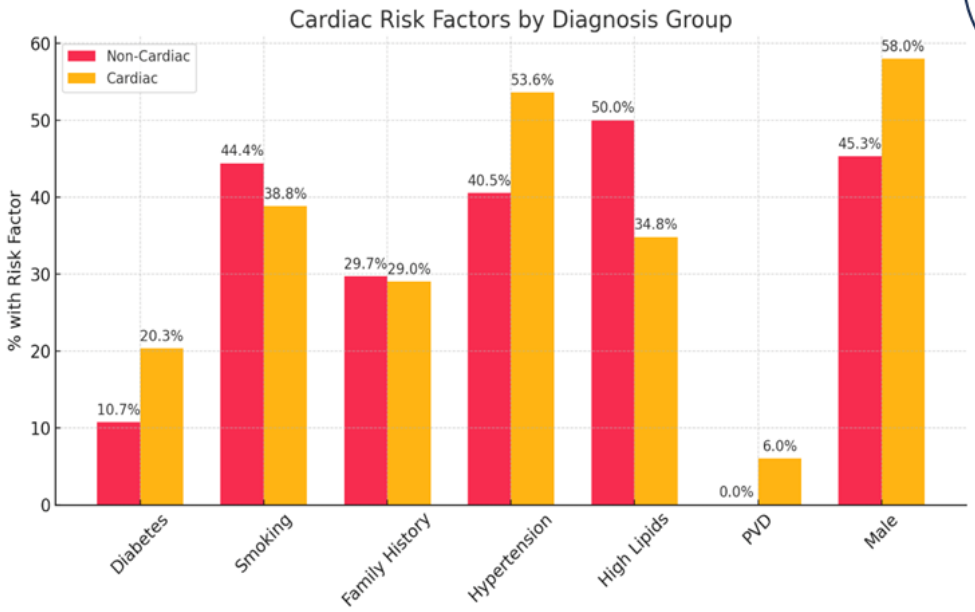


Figure 2

Group	Median Age
Total	59
Non-Cardiac	51
Cardiac	71

Figure 3



Discussion

- The most common investigation performed was a transthoracic echocardiogram. 53 patients had coronary assessment via imaging and functional testing.
- 52% of patients had non-cardiac diagnoses. Among those with cardiac diagnoses only 10% had significant disease requiring intervention.
- Patient with cardiac diagnoses tended to be older, more likely to be male, have diabetes, hypertension or PVD. The strongest risk factor was PVD with all 4 patients having cardiac disease.
- 17 patients had duplicate reviews highlighting inefficiencies in triage and follow-up.
- Our next work is to calculate QRISK3 score in all our patients to assess if this can be used to risk stratify the referral process for our clinic

Recommendations

Emphasis on importance of symptoms in association with risk factors & perhaps utilization of risk scores

Secondary hypertension screening to be done in primary care / GIM clinics

Maximize one stop clinic review to enhance efficiency in current NHS climax

NHS
Royal Cornwall Hospitals
NHS Trust

Metformin-Induced Hypomagnesaemia in a Patient with Type 2 Diabetes: A Case Report

Dr Lara Abu-Qutaish, Dr Rakshit Kumar

Hypomagnesaemia is frequently encountered among diabetic patients; however, the potential relationship between prolonged metformin use and hypomagnesaemia remains under-recognized in clinical practice. In this report, we present a case of severe hypomagnesaemia in a patient with longstanding diabetes which highlights the importance of considering metformin as a potential contributing factor in hypomagnesaemia.

Case Presentation

A 76-year-old woman with type 2 diabetes was referred for persistent, severe hypomagnesaemia (0.3 mmol/L) unresponsive to oral replacement over the previous 12 months; There was no history to suggest GI or renal losses or malabsorption. Blood tests trends and medication review pointed to the initiation of metformin therapy 18 months prior as the most likely cause. Metformin was discontinued and her insulin regimen was increased. Follow-up tests demonstrated a stable serum magnesium without further supplementation, further supporting a causative association.

Conclusion

This case highlights that metformin should be considered as a cause of refractory hypomagnesaemia in diabetic patients; given its widespread use, particularly among older individuals with CKD or on multiple medications, regular monitoring of serum magnesium is recommended, and in severe or unresponsive cases prompt withdrawal of metformin alongside magnesium supplementation is essential to prevent serious complications.

Discussion

Chronic hypomagnesaemia in diabetic patients has been associated with multiple negative clinical outcomes (1). Thus, any medication contributing to reduced serum magnesium levels can have substantial clinical implications for patients with diabetes.

Several studies suggest a notable association between metformin and hypomagnesaemia. The Fremantle Diabetes Study identified a clinically significant correlation, with metformin users demonstrating notably lower serum magnesium levels compared to those managed by diet alone (1). Similarly, a large cross-sectional study observed an inverse correlation between serum magnesium levels and metformin use, with longer durations of therapy and multiple antidiabetic medications compounding this effect (2). Additionally, an earlier interventional trial comparing metformin with sulfonylureas found that, despite comparable glucose control, those on metformin remained hypomagnesemic, whereas those on sulfonylureas showed a significant rise in serum magnesium (3).

Several pathophysiological mechanisms have been proposed to explain metformin-associated magnesium depletion. These include impaired gastrointestinal magnesium absorption, likely mediated by downregulated TRPM6 channels, gastrointestinal magnesium losses due to chronic metformin-related diarrhoea, and potentially reduced renal reabsorption of magnesium (4).

References

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3- McBain AM, Brown IR, Menzies DG, Campbell IW. Effects of improved glycaemic control on calcium and magnesium homeostasis in type II diabetes. J Clin Pathol. 1988;41(9):933-935.

4- Bouras H, Roig SR, Kurstjens S, et al. Metformin regulates TRPM6, a potential explanation for magnesium imbalance in type 2 diabetes patients. Can J Physiol Pharmacol. 2020;98(6):400-411.

Applying mortality data to improve emergency care planning for haemodialysis patients: A quality improvement project.

Dr Lisa Tang, Dr Usha Appalsawmy, St James University Hospital, West Yorkshire

Introduction:

- The Learning from Deaths Framework[1] mandates that NHS Trusts undertake mortality reviews to identify areas of good care and areas of improvement, ensuring that sustainable positive changes are implemented.
- A ReSPECT form[2] (Recommended Summary Plan for Emergency Care and Treatment) which includes the agreed clinical recommendations regarding emergency treatment, is completed prior to clinical deterioration to ensure appropriate care is delivered.
- Chronic haemodialysis patients often have multiple co-morbidities and exhibit frailty[3]. Analysing mortality data can help identify care themes, offering valuable insights for quality improvement initiatives.

Methods:

Phase 1: Identifying the problem
- Retrospective mortality case note assessment of deaths using structured judgement review (SJR) methodology from October 2020 to May 2023 identified under-utilisation of ReSPECT form in frail haemodialysis patients who suffered a cardiac arrest at a tertiary renal unit.

Phase 2: Expanding data cohort
- Review of ReSPECT form usage was expanded beyond cardiac arrest cases to include all haemodialysis patients who underwent SJR within the same time frame.

Phase 3: Intervention
- Departmental educational campaign emphasized high mortality rate among frail haemodialysis patients.
- ReSPECT form status review was incorporated as standard practice in haemodialysis clinics and multi-disciplinary meetings.

Phase 4: Re-audit
- Re-audit of haemodialysis patients who underwent an SJR May 2023-February 2025 analysed ReSPECT form use after intervention.

Results:

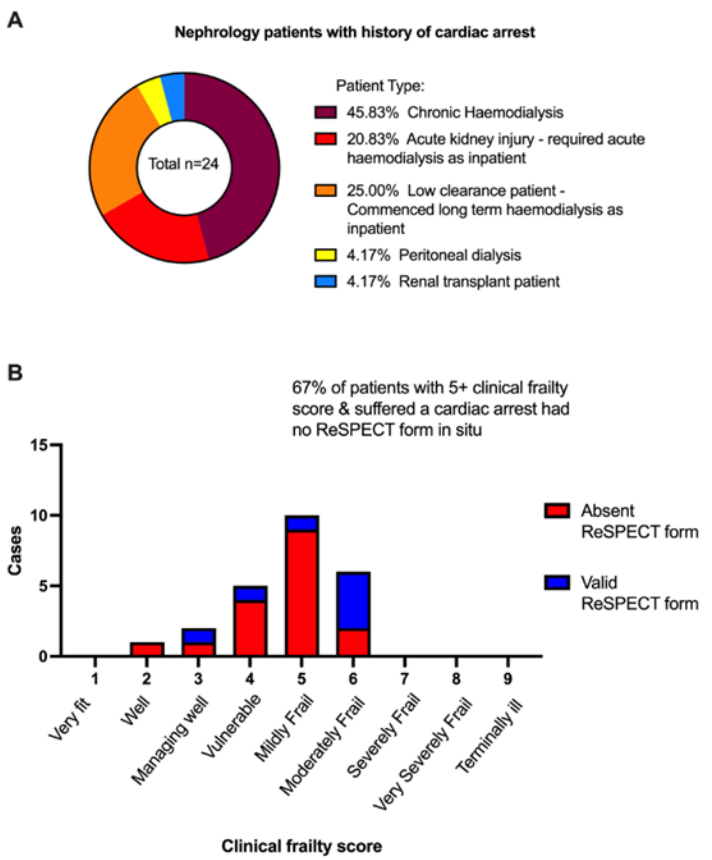

Figure 1. October 2020-May 2023 cohort. A: Pie chart of cardiac arrest cases (n=24): Subcategory of nephrology patients. B. Bar chart illustrating Clinical Frailty Score of cardiac arrest patients.

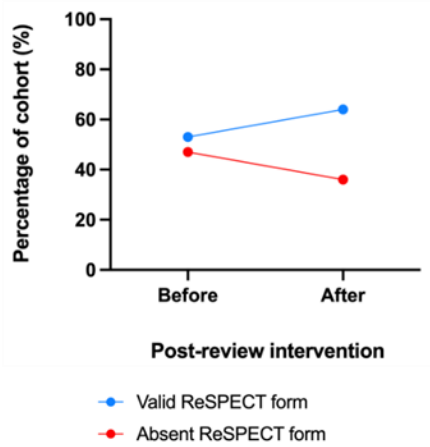

Figure 2: Chart illustrating the effect of educational campaign on ReSPECT form implementation: 11% increase in proportion of haemodialysis patients who had a valid ReSPECT form.

Conclusion:

- Reviewing mortality data provides valuable insights into patient care and identifies key themes for improvement within our patient population.
- By launching an educational initiative and integrating ReSPECT form reviews as a fundamental aspect of routine haemodialysis reviews, we can enhance ReSPECT form implementation to facilitate appropriate emergency care decisions.

References:

1. National Guidance on Learning from Deaths. https://www.england.nhs.uk/wp-content/uploads/2017/03/nqb-national-guidance-learning-from-deaths.pdf
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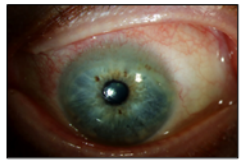
Retrospective analysis of scleritis or peripheral ulcerative keratitis in systemic vasculitis: insights from a single tertiary centre

L.Hong[1], R.M.Smith[1], R.B.Jones[1], D.R.W.Jayne[1], E.M.Damato[2] and K.W.Loudon[1]

NHS Cambridge University Hospitals NHS Foundation Trust

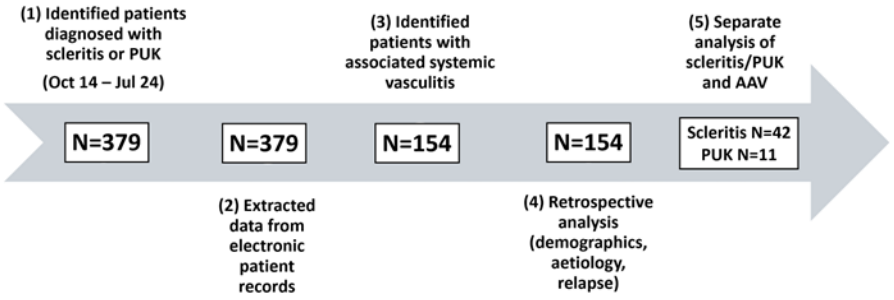
INTRODUCTION



What is ocular vasculitis?

- **Scleritis** and **peripheral ulcerative keratitis (PUK)** are ocular manifestations of systemic vasculitis
- Rare, challenging to treat, and often linked to ANCA vasculitis (AAV)
- Limited available literature

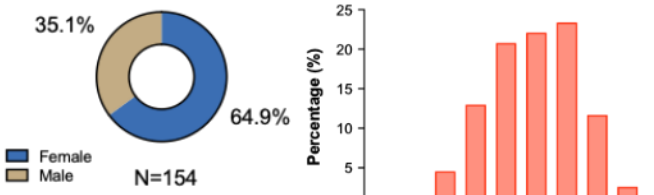
METHODS



- Retrospective study of **154 patients** (Oct 2014–Jul 2024) with scleritis or PUK linked to systemic vasculitis
- Focused analysis of patients with **scleritis or PUK in the context of AAV (N=53)**
  - Ocular involvement at initial presentation of AAV
  - Systemic involvement
  - Disease phenotype for relapsing disease
  - Pharmacological treatment

RESULTS

Scleritis or PUK in vasculitis (N=154)



- F:M = 2:1, 50-70 y/o
- **ANCA vasculitis** most common underlying condition

AAV with scleritis or PUK (N=53)

- **Scleritis (N=42):** F:M = 3:2, age 60–90, PR3+:MPO+ = 3:1
- **PUK (N=11):** F:M = 2:1, age 70–90, PR3+:MPO+ = 1.2:1
- ~68% had **ocular involvement at AAV onset** (55% scleritis, 13% PUK)

Pharmacological treatment

- Cyclophosphamide = most common induction agent (40%)
- Rituximab = used in preference at relapse (59.2%)

Scleritis or PUK on initial presentation of ANCA vasculitis (N=36)

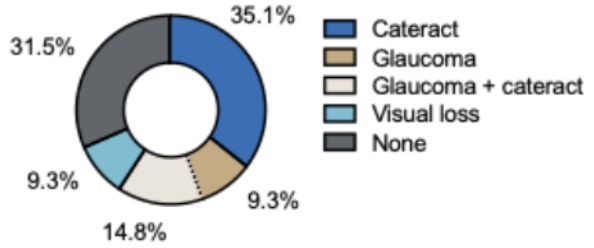
Systemic involvement or not?

- **Scleritis** is often associated with **systemic disease**
- Systemic symptoms are usually **non-organ threatening**
- **ENT**, **respiratory**, and **renal** systems most commonly involved

Disease phenotype at relapse?

- Relapse occurred only in those with **scleritis**
- Most relapses were **isolated scleritis**, suggesting milder disease
- **Same pattern** seen in relapsing patients without initial ocular involvement

Complications



CONCLUSIONS

- **Scleritis and PUK** most commonly occur in **AAV**
- Scleritis often presents with **systemic involvement** in AAV onset; isolated scleritis common at relapse
- **Cyclophosphamide** used for induction, **rituximab** at relapse
- ~10% experience **long-term visual** loss; morbidity remains significant

[1]Lupus and Vasculitis service, Addenbrooke's Hospital, Cambridge, UK. [2]Department of Ophthalmology, Addenbrooke's Hospital, Cambridge, UK

Celiac Disease on The Rise: The COVID-19 Vaccination Hypothesis

(1) Maisam Waid Akroush; (2) Aktham M. Akroush; (3) Zain N. Alqaisi; (4) Noura Mheidat
(1) Digestive and Liver Disease Clinic; (2) Jordanian Royal Medical Services Internship; (3) University of Central Lancashire; (4) University Hospitals of Leicester NHS Trust

Background

- Celiac disease is a chronic autoimmune disorder triggered by gluten ingestion.
- More frequently diagnosed in females.
- Global prevalence → 1-2%.
- A surge in cases post-COVID prompted investigation.
- Viral infections/vaccines may act as autoimmune triggers.

Aim

To explore a potential link between COVID-19 infection/ vaccination and the increased diagnosis of celiac disease.

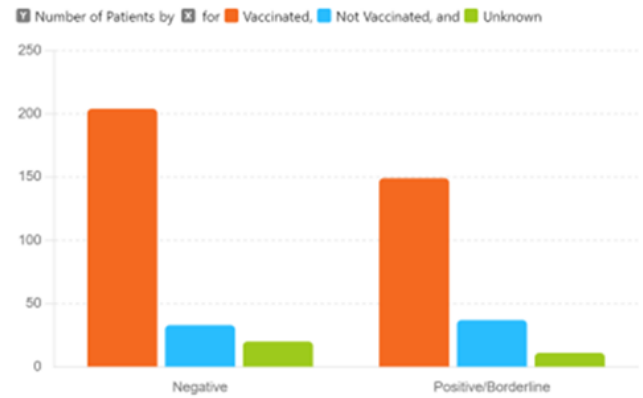
Method

- Retrospective review of 454 patients' records.
- Classified by serology/histology and vaccination status.
- Categories: Positive, Negative, Borderline CD.
- Gender and vaccination status also analyzed.

Results

- 47.4% tested positive or borderline for CD.
- 32.8% of vaccinated patients were positive or borderline.
- Male predominance observed — a shift from typical trends.
- Chi-square = 6.18; P = 0.186.
- Despite the statistical results noted, the results indicate clinical significance, raising concern and meriting further study.

Figure 1: "Celiac Disease in Relation to Vaccination Status"



Conclusion

- Increase in CD diagnoses post-pandemic.
- May reflect heightened awareness, poor gluten processing, or immunomodulation from COVID/vaccine.
- Larger prospective studies needed.

Key Message

- Clinical significance observed despite lack of statistical significance.
- This trend must not be ignored due to potential public health impact.

Stop the Bleed, Start with Confidence

A Three-Cycle QIP Enhancing Junior Doctor Confidence and Competence in UGIB Management

Dr Mareen Zachariah [1], Dr Natalie Chan-Lam [1]
Stockport NHS Foundation Trust

[1]Both authors contributed equally to this work.

Upper gastrointestinal bleeding (UGIB) is a medical emergency requiring timely management.

Aim

To improve Junior Doctors' confidence in recognition, assessment, and management of UGIB within 12-months at Stepping Hill Hospital.

Methods

This three-cycle QIP followed the Plan-Do-Study-Act (PDSA) framework employing a mixed methods approach. A driver diagram identified key management factors.

Cycle 1: Delivered case-based teaching on variceal and non-variceal UGIB, covering guidelines, resuscitation, and coagulopathy.

Cycle 2: Used feedback to refine materials and tailor teaching for FY1 doctors. Collaborated with pharmacists and the Electronic Prescribing and Medicines Administration (EPMA) team to implement an EPMA protocol for variceal bleeds,

Cycle 3: Updated local guidelines and incorporated an adapted BSG Acute UGIB bundle.

Results

- Pre- and post-intervention **confidence scores improved** after each teaching session (fig.1).
- **Competence scores also improved**, with 100% correctly identifying variceal bleed management after Cycle 2 (fig.2).
- 100% agreed the **EPMA protocol saved time, reduced prescribing errors, and increased confidence**.
- 80% strongly agreed that a **care bundle** would **improve** adherence to critical management steps and **best practices**.

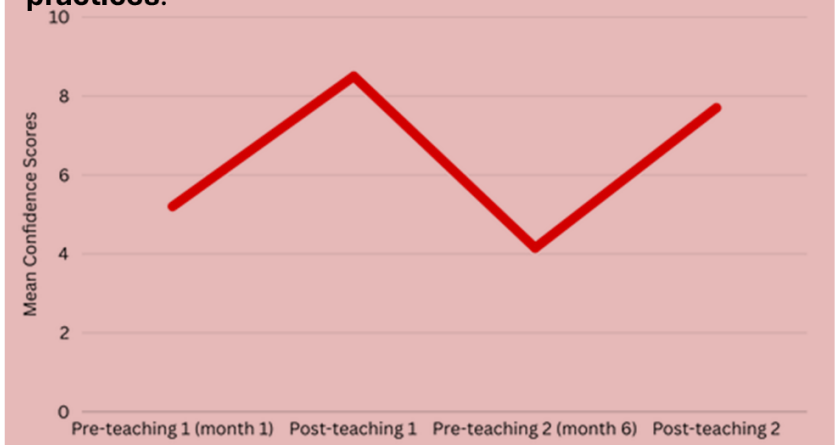


Figure 1. A Run Chart Displaying Confidence Scores in UGIB Management

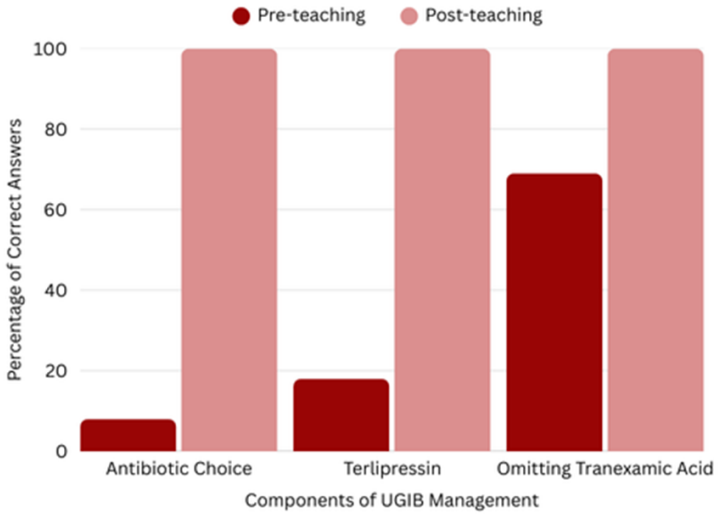


Figure 2. A Graph To Show Competence in UGIB Management In Cycle 2

Conclusions

Targeted teaching and **integrated resources** significantly **improved confidence and competence** in UGIB management.

Embedding e-prescribing protocols and care bundles can create **sustainable improvements** in UGIB management.

Future directions include developing simulation-based scenarios for immersive, team-based learning.

Safety & Efficacy of the Medtronic MiniMed 780G For Glycemic Control: A Systematic Review & Meta Analysis

Mariam Mehmood, Areeba; Ali, Shujaat; Aslam, M.Ammar; Rasheed, M. Hassan; Faizan M; Rasool, Minahil; Afzaal, Areeb

Diabetes mellitus affects over **460 million** people globally and remains a major cause of morbidity and mortality. Type 1 diabetes (T1DM), which primarily impacts individuals in high-income countries, presents ongoing challenges despite insulin therapy, including glycemic variability and hypoglycemia. Advances in diabetes management, such as **continuous glucose monitoring** (CGM) and **automated insulin delivery** (AID) systems, have significantly improved glycemic control and reduced complications.

Objectives

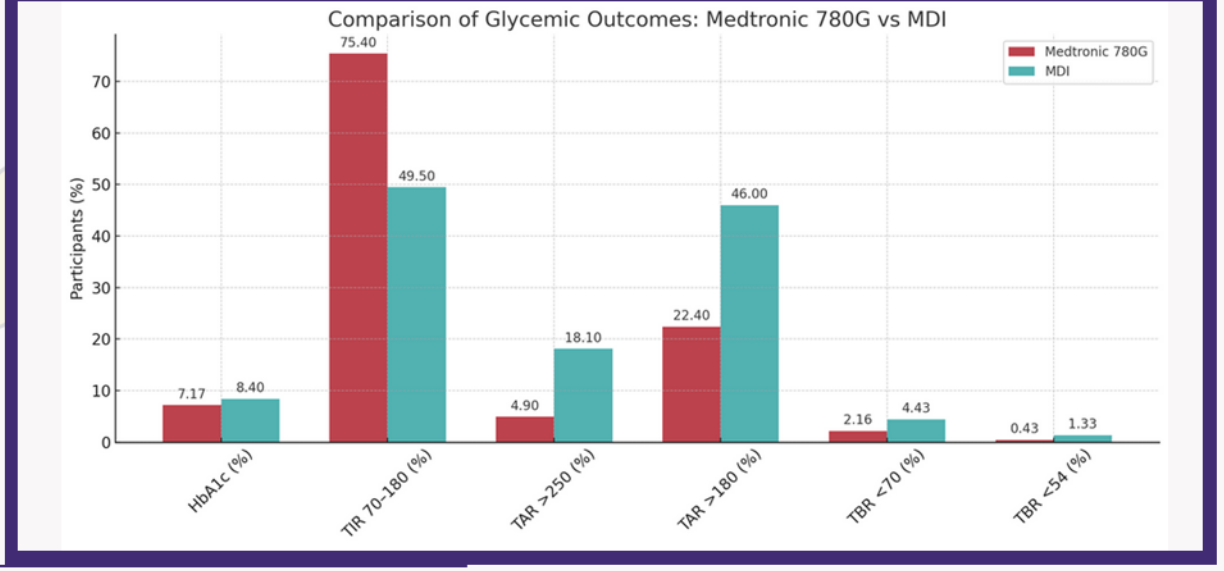
To evaluate the safety and efficacy of the Medtronic MiniMed™ 780G from following metrics;

- Time in range (TIR)
- Time above range (TAR)
- Time below range (TBR)
- Risk of Hypoglycemia
- Diabetic Ketoacidosis

Methods

A PRISMA-compliant systematic review and meta-analysis were conducted using PubMed, Embase, and the Cochrane Library. Eligible studies were randomized controlled trials (RCTs), crossover, or pilot trials comparing the MiniMed 780G with other insulin delivery methods in type 1 diabetes. Non-English studies, reviews, abstracts, and trials involving other AID systems were excluded. Two reviewers independently performed data extraction and risk of bias assessment. A total of 3 RCTs involving 146 T1DM patients were included.

Results



Our meta-analysis of three RCTs (146 participants) showed that the MiniMed 780G system significantly improved glycemic control in type 1 diabetes. It reduced HbA1c by 1.21% and increased time-in-range (70–180 mg/dL) by 26.15%, & reducing time above range by 24.32% (>180 mg/dL) and 13.5% (>250 mg/dL). Reductions in time below range were not significant. No severe adverse events were reported. These results suggest that the 780G system effectively lowers hyperglycemia and improves glucose stability without increasing hypoglycemia risk.

Key Findings

1.21%
Reduction in HbA1c
CI: -1.67, -0.75, P < 0.00001

+26.15%
Improvement in TIR
CI: 22.45, 29.85, P < 0.00001

-24.32%
Reduction in TAR
CI: -18.62, -7.57, P: <0.00001

NHS
East Sussex Healthcare
NHS Trust

Establishing a 'Junior Doctor Digital Network' to help implement digital transformation.

Authors: Dr M. Angus, Dr R. Rajagopal, Dr V. MacCallum, Dr M. Lau

Background

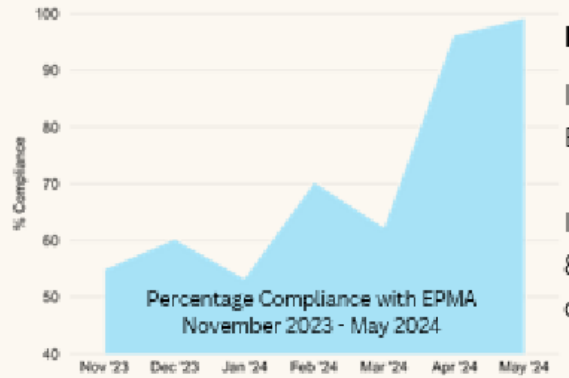
- Electronic prescribing systems reduce medication errors. (1)
- Nov. '23: 54.7% of inpatients were on our trust's electronic prescribing system (EPMA) (in use since '21).
- Key stakeholders in switching from paper to EPMA = resident doctors.
- Why only 55%? Key barriers identified: **low digital confidence**, **usability** issues, and the **time-consuming** process of transcribing from paper.

Methods

Aim: Facilitate a successful hospital-wide switch to EPMA.
How? Establishment of a 'Junior Doctor Digital Network' + recruitment of 'Digital Champions' to engage resident doctors:

- digital literacy training to improve digital confidence
- feedback portal for system improvements
- on-the-ground support
- structured engagement with senior decision-makers
- tracking EPMA compliance to identify departments needing additional support (Nov. '23 - May '24)

Findings



May 2024:

Improved engagement: 98.8% EPMA compliance.

Improved digital literacy: 88.89% of resident doctors confident/neutral using EPMA.

Discussion

With 98% of patients now on EPMA, we anticipate a reduction in mistakes and near misses with prescribing.
Staff engagement is crucial for digital change - our Junior Doctor Digital Network initiative is a scalable model for enhancing new technology adoption rates in healthcare settings through peer support and feedback systems.

Key Challenges:

- time-consuming to transcribe from paper: solved by implementing EPMA in A&E
- hardware limitations + system speed

Future implementations should focus on technical refinement and early adoption in acute care settings.

References (1)

Factors affecting discharges on medical wards-a project conducted by surveying ward managers.

AUTHORS

Mehak Gupta, Handi Salim, George Varughese.

AFFILIATIONS

NHS University Hospitals of North Midlands NHS Trust

"Home care is the art of bringing healing and dignity to the doorstep of every individual."

Image taken from freepik.com

01. Introduction

As the population and emergency department visit increases, the shortage of bed availability is a major concern. Factors such as increasing population growth, inefficiencies in discharge planning such as inability to place patients in appropriate post-acute care facilities, outdated discharge planning tools, bed turnaround and staffing shortages increase the demand in hospital beds.

Currently, our hospital has reported several critical incidents due to winter pressures. A lot of focus is placed on emergency department, but capacity problems exist in other areas of hospitals as well. Therefore, a survey was carried out within the general medical wards of a large tertiary centre to identify any common factors leading to delayed discharges

02. Methodology

A project was carried out by development of a questionnaire in collaboration with discharge facilitators and ward managers to identify common themes for delayed discharges.

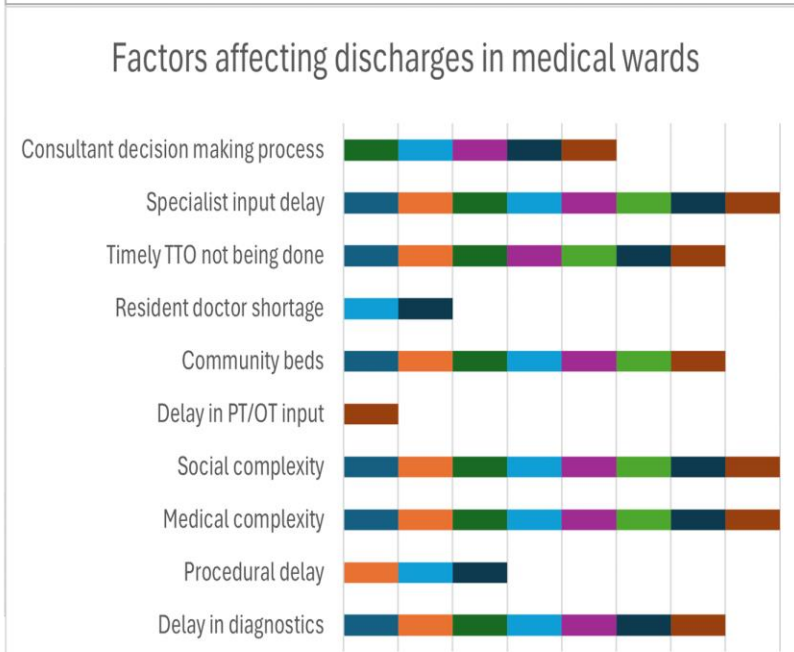
Personal interviews were conducted of ward managers or nurse in charge of 8 general medical wards and information collected on the questionnaire.

03. Results/Findings

Common themes identified are represented on the graph below, with each colour block representing a ward.

All the staff members interviewed reported delays in discharges secondary to medical complexity and social issues. Social issues could pertain to lack of community hospital beds, gap in care home/rehab assessments and a lack of placement spaces, care packages and homelessness. Timely specialist input was another challenge, which involved both medical and surgical specialties. 88% reported delay in discharge letters and TTOs being processed, as well as delay in diagnostics such as endoscopy, specialist blood tests and echocardiogram. Approximately 60% noted a variation in senior decision-making. Only 3 out of 8 wards reported delays due to procedures such as PEG.

On asking about how to improve this process, a range of responses were obtained such as increasing capacity in community hospitals and virtual wards, preparation of discharge summaries in advance, improved communication between staff members, proactive planning, and prompt specialist reviews.



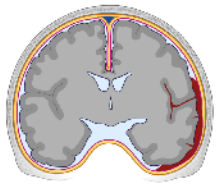
04. Recommendations

- To have dedicated staff to complete discharge summaries
- Speedier specialist inputs
- Increasing capacity in virtual wards.
- Models such as Discharge to Assess" (D2A), which prioritises conducting assessments for long-term care and support needs in the most appropriate and at a time best suited to the individual, and criteria-led discharge to expedite discharges over the weekends should also be considered.

05. Additional information

A video of review by Dr. Charlene Mitchell on effective and safe discharge process

https://www.bing.com/videos/riverview/relatedvideo?&q=factors+affecting+discharges+from+medical+wards+videos+&&mid=509DF3FAA412E051A270509DF3FAA412E051A270&&FORM=VRDGAR



Investigation of suspected aneurysmal subarachnoid haemorrhage

Development of a pathway to align with 2022 NICE guidelines

NHS University Hospitals of Liverpool Group

Dr Michael Abouyannis (PhD), Dr Malka Reuben, Ms Hannah Wilder, Dr Jis John, Dr Shawn Miranda, Dr Norman Main (MRCP)

Introduction

- Aneurysmal subarachnoid haemorrhage (aSAH) can affect young people and has a high case fatality rate.
- Thunderclap headache is a common presentation that requires timely investigation with CT head and LP.

Aims

1. Evaluate the investigation of suspected aSAH at the Royal Liverpool University Hospital, referencing NICE guidelines.
2. Develop a local pathway for investigating aSAH.

Methods

- Patients with a CSF samples from Jan–Dec 2024 that underwent xanthochromia analysis were included if aSAH was the primary reason for LP.
- Data was extracted from electronic patient records and analysed using R v4.4.2.

Results

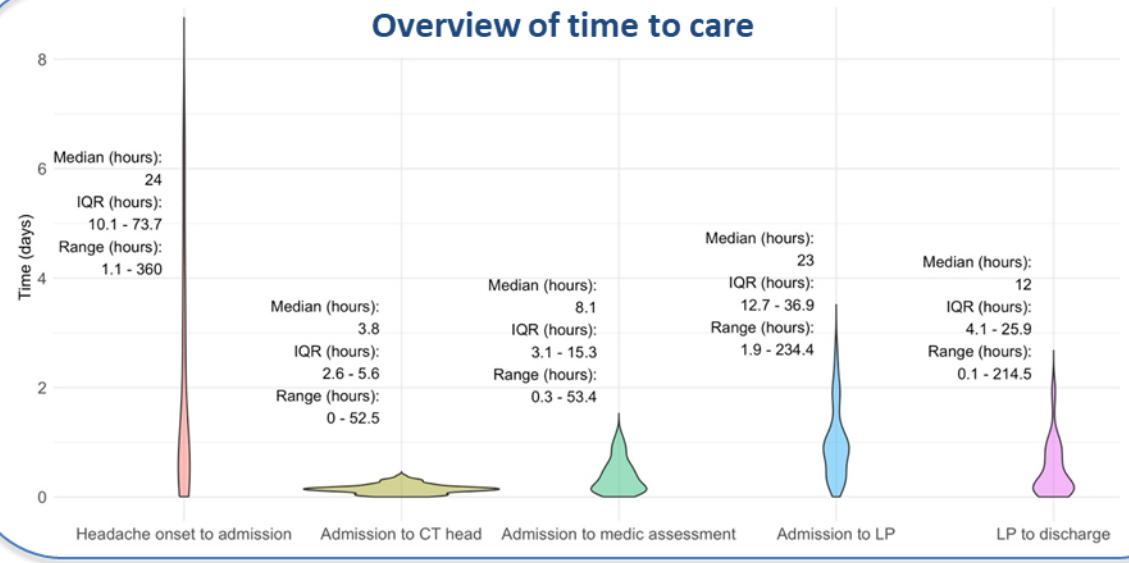
- N= 107; 3 cases positive for xanthochromia; 1 aneurysm coiled.
- 9 cases underwent LP despite a negative non-contrast CT head performed within 6-hours
- Same day emergency care (SDEC) streamed patients had significantly shorter time to LP (20.2h vs 44.5h, p<0.001)
- Most clotting tests (89.1%) were unnecessary

Conclusion

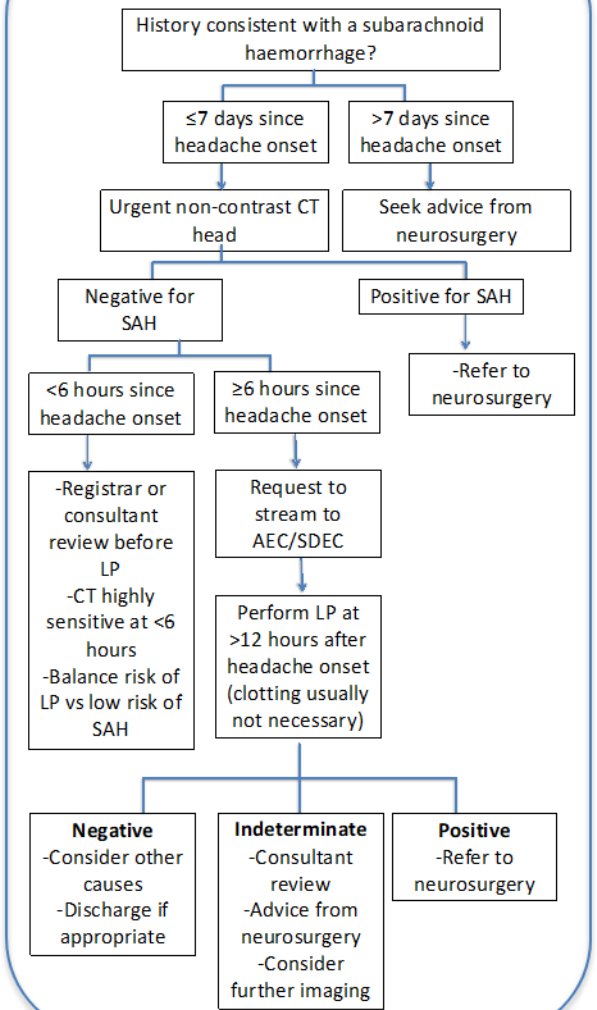
- Prioritise early CT within 6h of headache onset (effectively excludes aSAH)
- Reducing unnecessary clotting studies
- Stream cases to SDEC for earlier LP
- Incorporate NICE 2022 guidelines for SAH*

*Subarachnoid haemorrhage caused by a ruptured aneurysm: diagnosis and management. Guidance. NICE; 2022

Overview of time to care



New pathway for aSAH



Acute Epstein-Barr Virus Hepatitis Without Infectious Mononucleosis: A Diagnostic Challenge

Dr Mirac Burak Tak, University Hospitals Sussex NHS Foundation Trust

Dr M. Sajjad Haider, University Hospitals Sussex NHS Foundation Trust

Dr Charlotte Ford, University Hospitals Sussex NHS Foundation Trust

Introduction

Elevated liver enzymes are commonly observed in Epstein-Barr virus (EBV) infection, typically in association with infectious mononucleosis (IM).[1-3] However, acute symptomatic hepatitis without the classical IM syndrome is an exceedingly rare presentation.[4] We present a case of isolated EBV-induced hepatitis in the absence of IM features, highlighting the diagnostic challenges and clinical course.

Case report

A 56-year-old male presented with a history of fever, nausea, and anorexia. Physical examination revealed jaundice and right upper quadrant tenderness, but no cervical lymphadenopathy, tonsillitis, buccal mucosal exanthema, or rash. Laboratory investigations demonstrated significantly elevated liver transaminases and hyperbilirubinemia. Serologic testing confirmed acute EBV infection (EBV VCA IgM positive, EBV DNA 141,705 copies/ml), while other common viral hepatitis causes, including Hepatitis A, B, C, and E, were excluded. Imaging (ultrasound, MRCP, and CT) revealed mild splenomegaly and findings consistent with acute hepatitis but no biliary obstruction or gallbladder pathology. Autoimmune workup was negative, apart from a positive smooth muscle antibody. The patient was managed conservatively with close monitoring for potential fulminant hepatic failure. Upon discharge, he was followed up at 3-day intervals, demonstrating normalization of liver enzymes and bilirubin levels.

Discussion

While abnormal liver function tests are frequently observed in primary EBV infection, acute symptomatic hepatitis without IM syndrome remains rare.[4] Previous reports have described EBV-related acute hepatitis and cholestasis.[5-6], but isolated EBV hepatitis without concurrent IM features is an unusual entity.[4] The presence of a positive smooth muscle antibody in this case raises the possibility of an autoimmune component, though the patient's rapid improvement without immunosuppressive therapy suggests a primary viral etiology. This case emphasizes the importance of considering EBV in the differential diagnosis of acute hepatitis, particularly in patients with significant hyperbilirubinemia and cholestatic liver injury after common viral, autoimmune, and metabolic causes have been excluded.

Conclusion

Primary EBV infection should be considered in patients presenting with acute hepatitis, even in the absence of classical IM features. This case contributes to the growing body of evidence that EBV can present as isolated hepatitis and emphasizes the need for comprehensive viral testing in patients with acute liver dysfunction. Clinicians should maintain a high index of suspicion, particularly when faced with unexplained cholestatic hepatitis, to ensure timely diagnosis and appropriate management.

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Stroke In A Young Patient? - Consider Reversible Vasoconstriction Syndrome (RCVS)

Muhammad Khairul Fadli Abd Ghaffar; Mohamed Hassan; Shawn Halpin

GIG CYMRU NHS WALES | Bwrdd Iechyd Prifysgol Cwm Taf Morgannwg University Health Board

Background:

- Reversible Vasoconstriction Synrome (RCVS) is often under-recognised due to its overlap with ischaemic or haemorrhagic stroke, seizures, and reversible cerebral oedema.
- Identified triggers include physical exertion, orgasm and cough, though some cases remain idiopathic. RCVS primarily affects young females (20-50 years old).
- Diagnosis relies on clinical history and imaging, particularly MR or CT angiography, which reveals segmental arterial narrowing and dilation -"string of beads" appearance.
- The condition results from cerebral autoregulation dysfunction, with dynamic vasospasm.
- Initial angiography may appear normal, with peak diagnostic yield occurring around 16 days post-onset.
- Management includes vasodilatory agents such as verapamil, symptomatic treatment, blood pressure control, and seizure prophylaxis if needed. Most patients recover fully, with radiological resolution of vasoconstriction within three months.

Case Description:

- A 25-year-old woman presented with a sudden, severe thunderclap headache three days prior, accompanied by photophobia and nausea. She later developed right-sided weakness, expressive dysphasia, and facial droop, prompting an emergency stroke call and thrombolysis.
- Initial CT head scan was unremarkable, but a 24-hour post-thrombolysis CT revealed an infarct in the lateral lenticulostriate branch of the left middle cerebral artery. CT angiography at the time was normal.
- With no stroke risk factors or relevant family history, she made a full functional recovery. She was discharged on antiplatelets and a statin but struggled emotionally with the diagnosis and was referred for psychological support.
- 4 weeks later, she sought further evaluation due to persistent intermittent headaches. A headache specialist suspected RCVS based on her history and prior imaging.
- Repeat CT angiography demonstrated sudden calibre changes in the frontal branch of the left middle cerebral artery (Figure 1a). She was treated for RCVS with verapamil and analgesics. Antiplatelets and statins were discontinued, as they lack evidence for RCVS even when complicated by infarction.
- A follow-up scan a month later showed improvement in vasospasm (Figure 1b), and her headaches resolved completely.

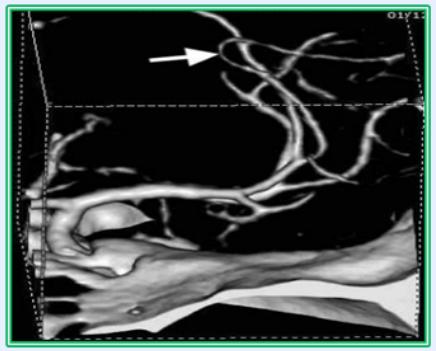

Figure 1a: Oblique frontal projection showing severe vasospasm in a left frontal middle cerebral artery branch (arrow)

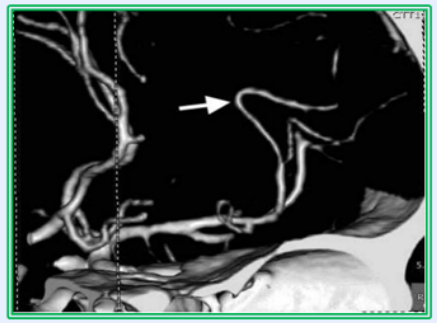

Figure 1b: Repeat scan after a month, showing considerable improvement (arrow)

Differential Diagnosis:

- Intracerebral and subarachnoid hemorrhage, spontaneous intracranial hypotension, arterial dissection, cerebral venous sinus thrombosis, posterior reversible encephalopathy syndrome, and hemiplegic migraine.

Discussion:

- RCVS is characterized by recurrent thunderclap headaches, with or without focal neurological deficits, and can result in infarction, hemorrhage, or seizures.
- Diagnosing RCVS is challenging and often leads to unnecessary interventions. Distinguishing RCVS-related infarction from thromboembolic stroke is key.
- While thunderclap headache is a hallmark of RCVS, thromboembolic stroke typically presents with neurological deficits as the primary feature, with or without headache.
- Since initial imaging may be negative, repeated neuroimaging is essential in suspected cases.
- RCVS should be considered in young patients with thunderclap headaches presenting at the hospital's front door. Proper treatment and avoiding misdiagnosis are crucial, as it can significantly impact patients both physiologically and psychologically.

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CANCER CAREGIVING ACROSS ECONOMIC STRATA: A SOCIODEMOGRAPHIC ANALYSIS & POLICY IMPLICATIONS FOR QUALITY OF LIFE

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Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia

Introduction

Background: **Cancer caregivers** provide essential patient support but **face significant physical, emotional, and financial burdens, often neglected** in health policy. These burdens **vary across economic strata**

Aim: Examine sociodemographic disparities in cancer caregiving to inform targeted policy interventions for improving quality of life (QoL).

Methods

- **Study design:** Systematic review following PRISMA guidelines, yielding 29 studies involving 5,943 caregivers.
- **Data sources:** PubMed, Scopus, ScienceDirect, Wiley, Cochrane (2010–2025).
- **Data outcomes:** Gender, income, employment, caregiver relationships, education, marital status, quality of life (QoL), psychological distress, unmet needs.
- **Data Analysis:** Narrative synthesis with thematic analysis by economic strata.
- **Quality Assessment:**
  - Newcastle-Ottawa Scale for observational studies.
  - Cochrane Risk of Bias Tool for randomized trials.

Ref.

Results & Discussion

TABLE 1. SOCIODEMOGRAPHIC ANALYSIS

Category	High-income (HI)	Upper-Middle Income (UMI)	Lower-Middle Income (LMI)
Gender (predominantly)	65–80% female; higher distress and burden	60–75% female; greater anxiety/depression	65–70% female; severe distress, especially in mothers
Employment	60–70% employed; work-life balance issues increase distress	50–60% employed; unstable, exacerbates financial strain	30–50% employed; unemployment/informal work heightens burden
Relationships	Spouses (40–60%), higher burden in spousal end-of-life	Spouses (50–60%), spousal caregivers face financial strain	Parents (50–70%, pediatric cases), fewer spouses;
Support Access	High formal support; unmet emotional/end-of-life needs	Limited formal support; reliance on family/community	Minimal formal support; comm./social networks critical
Financial Burden	Moderate; mitigated by income/insurance; end-of-life	High; financial toxicity reduces QoL	Severe; low income/resources worsen strain

- 29 studies (5,943 caregivers) show caregiving burden varies by economic strata (Table 1).
- Women (65–80%) face highest distress (30–70% anxiety/depression) across strata (Table 1).
- HI: Spousal caregivers (40–60%), high employment (60–70%), formal support access
- UMI: Spousal/parent caregivers (50–60%), financial toxicity, limited support
- LMI: Parental caregivers (50–70%), severe resource scarcity, community reliance
- QoL declines from HI (moderate) to LMI (severe) (Figure 1).

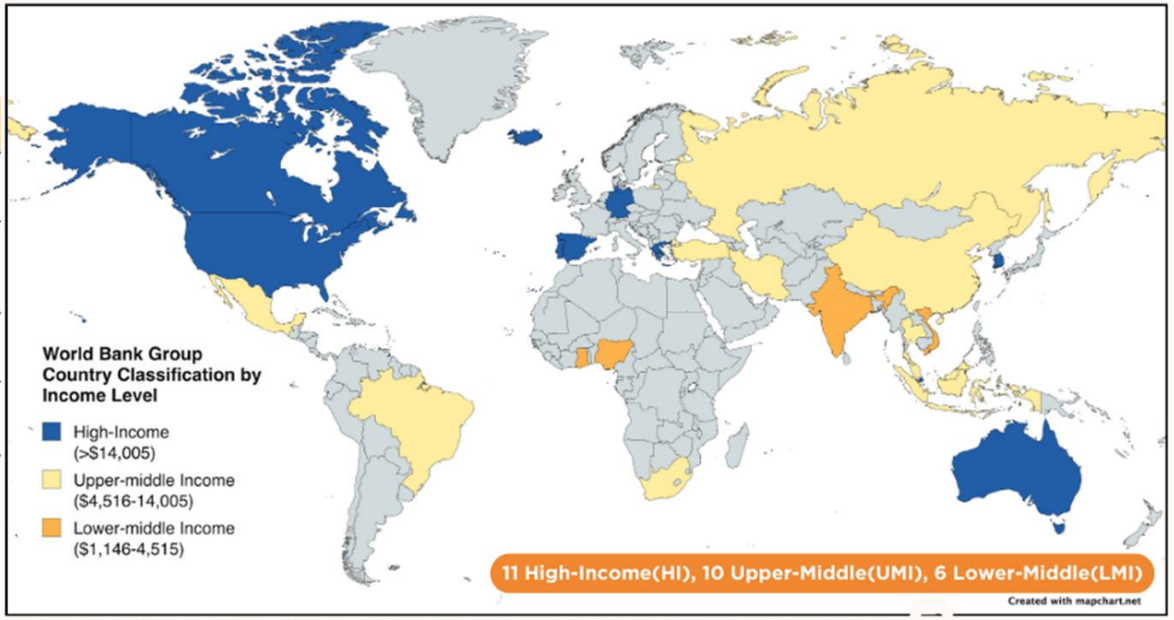


FIGURE 1. WORLD BANK GROUP COUNTRY CLASSIFICATIONS BY INCOME LEVEL

TABLE 2. POLICY IMPLICATIONS

Category	High-income (HI)	Upper-Middle Income (UMI)	Lower-Middle Income (LMI)
Countries	Australia, Canada, Germany, Greece, Iceland, Portugal, Singapore, South Korea, Spain, UK, USA	Brazil, China, Indonesia, Iran, Malaysia, Mexico, Russia, South Africa, Thailand, Turkey	Ghana, India, Nigeria, Pakistan, Sri Lanka, Vietnam
Key Challenges	End-of-life care burden, work-life balance issues, unmet emotional needs	Financial toxicity, limited respite care, high distress (40–60%), mixed family roles, lack of formal support data	Resource scarcity, minimal formal support, severe distress (50–70%), extended family dynamics
Policy Recommendation	Expanded mental health services with a focus on female caregivers, workplace flexibility, and end-of-life support	Financial subsidies, integrating respite care into cancer programs, caregiving training, family role support, data collection initiatives,	Financial aids, workplace support policies, formal support networks, community health worker programs, low-cost psychosocial support
implementation Focus	• Subsidize teletherapy to provide mental support, • Distress screening programs during primary care visits, • Employer partnerships to create caregiver-friendly policies.	• Subsidies caregiving expenses to reduce out-of-pocket costs, • Caregiving skills & respite care training in community centers, • National surveys: data on support access & financial burden.	• Subsidies & grants covering essential costs to alleviate strain • Advocate for work policies: flexible work hours/remote, • Establish community care centers for respite care & training.

Conclusion

Caregiving policies should include subsidized mental health services, flexible work arrangements, and education programs, tailored to economic contexts.

Royal College of Physicians

NHS
Calderdale and Huddersfield
NHS Foundation Trust

Introduction

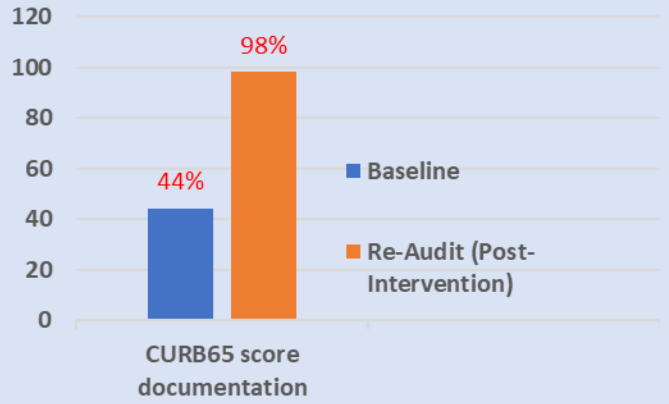
- Community acquired pneumonia (CAP) is a leading cause of morbidity and mortality in UK Healthcare which is undoubtedly related to poor guideline adherence in CAP management.[1]
- British Thoracic Society (BTS) has provided a standard of care for better clinical outcomes in CAP.[2]
- We aimed to improve the antimicrobial prescribing in adult patients hospitalized with CAP in our hospital using Quality Improvement (QI) methodology.

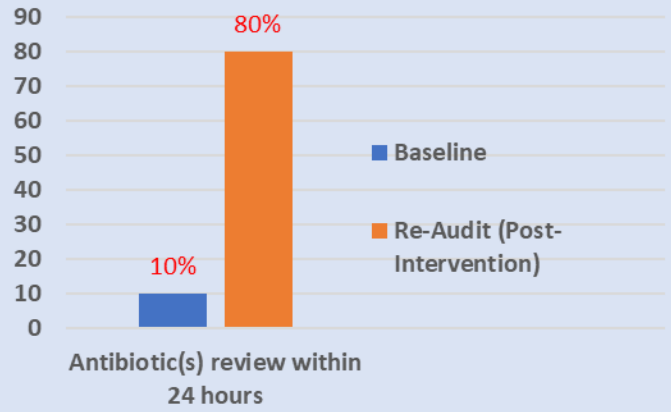
Methods

- A Quality Improvement (QI) project was conducted at Calderdale Royal Hospital, West Yorkshire.
- QI methodology was employed to improve the quality of antimicrobial prescribing.
- Baseline data were collected retrospectively in October-December 2023 which was compared to post-intervention prospective data collected in February-April 2024.
- Local antimicrobial guidelines for CAP, consistent with BTS CAP guidelines 2009,[2] were utilized as standard of care.
- QI Interventions include: interactive presentation in medical grand rounds; distributing lanyard cards among doctors featuring local CAP guidelines; and posters exhibition in handover meetings as active reminders through senior on-call involvement.
- Outcome measures include: CURB 65 score documentation; antibiotic(s) prescription concordant with CURB 65 score and local guidelines; and antibiotic(s) review within 24 hours of admission.

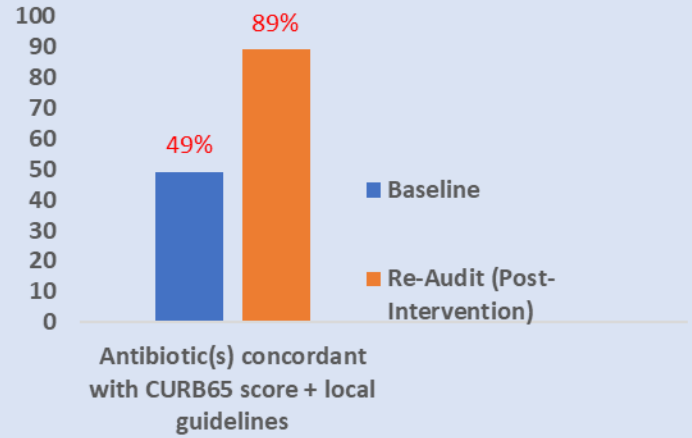
Results

- 88 adult patients (45 retrospective, 43 prospective), aged 18 and over, hospitalized with CAP were elected.





Results



Conclusion

- QI methodology can significantly enhance guideline adherence and appropriate antibiotic prescription in CAP management which translates into better quality and safety in patient care
- We recommend the nationwide encouragement of such QI Projects to promote guideline-directed patient care and safe antibiotic stewardship leading to improved patient-reported outcomes

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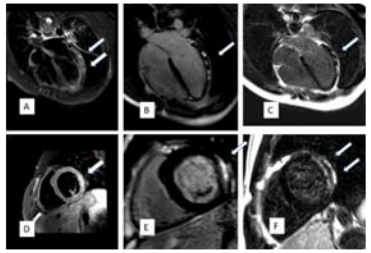

COVID-19 RELATED MYOCARDITIS: A SYSTEMATIC REVIEW

Dr Muhammad Zuhaid (ST4), Dr Zahid Khan (ST7)

INTRODUCTION

Covid-19 infection was first noted in the China (Wuhan) in 2019.[1] Initially, it was considered to be a viral illness with respiratory manifestations only;[2] however, further studies revealed that SARS-CoV-2 is increasingly expressed in cardiac myocytes as well.[3]

AIMS & OBJECTIVES

This systematic review demonstrates recent evidence regarding the detailed assessments of clinical features, diagnostic modalities including laboratory investigations and cardiac imaging modalities in addition to the clinical outcome of the patients admitted with covid-19 related myocarditis. This will guide clinicians for its consideration as an important differential diagnosis.

METHODOLOGY

In accordance with PRISMA 2020 guidelines, a systemic review was conducted using PubMed, PubMed Central, Cochrane Central, Web of science and Google Scholar until December 2021[4].

Key words including SARS-CoV-2, COVID-19 and myocarditis were used.

INCLUSION AND EXCLUSION CRITERIA

Case reports and Cohorts with definite diagnosis of covid-19 related myocarditis were included.

Vaccination related myocarditis reports were excluded from the review.

RESULTS

In total 55 case reports, 5 cohorts and 4 systemic reviews were Identified comprising 216 patients. Results can be viewed in the form of bar graphs and pie charts. (Figures 1-5)

Fig 1: Clinical Presentation

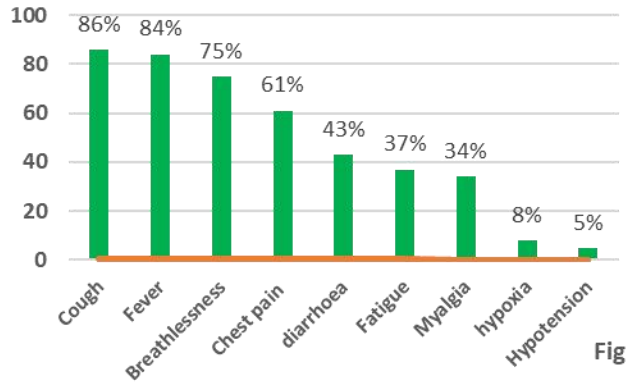

Fig 2: Abnormal Lab results

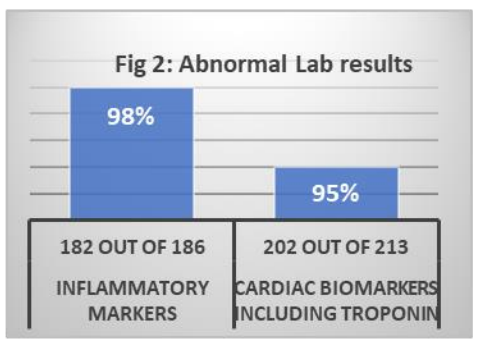

Fig 3: ECG & Echo findings

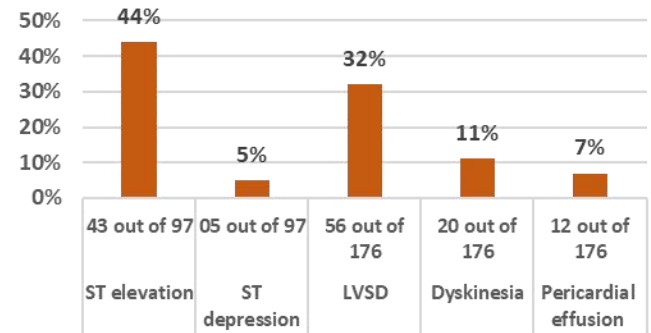

Fig 4: CMR findings

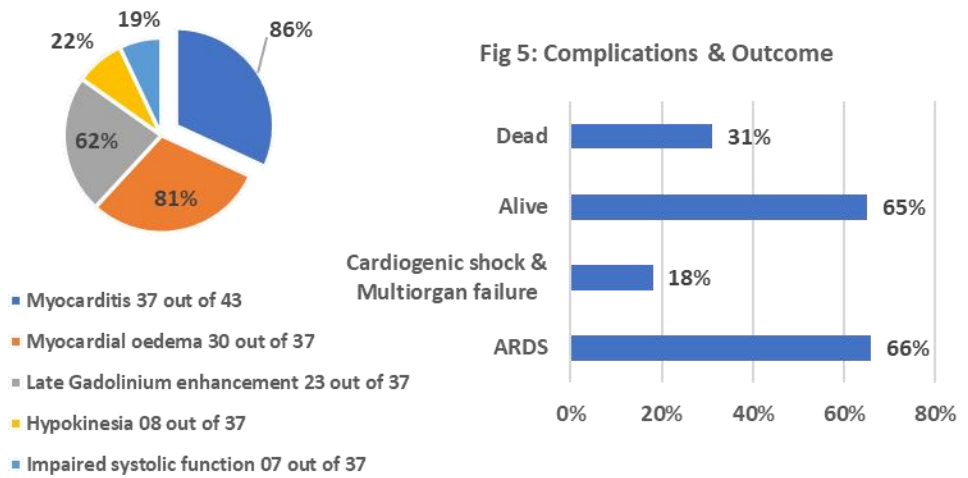

Fig 5: Complications & Outcome

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Denosumab-Induced Calcium Extremes in Metastatic Breast Cancer: A Case Urging Protocol-Driven Vitamin D Repletion and Dynamic Monitoring

Authors: Latheef, Muhammed Russal[1]; Velusamy, Anand[2]; Roy, Sabyasachi[1]

[1]Guys and St Thomas NHS Trust; [2]Guys and St Thomas NHS Trust

1. Introduction

- Bone metastases: 70% of advanced breast cancer patients.
- Denosumab disrupts calcium homeostasis; vitamin D deficiency (30–50% of patients) exacerbates hypocalcemia (18% risk).
- **Problem**: Guideline-practice gaps in pre-treatment vitamin D optimization.

2. Case Presentation

- **Patient**: 54F, metastatic breast cancer (T4bN2aM1).
- **Presentation**: Tetany/confusion post-Denosumab.
- **Labs**:
    a. Ca^{2+}: 1.90 mmol/L (↓), Vit D: <9 nmol/L (↓↓), PTH: 558 ng/L (↑).
    b. ALP: 443 → 643 U/L (↑↑).
- **Interventions**: IV/oral Ca^{2+}, colecalciferol 40k IU/day, electrolyte replacement.

3. Results & Critical Insights

- **Hypocalcemia resolved** but rebounded to hypercalcemia (Day 30).
- ALP rise signals unresolved skeletal turnover.
- **Key Recommendations**:
    - **Pre-Denosumab**: Mandatory vitamin D screening + repletion (>75 nmol/L).
    - **Dynamic protocols**: Tiered Ca^{2+} dosing with daily lab monitoring.
    - **ALP trends**: Early biomarker for hypercalcemia risk.

4. Conclusion

- Institutionalizing protocols reduces hospitalizations/morbidity in metastatic breast cancer.

Joint British Diabetes Societies for inpatient Care (JBDS-IP) – Guidelines for The Management of Diabetes in Adults with Psychiatric Disorders in Inpatient Settings

Mustafa Mahdi[1]*, Ben Ivry[1], Jonathan Bickford[4], Marilia A. Calcia[2], Adrian Heald[3] , Omar Mustafa[2] , Hermione Price[1]
[1] Hampshire and Isle of Wight NHS Foundation Trust , [2] King's College Hospital NHS Foundation Trust , [3] Salford Royal Hospital , [4] West London NHS Trust

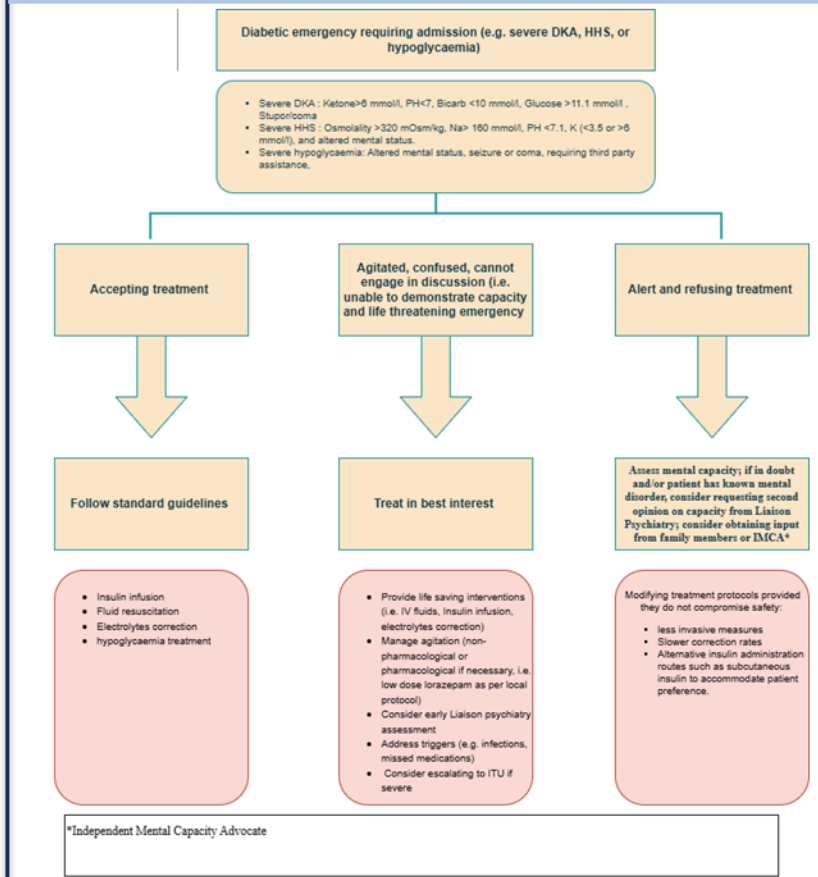
Introduction

Diabetes occurs in people with mental disorders at over twice the rate seen in the general population[1]. Factors such as antipsychotic-induced metabolic effects, lifestyle challenges, cognitive impairment and disjointed mental health–diabetes services contribute to suboptimal glycaemic control, increased complications and admissions, and a 15–20-year reduction in life expectancy[2 3]. In acute settings (e.g., DKA), treatment is often postponed by capacity concerns or refusal; updated guidelines call for rapid intervention, early application of the Mental Capacity Act and the least-restrictive measures[4 5]. For long-term care, they advocate structured screening, individualised management, coordinated multidisciplinary teams and concurrent cardiovascular risk reduction

Methods

The updated guidelines incorporate national and international best practices, expert consensus, and case-based analyses to formulate a structured approach for the management of acute and chronic diabetes care in hospitalised patients with mental disorders. We designed a flow diagram to support decision-making in acute scenarios, ensuring timely intervention while balancing patient autonomy and duty of care.

Figure 1: JBDS-IP flowchart for management of diabetic emergencies with coexisting mental health disorders.



Discussion

1.Acute Management
–The framework Emphasises prompt recognition and treatment of diabetic emergencies, with early capacity assessment and least-restrictive best-interest decisions.
– Highlights the need for close collaboration between psychiatry, diabetology and acute medicine.

2.Chronic Care and Risk Reduction
– Recommends structured diabetes screening and monitoring tailored to this population.
– Supports cardiovascular risk reduction through lipid, blood pressure and glycaemic control.

3.Mental Capacity and Decision-Making
– Introduces a stepwise approach to capacity assessment, balancing autonomy with clinical urgency.
– Promotes multidisciplinary input, including routine psychiatric involvement in long-term care planning.

Conclusion

This updated JBDS-IP guideline provides a structured approach for managing diabetes in hospitalised patients with mental disorders. By integrating diabetes care with mental health treatment, the framework aims to reduce morbidity, improve treatment adherence, and optimise patient outcomes. The implementation of an evidence-based guidance enhances clinical decision-making, ensuring prompt intervention while respecting patient autonomy.

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Postgraduate Training in Cardiology in Sudan During Wartime: A Story of Perseverance and Resilience

Nawal Elkurdufani[1], Salah Mohamed[2], Abdelbagi Ali[3], Mohamed Elmakki Ahmed[1]

[1]Sudan Medical Specialisation Board (SMSB); [2]Sudan National Cardiac Centre ; [3]Sudan Heart centre

BACKGROUND & OBJECTIVES

Sudan postgraduate cardiology training programme was launched in 2010 by the Sudan Medical Specialisation Board (SMSB). Four training centres were located in the capital, Khartoum, and a fifth in the nearby city of Wad-Madani. We discuss the interventions undertaken to circumvent the interruptions to the programme following Sudan's war of April 2023 and evaluate the outcomes.

MATERIALS & METHODS

We used a narrative analysis of the events and evaluated the exam pass rate and trainees' portfolios. The trainees' views were assessed through a questionnaire

RESULTS & DISCUSSION

The number of registered cardiology trainees = 38

- *5 were preparing for the final/exit exam.*

Due to the war, trainers (cardiologists), trainees, and medical staff had to relocate from Khartoum centers to Wad-Madani and, thereafter, to safe towns (namely Merowe, Atbara and Shendi) that only had basic cardiology services **(Figure 1)**. This encouraged the cardiology board to hold the exam in **February 2024** in Atbara as a priority:

- Eligible candidates were notified in person and through scarce media channels (1 x candidate had to be informed by physically reaching his village).
- The exam's written, objective, structured practical examination and clinical sections were held under the same strict criteria.
- All candidates passed and received electronic certification of completion of training.

Figure 1: Sudan map showing the location of the cardiology training centers before (Khartoum, Wad Madani) and during (Merowe, Atbara & Shendi) wartime.

- The SMSB efficiently supported the logistical and financial aspects of the examination.

Subsequently, the clinical training programme *was resumed in June 2024* for the **10** trainees who remained in Sudan after tremendous efforts to upgrade the cardiology set-up within the three towns/units above:

- Funding was received primarily from the National Cardiac Centre.
- The upgrade included providing essential non-invasive and invasive lab equipment and establishing coronary care units, dedicated cardiology wards, and outpatient services.
- Cardiothoracic surgery was only available at the Marawi unit.
- Arrangements were made for trainees to rotate between the three units to broaden their training opportunities. Free accommodation was offered to trainees, notwithstanding the challenges posed by inflation and the mass influx of internally displaced people.

- Despite the war conditions, the cardiology council committee continued to meet remotely, addressing emerging challenges.
- Trainers who were displaced and settled abroad contributed to the online educational component and provided guidance
- The evaluation of the training logbooks showed excellent performance and evidence documentation.
- The trainees' questionnaire (**summarised in Figure 2**) revealed:
  - *High satisfaction level with the quality of training.*
  - *80% of the trainees felt the training was better than pre-wartime*
  - *All felt they had greater accessibility to their trainers and more opportunities for hands-on training due to the higher case volume.*
  - *However, 40% were dissatisfied with the accommodation*

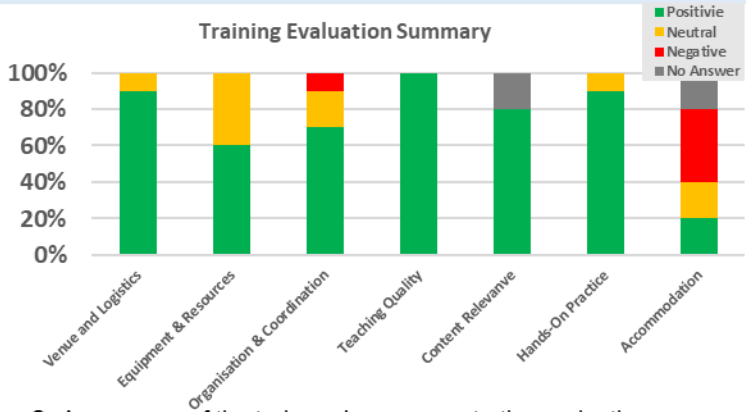

Figure 2: A summary of the trainees' responses to the evaluation survey of Sudan's postgraduate cardiology training programme during wartime.

CONCLUSION

Sudan postgraduate training in cardiology was successfully maintained during wartime, achieving good trainee satisfaction and educational outcomes, through perseverance and resilience. Decentralization of training, imposed by the war, resulted in quality cardiology services reaching a wider population and peripheral areas.

Refractory Thrombocytopenia as a Manifestation of *Mycobacterium abscessus* Complex Prosthetic Valve Endocarditis: A Rare and Fatal Complication

Konar, Niladri; Gunjan, Gaurav

INTRODUCTION:-

Mycobacterium abscessus complex is a **Rapidly Growing Mycobacterium (RGM)** known for pulmonary infections, especially in patients with cystic fibrosis or bronchiectasis. Systemic infections, though rare, require high clinical suspicion. We report a rare case of refractory thrombocytopenia in a case of prosthetic valve endocarditis caused by this organism.

CASE PRESENTATION:-

- 72 year old female with **recurrent fever post TAVI**, done 3 months ago.
- On admission:- **Altered Sensorium**, Cytopenia, Acute Kidney Injury, Mild Transaminitis, **Rash** in lower extremities(Fig1).
- Transthoracic and transoesophageal Echo- Normal; PET-CT– Reactive Mesenteric Lymph Nodes.
- CSF- 120 cells (Polymorphs 65%, Lymphocytes 35%), **Protein 82 mg**/dl, Glucose 29 mg/dl.
- Initial suspicion- Partially treated meningitis vs Tuberculous Meningitis.
- **Refractory thrombocytopenia** requiring Platelet transfusions and Inj Romiplostim.
- Bone Marrow Workup - not contributory.
- **Blood cultures (3rd set)- RGM- Mycobacterium abscessus complex**.
- Started on Levofloxacin, Azithromycin, Amikacin, Clofazimine, Tigecycline.
- Patient initially responded and discharged.
- Returned 1 month later - **sudden drop in GCS to 3/15** with **platelets of $4x10^9$/L** leading to **Subarachnoid Haemorrhage (Fig 3)**.
- **TOE–mobile vegetation on Prosthetic valve (Fig 2)**.
- **End of Life** care was opted for.

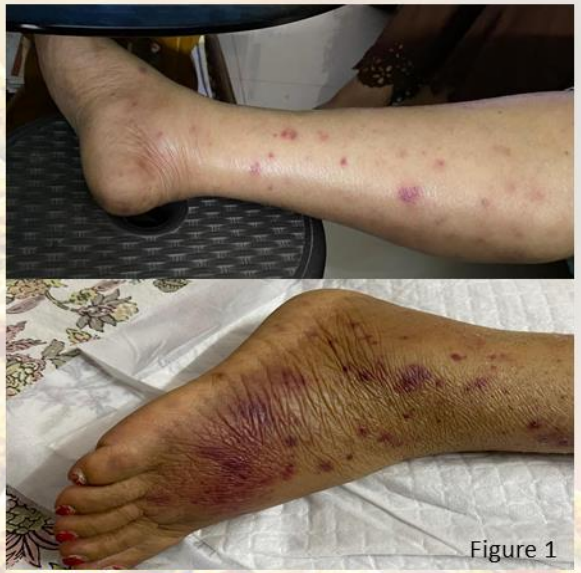

Figure 1

DISCUSSION:-

Here, we have presented a case of Infective Endocarditis, secondary to Mycobacterium abscessus complex post TAVI. There have been previous case reports of Thrombocytopenia in similar scenarios. However, all those reports had a common factor of use of Linezolid for the treatment, which is known to cause low platelets. Our patient was not given Linezolid throughout the course of admission, so we suspect that the organism, itself, was responsible for the refractory Thrombocytopenia. The exact reason for the sudden deterioration of platelet count, after initial stabilization for over a month, could not be established and Post Mortem Examination was not done.

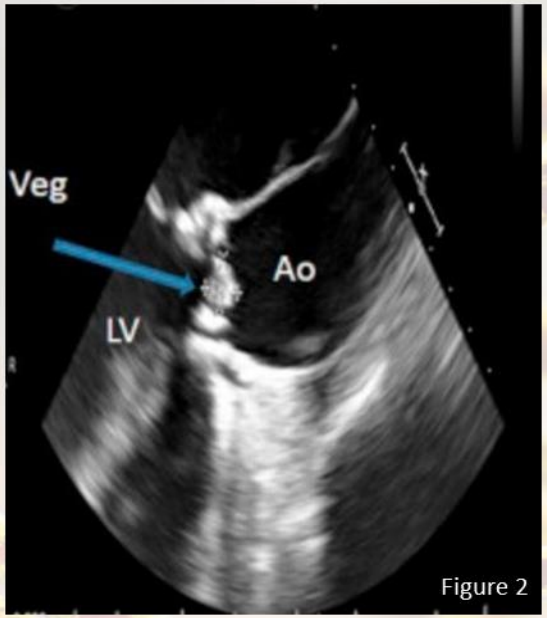

Figure 2

CONCLUSION:-

- High suspicion is essential in PUO post-intervention, especially with cytopenia.
- M. abscessus complex, though rare, can cause life threatening prosthetic valve infective endocarditis.
- Treatment differs from more commonly encountered MTB infections, hence species identification is essential.
- Culture guided therapy is essential, prognosis remains poor even with optimal management.
- Thrombocytopenia, caused by M. abscessus complex, may be refractory, even when patient is on therapy for the organism according to guidelines.

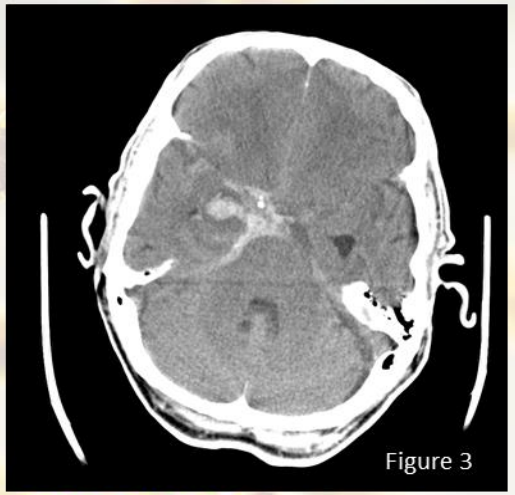

Figure 3

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Figure 1- Rash on lower extremities at the time of initial presentation
Figure 2- TOE images showing Prosthetic Valve Endocarditis
Figure 3- CT Brain showing SAH
Background- Mycobacterium abscessus

Questions, Opinions and Suggestions- ***dr.niladrikonar@gmail.com***

Royal College of Physicians

Apollo HOSPITALS TOUCHING LIVES

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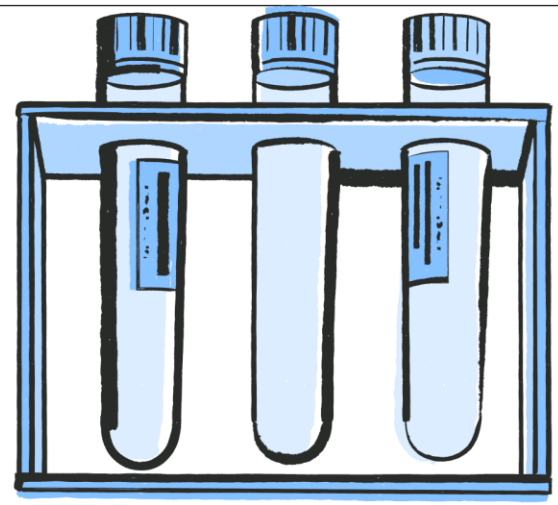
Iran University of Medical Sciences, Rasool Akram Hospital, Tehran, Iran

Impact of Formalin and Antiseptic Contamination on Helicobacter pylori Rapid Urease Test



1.

INTRODUCTION

The rapid urease test (RUT) is frequently used to diagnose Helicobacter pylori (H. pylori) infection in endoscopy patients due to its efficiency, simplicity, and high sensitivity. However, RUT accuracy can be compromised by contaminants like formalin or glutaraldehyde (GTA), which may lead to false-negative or false-positive results.

OBJECTIVE

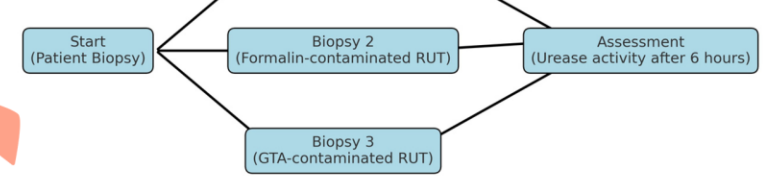
This study aimed to examine the specific impact of formalin and GTA contamination on RUT reliability for H. pylori detection.

2.

METHODOLOGY

- Design: Prospective study with 50 patients undergoing upper gastrointestinal endoscopy.
- Sampling:
- Each patient provided three gastric biopsies.
- Processing:
- Standard RUT: Uncontaminated solution.
- Formalin-contaminated RUT: Needle dipped in 10% formalin, then RUT.
- GTA-contaminated RUT: Needle dipped in 2.5% glutaraldehyde, then RUT.
- Outcome:
- Urease activity assessed after 6 hours.
- Assessment performed by a blinded examiner based on color change.

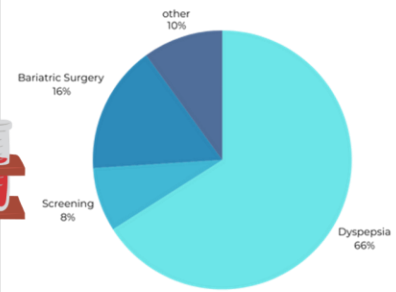
3.



4. RESEARCH / FINDINGS

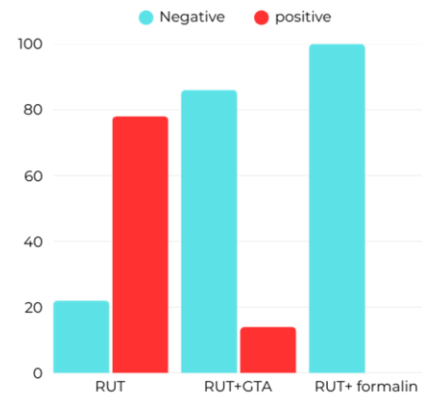
FINDING 1.

Indication for endoscopy



FINDING 2.

comparison of standard RUT with contaminated RUT with GTA and formalin



FINDING 3.

RUT results based on Endoscopic Findings

5.

ANALYSIS

The cohort included 50 patients (52% female, 48% male; mean age 39.5 years), with dyspepsia as the most common symptom (66%). The standard RUT showed a 78% positivity rate, while the formalin-contaminated RUT yielded 0% positivity, and the GTA-contaminated RUT showed a significantly reduced positivity rate of 14%.

6.

CONCLUSION

Direct contamination of RUT solutions with formalin or GTA substantially inhibits urease activity, resulting in false-negative H. pylori results. This highlights the need for rigorous contamination control, including thorough rinsing of biopsy instruments, to prevent diagnostic errors. Adopting standardized washing protocols for endoscopic tools can further ensure reliable RUT outcomes in clinical practice.

The Importance of Near-Peer Bedside Teaching for Medical Students: A Quality Improvement Project in Medical Education.

Dr Phoebe Hartop
Foundation Year 1 Doctor
Calderdale and Huddersfield NHS Trust

Background

- Near-Peer Teaching is the informal teaching provided by a group of people in a similar social or educational group.
- Near-Peer Teaching underpins the essential experiential learning for medical students on placement in hospitals.
- Teaching is a key competence for all doctors and is a fundamental skill required for a fulfilling and successful career as outlined by the General Medical Council.

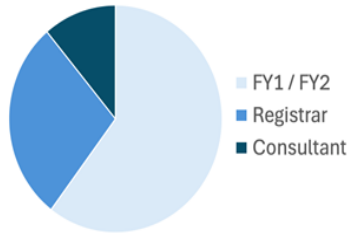
Methods

- Circulated a pre-placement questionnaire for medical students Year 3 to Year 5 to gather their perceptions on bedside teaching.
- Recruited Foundation Year 1 and 2 Doctors at CHFT via email.
- Paired FY1 and FY2 Doctors closely with the medical students based on location and rotation and introduced them to each other via email.
- After the 4-week block of placement, sent a secondary survey to the medical students to ask for their feedback on the bedside teaching programme.
- Repeated for 4 different cohorts of medical students across January to April 2025.

Results

Pre-Placement Survey

- 63 responded to the questionnaire
- 96.8% of responders felt they would benefit from a near peer bedside teaching programme
- 60.3% of responders felt teaching given by FY1/FY2 was most beneficial when compared with registrar or consultant.



Post-Placement Survey

- 43 feedback responses were collated and analysed following introduction of the near peer bedside teaching programme
- 83% of responders stated the programme had been beneficial and provided good learning opportunities (Chart 1).
- 88% of responders experienced a comfortable and supportive learning environment (Chart 2).

Written Feedback

"Great to practice on ward round and take the place of an FY1"

"Very useful – focused teaching rather than random, niche topics"

"FY1s have more relevant advice and are more likely to give advice"

"No expectations or judgement if wrong"

"Approachable and encouraged me to take histories and examine patients"

Conclusions

- Foundation doctors provide invaluable learning opportunities to medical students in all year groups
- Teaching eagerly awaited by medical students who otherwise receive no formal bedside teaching at CHFT
- Implementing a formal teaching programme would be hugely beneficial to medical students at CHFT.

Future Recommendations

- Introduction of roles such as clinical teaching fellows could be introduced and formalised to further enhance medical education at CHFT.

Pregnancy-Induced Thrombotic Thrombocytopenic Purpura (TTP) Complicated by Atypical Posterior Reversible Encephalopathy Syndrome (PRES) and Acute Pancreatitis

Rithik Naik Korra, MBBS[1]; Nikhil Kumar Balagoni, MBBS[1];
1.Department of Internal Medicine, Osmania Medical College, Hyderabad, Telangana, India

Introduction

- Thrombotic thrombocytopenic purpura (TTP) is a rare, life-threatening thrombotic microangiopathy caused by severe ADAMTS13 deficiency, leading to widespread microvascular thrombosis.
- Pregnancy is a known trigger for TTP, particularly in the third trimester and postpartum, due to elevated von Willebrand factor and reduced ADAMTS13 activity [1].
- TTP often mimics HELLP syndrome and preeclampsia, making early and accurate differentiation essential to guide life-saving therapy [2].
- This case is exceptionally rare, presenting with TTP complicated by both atypical PRES in a normotensive patient and acute pancreatitis—an unusual and severe triad in pregnancy.

Clinical case

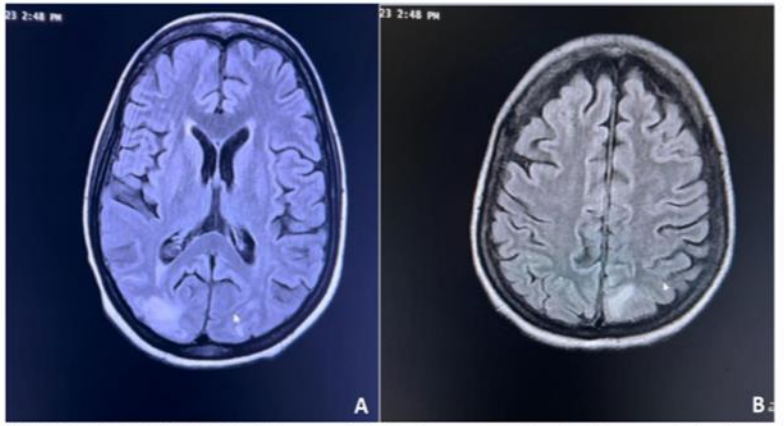
- A 28-year-old pregnant woman with severe multisystem involvement: seizures, vomiting, fever, decreased fetal movement, and visual impairment
- Lab findings: Significant thrombocytopenia (49,000/µL), anemia (Hb 13.5 g/dL), leukocytosis (WBC 25,000/µL), and acute kidney injury (serum creatinine 2.49 mg/dL)..
- Ultrasound confirmed intrauterine fetal demise, adding complexity to the diagnosis.
- Neurological symptoms led to brain CT, revealing Posterior Reversible Encephalopathy Syndrome (PRES), a rare TTP complication, even in normotensive patients.
- Day 4: Development of acute epigastric pain, with elevated amylase (770 U/L) and lipase (1930 U/L), confirming acute pancreatitis, another rare complication of TTP.
- Kidney biopsy on Day 15 demonstrated diffuse cortical necrosis with thrombotic microangiopathy, reinforcing the TTP diagnosis.
- ADAMTS13 autoantibody levels were significantly elevated (48.0 AU/mL), confirming TTP and emphasizing the critical timing of plasma exchange therapy for maternal survival.
- Neurological symptoms improved with plasma exchange therapy, with visual acuity gradually returning and partial renal recovery after prolonged hemodialysis.

Results Discussion

- Diagnostic challenge: Pregnancy-related TTP is notoriously difficult to diagnose, with nearly 50% of cases occurring postpartum and leading to severe maternal and fetal complications
- Normotensive PRES: PRES, typically associated with hypertension, occurred in this normotensive patient, highlighting the role of endothelial dysfunction and systemic inflammation in normotensive TTP.
- Acute Pancreatitis: A rare complication of TTP, acute pancreatitis is often overlooked in pregnancy-related thrombotic microangiopathies but can exacerbate the disease course by triggering microvascular thrombosis [3].
- Critical timing: Plasma exchange therapy is the cornerstone of TTP treatment — delayed initiation significantly increases maternal and fetal mortality risk .
- Unlike preeclampsia or HELLP syndrome, which resolve after delivery, TTP requires ongoing plasma exchange and immunosuppressive therapy, making early diagnosis and intervention crucial.
- Emerging therapies like Caplacizumab show promise for refractory TTP, but its use during pregnancy remains experimental, highlighting the need for further research in this area [4].

Conclusion

- Early Diagnosis and Multidisciplinary Management: This case underscores the critical importance of early recognition and differentiation of TTP from other pregnancy-related thrombotic microangiopathies. The rare combination of PRES and acute pancreatitis requires a multidisciplinary approach to ensure optimal maternal outcomes.
- Plasma Exchange as a Life-Saving Intervention: Plasma exchange therapy remains the cornerstone of treatment for pregnancy-associated TTP, significantly improving maternal prognosis, even in the presence of complex complications like PRES and acute pancreatitis.
- Future Research Directions: This case highlights the urgent need for further investigation into targeted therapies like Caplacizumab for refractory TTP in pregnancy, with a focus on optimizing treatment strategies to improve maternal and fetal outcomes.



(A) T2/FLAIR MRI **(B)** FLAIR MRI images depicting hyperintensities involving cortical and subcortical white matter of bilateral parieto-occipital region suggestive of Atypical Posterior Reversible Encephalopathy Syndrome (PRES)

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Aortic pulse wave velocity and extracellular water expansion in haemodialysis patients

Roohi Chhabra, Andrew Davenport
UCL, Department of renal medicine, Royal Free hospital, London, UK

Introduction

- Aortic pulse wave velocity (aPWV):
  gold standard measure of arterial stiffness
- High aPWV → Cardiovascular mortality

Objectives

- Determine if volume overload (ECW/TBW) increases aPWV

Methods

- Cross sectional study
- 102 haemodialysis patients
- **aPWV**: Mobil-O-graph
- **ECW/TBW**: Multifrequency bioimpedance

Results

- Mean aPWV: 10.1 m/s
- ↑aPWV linked to ↑ age, ↑ ECW/TBW
- ECW/TBW **independently** predicts ↑aPWV (p=0.004)

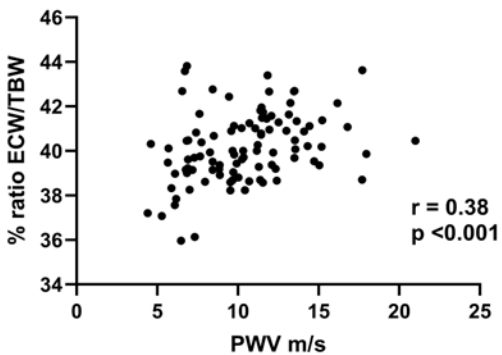


Figure1 Univariate spearman association between aPWV & ECW/TBW %

Discussion

- Volume overload ↑ vascular stiffness
- Effect is independent of age
- Low dialysate Ca^{2+} in our study minimised calcification bias

Conclusion

- ECW/TBW is a **key, modifiable** predictor of aPWV
- Optimising volume status may ↓ CV risk

Acknowledgements

A special thanks to my supervisor and all Edgware patients & staff

Assessment of Frailty in Geriatric Patients admitted to Oncology: A Quality Improvement Project

Dr. Safiyyah Samad, Dr. Robert Brown

Imperial College Healthcare NHS Trust

INTRODUCTION

Frailty has significant impacts on hospital outcomes.[1] Accurate frailty assessment leads to appropriate management including use of the comprehensive geriatric assessment (CGA). Evidence suggests improved outcomes for older adults who undergo a CGA during admission. [2]

Guidance from NHS England and the British Geriatric Society (BGS) states all patients over 65 should have frailty assessed with the Clinical Frailty Scale (CFS) on arrival to hospital.[3]

Despite its importance, frailty is inconsistently assessed or inaccurately recorded in many clinical settings. This quality improvement project aims to improve the assessment of frailty in patients aged 65 and above admitted to the oncology department using the CFS.

METHOD

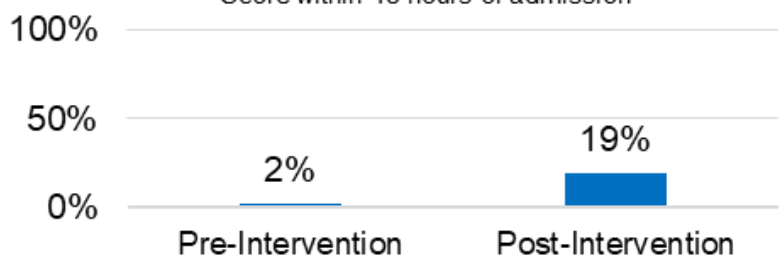
An initial cycle of audit of frailty assessments for patients aged 65 was conducted. The proportion of these patients who had a documented frailty score within 48 hours of admission was assessed to evaluate concordance with guidance.

We developed and delivered a frailty teaching session to the oncology team to improve understanding of the need for accurate frailty assessment. This was our quality improvement intervention, with the aim to increase the proportion of patients having frailty assessments conducted at admission.

Post-intervention, the proportion of geriatric oncology who had a documented frailty score within 48 hours of admission was again evaluated.

RESULTS

Figure 1: Percentage of Admitted Patients Over 65 with Documented Clinical Frailty Score within 48 hours of admission



DISCUSSION

Our results show an improvement in adherence to national guidance for completing frailty assessments from 2% to 19% post-intervention.

This intervention was low intensity as the teaching session was integrated into existing teaching schedules, requiring no additional resources.

Limitations of this intervention include: inability of all staff to attend the teaching session due to on-call duties and shift patterns; the need for repeated sessions, for example when resident doctors rotate departments.

CONCLUSION

There was improvement in frailty assessments following our intervention, however, overall assessment numbers remained low.

This gap highlights the need for education to enhance adherence to frailty assessment guidelines. Low-intensity educational interventions may be an effective way to improve implementation of frailty assessments.

Further work could include more systematic strategies to embed frailty assessments into workflow, as well as targeting improvement towards implementation of CGAs.

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Available at: https://gettingitrightfirsttime.co.uk/wp-content/uploads/2023/07/GIRFT-BGS-Six-Steps-to-Better-Care-for-Older-People-FINAL-V2-July-2023.pdf [accessed 20/03/2025]

ULTRAVIOLET A1 PHOTOTHERAPY FOR TREATMENT-RESISTANT AMYLOIDOSIS IN A PATIENT WITH SKIN PHOTOTYPE I: A CASE REPORT

SAM HUGHES[1], ROSSEL AHMAD[2], MARYAM KAKAR[2], JOHN FERGUSON[1], LJUMBOMIR NOVAKOVIC[1]

GUY'S AND ST THOMAS' NHS FOUNDATION TRUST[1]
KING'S COLLEGE LONDON[2]

Guy's and St Thomas' NHS Foundation Trust

DEMONSTRATING THE EFFICACY OF UVA1 PHOTOTHERAPY IN A RARE CASE OF PHOTOTYPE I LICHEN AMYLOIDOSIS

INTRODUCTION

Lichen amyloidosis (LA) presents as pruritic papules, typically affecting skin phototypes IV–V. It is rare in phototype I, with limited literature describing its presentation or treatment in this group. Refractory pruritus significantly impacts patients' quality of life and is challenging to manage

OBJECTIVE

To evaluate the effectiveness of UVA1 phototherapy in a phototype I patient with treatment-resistant LA.

CASE REPORT

- **Patient:** 72-year-old British male with Fitzpatrick skin phototype I.
- **Symptoms:** 2-year history of intensely pruritic papules affecting calves, buttocks, and intergluteal fold.
- **PMH:** HIV (well-controlled), hypertension, hypercholesterolaemia.

Investigations:

- Skin biopsy: eosinophilic amyloid deposits in papillary dermis (Congo red positive).
- IHC: cytokeratin 5 positive → confirms LA.
- Negative for infections, inflammation, and gammopathy.

Impact: Severe sleep disturbance, psychological distress.

Previous treatments:

- Topical clobetasol for 2 months – ineffective
- 39 sessions of narrowband UVB (NB-UVB) – no improvement (cumulative dose: 115.07 J/cm²

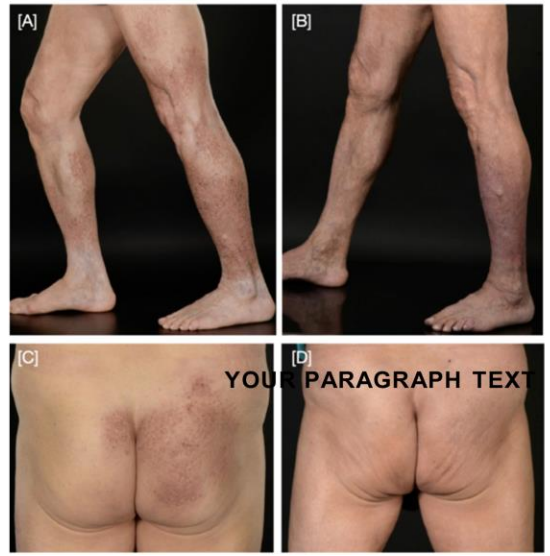

FIGURE 1. A-D
(A) Lichen amyloidosis on lower legs before treatment.
(B) Same area 18 months post-UVA1 therapy.
(C) Lesions on buttocks before treatment.
(D) Buttocks 18 months post-treatment showing resolution and post-inflammatory pigmentation

INTERVENTION

- Patient started UVA1 phototherapy after NB-UVB failure.
- 40 sessions
- Cumulative dose: 9066.8 J/cm²
- No topical steroids used during treatment
- Marked improvement by session 20
- Complete resolution of symptoms by session 35

OUTCOME

18-month follow-up:

- No recurrence or new lesions
- No pruritus
- Only residual finding: mild, asymptomatic post-inflammatory hyperpigmentation

Patient-reported outcome:

- Significant improvement in quality of life
- No further interventions required

DISCUSSION

This case is notable for:

- Phototype I – an exceptionally rare presentation of LA
- Atypical distribution – buttock involvement suggests an anosacral variant not previously documented in this skin type
- Late onset (age 72) – over two decades older than average
- Comorbid HIV – a possible immunological contributor, rarely described in LA
- Therapeutic breakthrough – UVA1 led to rapid, sustained remission where NB-UVB and steroids failed, likely due to deeper dermal penetration

This case expands the scope of UVA1 use in LA, especially for atypical, treatment-resistant, and understudied patient groups.

CONCLUSION

UVA1 phototherapy led to complete, sustained remission at 18 months, in a phototype I patient with treatment-resistant lichen amyloidosis. This case contributes to the limited literature supporting UVA1 as a monotherapy and suggests it may be a valuable first-line option in refractory or atypical LA, especially in rarely studied skin phototypes.

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Clinical Ethics and Patient-Centred Communication: Evidence-Based Application Through an Educational Perspective

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[1] Department of Clinical Sciences, Dubai Medical University, Dubai, United Arab Emirates

Background

Clinical ethics integrates four foundational principles, **autonomy**, **beneficence**, **non-maleficence**, and **justice**, with **professional** patient-centred **communication**. This review explores how evidence-based communication **models** and emerging **technologies** improve outcomes, enhance ethical practice, and reshape health professions education.

Methods

- **Comprehensive** Narrative review of recent systematic reviews, RCTs and quality observational studies searched through **major databases**.
- Focus on models integrating communication with ethics (e.g. ICE, SPIKES and Artificial Intelligence).

Discussion

- Effective communication involves active listening, **empathy**, and **verbal/non-verbal cues**.
- Models like **ICE** & **SPIKES** improve outcomes in counseling and bad news delivery.
- Technology (**telehealth, AI, VR**) aids practice.
- **Simulation-based** training enhances confidence in ethical scenarios.
- End of life, adverse events, anger and disasters ethical issues require **team-based** patient-centred communication.
- Models must be **context-specific**..
- Institutional support and **healthcare system policy** are vital for sustained improvement.

Patient-centred communication is essential for addressing **complex ethical issues** in clinical practice and is most effective when supported by **evidence-based models**, emerging **technologies**, and **simulation-based** education.

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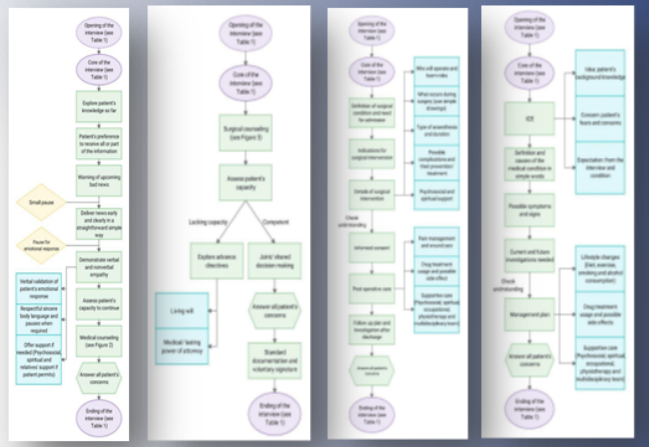
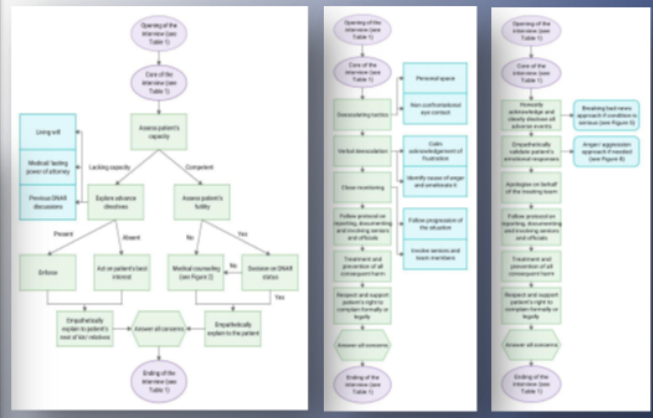
Evidence-based approaches to ethical issues



Bad News | Consent | Surgical | Medical



End of life care | Angry patient | Adverse events

Exploring the creation of an alternative workforce by upskilling pharmacists working in primary care for chronic skin conditions: A Qualitative Thematic Analysis.

Dr Sangeeta Punjabi[1], Dr Ayushi Singh[2]

1 London North West University Hospitals NHS Trust, 2 Cambridge University Hospitals NHS Trust

Introduction

Growing waiting lists and workforce pressures necessitate innovative approaches to managing prevalent chronic skin conditions such as eczema and psoriasis.
Global burden: Skin diseases rank as the 4th leading cause of non-fatal disease burden, significantly affecting quality of life[2].
GP workforce challenge: Primary care faces a workforce crisis, reinforcing the need for "right person, right setting, first time" (GIRFT) approaches[4,5].

Study Aim: With all pharmacists set to become prescribers by 2025, this study explores the potential of upskilling GP clinical pharmacists to manage mild-to-moderate chronic skin conditions where appropriate.

Methods

- **Qualitative analysis**:
Semi-structured interviews with three groups of stakeholders (five clinical pharmacists in primary care, six GP's, and five consultant dermatologists) were performed to evaluate benefits, barriers and risks for the study aim above.

- **Quantitative analysis:**
Data of all GP referrals to LNWUH NHS trust was prospectively collected over a 1-month period to assess proportion of mild to moderate chronic skin referrals. This was supported by data from a Follow Up Audit Analysis[6] (figure 1).

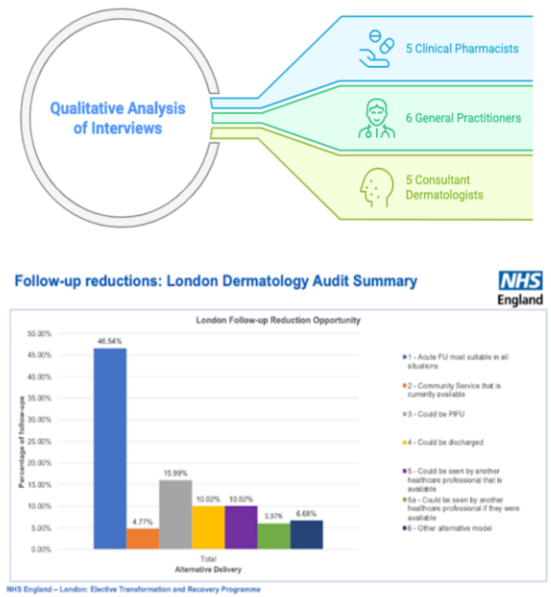


***Figure 1**: Follow up audit analysis*

Results

Qualitative

Recordings and transcripts were analysed to identify themes of: benefits, barriers, risks, and a newly emerged recommendations theme.

Benefit theme

There was unanimous agreement (n=16) that pharmacists are **not diagnosticians**, but that their strength was in **implementing protocols safely** and **timely follow-up** of long-term conditions, with the potential added value to **reduce GP and secondary care workload**.

Barrier theme

All groups (n=16) cited financial constraints in the NHS were a challenge to implementation, as pharmacists were needed to meet quality framework targets in primary care[7].

Risk theme

All GP's and pharmacists (n=11) shared the view that pharmacists are a low-risk, safe workforce, however, some consultants (n=2) had concerns around supervision, delaying appropriate treatment and suboptimal patient outcomes.

Recommendation theme

All groups (n=16) agreed there must be a supportive pathway with secondary care input. This includes setting up either a community service which embeds prescribing pharmacists safely, or a post-diagnosis service through advice and guidance with a protocol-driven treatment plan.

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Quantitative

Out of **250** routine referrals received in a month, **18%** were categorised as mild-moderate chronic skin conditions. This aligns with the Follow Up Audit Analysis, which shows **15%** of cases seen by dermatologists could have been seen by another healthcare professional e.g. nurses or pharmacists if available (figure 2)[6]

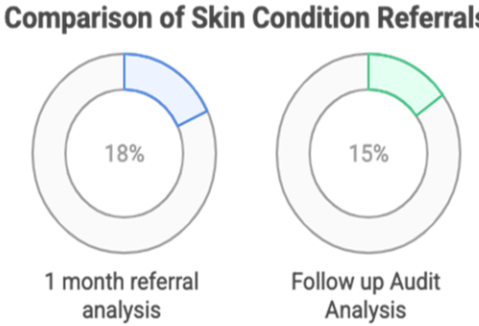

***Figure 2**: Proportion of all GP referrals that are of mild-moderate chronic skin conditions for a) prospective 1-month data and b) Follow up Audit Analysis data*

Conclusion

There was a **strongly positive response** from the participants towards creating an alternative, more sustainable workforce. Current evidence linked to pharmacists' practice with chronic skin conditions remains limited to community pharmacists[8,9]

It is prudent to seek a wider expression of interest and develop innovative ways of safe co-working to support management of chronic skin conditions, mirroring the positive impact of clinical pharmacists in managing other long-term conditions[10].

Closing the Clinical Gap: An Audit of Clinical Compliance for Early Onset Neonatal Sepsis Management

Sanika P Dalvi[1], Dr Zuzanna Gawlowski[2]

[1] University of Buckingham Medical School; [2] Consultant Pediatrician and Neonatologist Milton Keynes University Hospital

Introduction

- Early onset neonatal sepsis (EONS) has been recognised as the third leading cause of neonatal mortality globally, requiring prompt recognition and intervention.[1]
- The 2022 incidence of EONS in the UK was reported to be 0.7 per 1000 live births.[2]
- The National Institute for Health and Care Excellence (NICE) Quality Standard QS75, provides a framework for neonatal sepsis management.[3]
- This audit retrospectively evaluates adherence to these standards.

Methods

A retrospective audit of 56 neonatal records over a two month period in 2024 involving cases of suspected or confirmed EONS at a secondary care hospital.

Data collection focused on the NICE QS75 five quality standards which outlined these principles of management:

1. Intrapartum antibiotics prophylaxis (IAP) when maternal risk factors are present
2. Neonatal clinical risk assessment
3. Administration of the first antibiotic dose within one hour of the decision to treat
4. A 36-hour antibiotic review
5. Communication with parents

Results and Analysis

605 neonates were born over a two month period, of which 56 neonates were treated due to having clinical risk indicators for EONS, only those given empirical antibiotics were included, resulting in an incidence rate of 9.2% of neonates born. Compliance for each quality standard is shown in **Figure 1**.

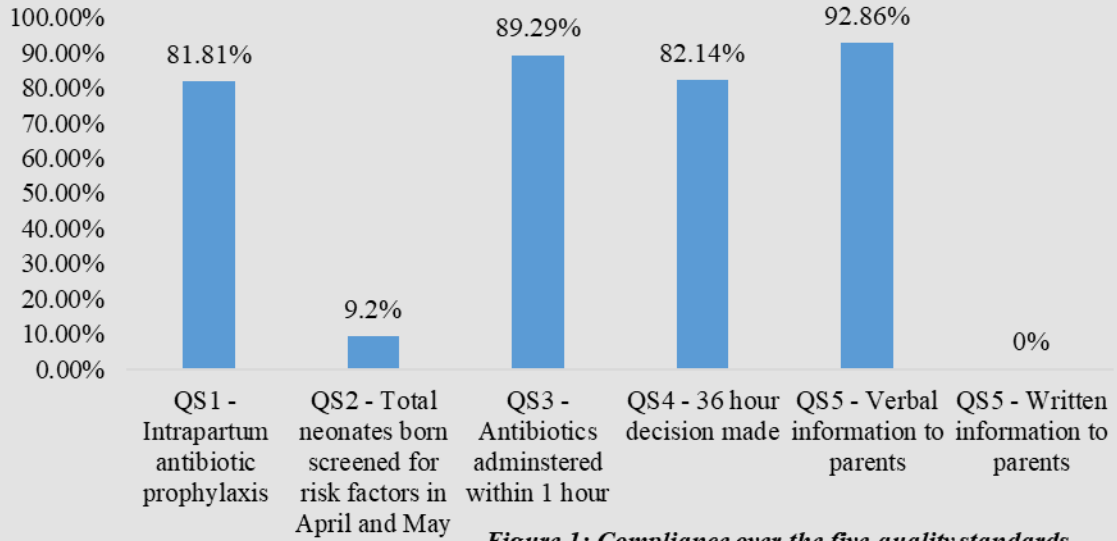

Figure 1: Compliance over the five quality standards

- Mothers received IAP for maternal risk factors when maternal risk factors were identified during labour. IAP was administered to 18 mothers due to maternal risk factors, but an additional four mothers who met the criteria did not receive IAP due to quick deliveries.
- Most neonates received antibiotics within one hour of the decision to treat, indicating timely intervention. Some delays were noted due to ward acuity, prescription and documentation errors.
- The 36-hour antibiotic review was not documented for ten neonates. This was attributed to patient transfers, documentation errors and local trust policies allowing for clinical exceptions.
- Verbal information was provided to parents, but written information was not provided at all.

Globally, many hospitals rely on the Kaiser Permanente Neonatal Early-Onset Sepsis Calculator. However, this neonatal unit follows the NICE guidelines on maternal risk factors and clinical indicators for antibiotic treatment.[4] All neonates with suspected EONS were treated promptly based on clinical suspicion, blood cultures and CRP, with empirical antibiotics preventing adverse outcomes.

- A limitation of this audit is not all neonates born over the two month period were reviewed, potentially missing EONS cases where neonates with risk factors or clinical indicators did not receive antibiotics.

Discussion

Improving communication to parents was highlighted in the results. In accordance with NICE guidance, providing written information on EONS and late onset group B streptococcus infection is essential to improve parental health literacy on recognising neonatal infections signs, alleviate parental anxiety and provide support to parents.[3] Therefore, to improve compliance, a cost-effective approach is to implement a QR code linking to trust approved patient information leaflets.

Recommendations

Although overall compliance with NICE QS75 was satisfactory, a marked improvement in communication with parents is needed. Implementing a QR code will be a simplified cost-effective way doctors can provide parents with information for EONS.

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Multidisciplinary Input Improves the Management Outcomes of ITP in Pregnancy

Sanika P Dalvi[1], Dr Sarah Davis[2], Drew AC Solan[1]

[1] University of Buckingham Medical School; [2] Consultant Haematologist Milton Keynes University Hospital

Introduction

- The management of Immune Thrombocytopenia (ITP) in pregnancy requires a coordinated, multidisciplinary approach to address both maternal and fetal risks.
- The international consensus report published by American Society of Hematology provides recommendations on ITP diagnosis during pregnancy, as well as recommendations for management and delivery planning.[1,2]
- This audit retrospectively evaluates compliance with these guidelines following introduction of a joint obstetric and haematology clinic at a secondary care hospital.

Methods

A retrospective audit was conducted at a single secondary care hospital on 15 pregnant patients diagnosed with ITP in 2023 and 2024.

Data collection included:

- Blood count monitoring
- High-risk anesthesiology referral
- Treatment offered
- Birth plan documentation
- Platelet count at delivery
- Estimated blood loss and transfusion need
- Specialist involvement per international consensus report and NICE UK guideline NG121.

Results

Maternal treatment (n = 15 pregnancies) was given to 4 patients who received prednisolone and 1 who received IVIG. A birth plan was documented for 100% (7/7) of referred patients in 2024 but in 2023 only for 62.5% (5/8) of referred patients. As per the international consensus key birth plan considerations include: **1.** Platelet count on admission in labour, **2.** Treatment plan if platelets <50 x 10^9 or <20 ×10^9/L, **3.** Guidance on use of fetal scalp monitoring, ventouse, forceps, **4.** Cord blood platelet count, **5.** Vitamin K if maternal platelets <50 x 10^9, **6.** Active third stage labour management, **7.** Avoidance of NSAIDs if platelets <100 x 10^9, **8.** Thromboprophylaxis advice postpartum, **9.** Tranexamic acid use postpartum, **10.** Consider NAIT if neonatal platelets <20 x 10^9. Addressing these considerations improves birth plan quality. **Figure 1** compares these numbered standards for ITP management in pregnancy.

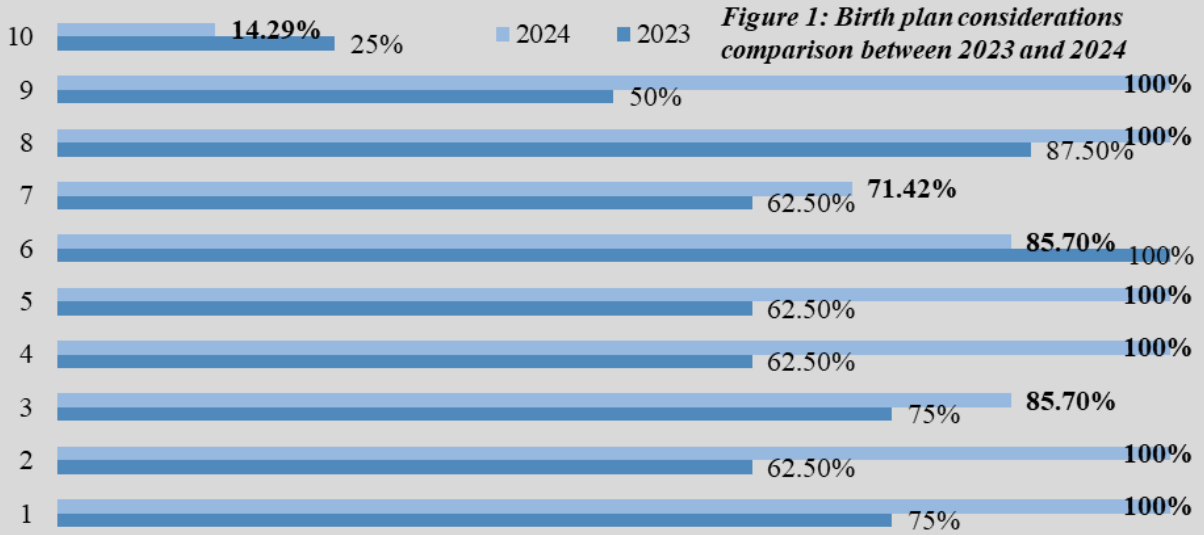

Figure 1: Birth plan considerations comparison between 2023 and 2024

Postpartum haemorrhage outcomes are shown in **Table 1**. Two of the patients with major PPH received fresh frozen plasma with one patient also requiring red blood cell transfusion in addition.

Category	Patients (n = 15)	%
Minor PPH (500–1000 mL)	6	40%
Blood loss <500 mL	6	40%
Major PPH (>1000 mL)	3	20%

Table 1: Postpartum haemorrhage outcomes

Conclusion

- The total compliance for birth plan documentation was 66.25% in 2023 and 86% in 2024.
- Structured multidisciplinary collaboration is essential for effective management of ITP in pregnancy.
- Care pathways with joint clinics between haematology, obstetrics and other specialties should be maintained or developed to enhance guideline adherence and improve maternal and neonatal outcomes.

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E-cigarettes as a safe alternative to tobacco smoking? A deep dive into Vape associated pneumothorax (VASP)

Saquib Navid Siddiqui, Lwin Paing, Shahnawaz Hashmi, Dinath Perera, Umair Falak

NHS South Tees Hospitals NHS Foundation Trust

What was the aim of the study ?

- **Are E-cigarettes really safer alternative to tobacco smoking?**

Is E-cigarette linked with pneumothorax?

Why is it important now ?

Number of people vaping is at an all-time high, with rise in vaping plateauing among young people (11-17 years old) As per 2024 data[1]-

- 5.6 millions UK adults are current E-cigarette users
- 11% of adult population in UK now vapes
- 18% of youth aged 11-17 have tried vaping

Smokers who vape:
32% of current smokers also vape

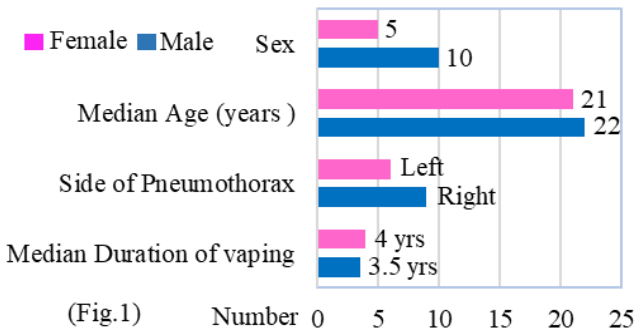
Never smoker who vapes: according to UCL research with an estimated one in seven 18 to 24-year-olds (14%) adults who have never regularly smoked now vaping

Dual user:
39% of current vapers also smoke

What did we do and what did we find?

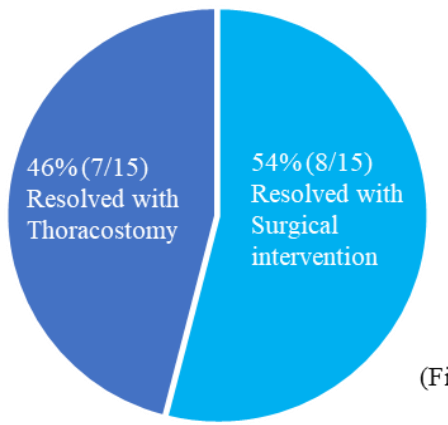
- Retrospective case series analysis (15 patients) was performed
- None had history of tobacco nor cannabis smoking. All underwent CT Thorax which showed no lung parenchymal abnormalities.

Demographic Profile of Patients with Vaping-related Pneumothorax



(Fig.1)

Treatment Pathways



(Fig.2)

Median resolution of Pneumothorax : 4 days

What do we think ?

Pathophysiology of vape associated pneumothorax (VASP), suggested by Tsai M. et al, Ashraf et al as per diagram (1)[2,3]

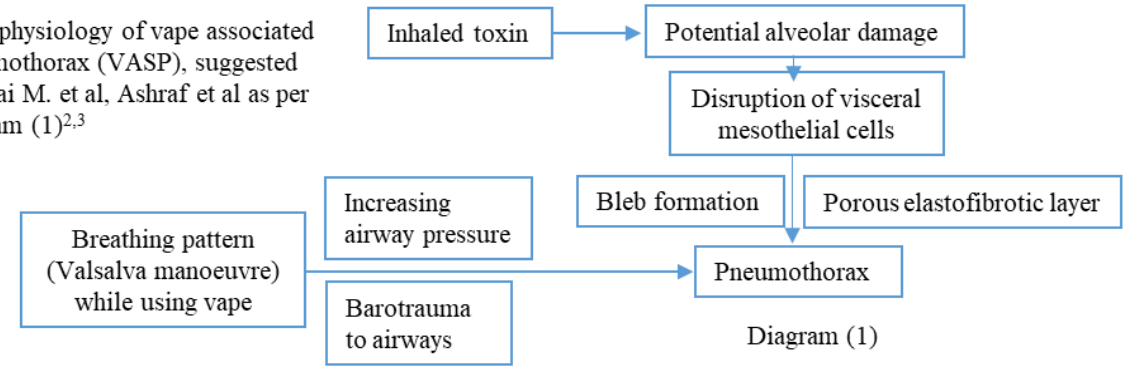


Diagram (1)

Does VASP cause more severe/refractory PTX compared to tobacco/cannabis smoking?

- 54% of our patients required surgical intervention as thoracostomy failed in resolution.

It begs the question if E-cigarette consumption causes more severe form of lung damage compared to tobacco or cannabis smoking resulting in pneumothorax which can be refractory to medical intervention.

If yes, then why? Concentration of tetrahydrocannabinol (THC) in e-cigarettes can exceed up to 30 times than dried cannabis which might play a role here by exasperating above mentioned pathophysiology.

We wonder as if it plays a key role in developing more severe pneumothorax, refractory to healing with thoracostomy despite being a healthy group of population with healthy lung parenchyma which ideally should have healed more rapidly without requiring more complex surgical intervention

What impact our study will have?

- We have found VASP can result in more severe form of spontaneous pneumothorax, refractory to thoracostomy alone
- Therapeutic recommendation: symptomatic VASP can be initially treated with thoracostomy. If remains refractory surgical intervention should be considered.

We need a better harm reduction strategy with further evidence-based approach on preventing young people and non-smokers from taking up vaping alongside using it as an alternative to tobacco smoking.

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Hypocalcaemia after Inpatient Injectables for Hip Fracture

Lessons learnt from an ortho-geriatric rehab unit

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Introduction

The Five Nations Consensus (2023) recommends inpatient IV zoledronate for secondary prevention after hip fracture.[1] Denosumab is an alternative if unable to receive bisphosphonates.

Post-injectable hypocalcaemia is a recognised side effect of both therapies, with severe hypocalcaemia reported in 2-3%.[2,3] We have seen several of our own hypocalcaemia cases recently; and designed this audit to identify risk factors in our cohort of patients.

Method

Electronic records of 72 discharges over a 3-month period were reviewed for patient demographics, admission serum calcium, CrCl, PTH and vitamin D.

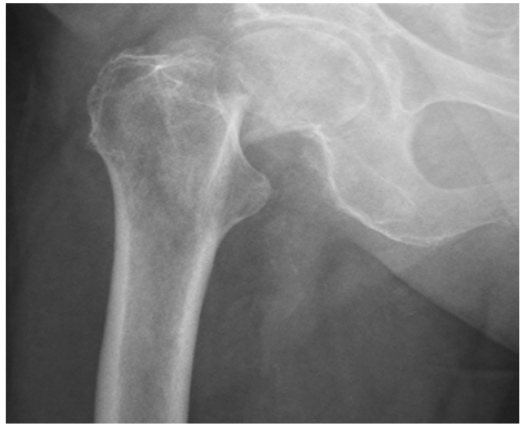
Vitamin D, zoledronate and denosumab prescriptions were reviewed, along with post-injectable serum calcium.

	Adm Vit D	High dose Vit D?	Adm CCa2+	PTH	CrCl	Injectable given	Post inj CCa2+
Patient 1	43	Y	2.27	24.4	41.2	Zoledronate	1.71
Patient 2	41.9	Y	2.37	27.9	24	Denosumab	1.78

Results

62.5% (n = 45) of patients received an inpatient IV therapy. Zoledronate was preferred over denosumab (93.3% vs 6.7%). 10 patients developed hypocalcaemia (22.2%) - all were either vitamin D replete or had received high dose, rapid vitamin D loading prior to receiving the injectable.

2 patients developed severe hypocalcaemia, requiring IV calcium replacement; one patient had received denosumab and one zoledronate. Both had a normal serum calcium on admission, but CKD was present. Both had significantly raised serum PTH (>20) prior to receiving the injectable, indicating secondary hyperparathyroidism.



Conclusion

4.4% (n = 2) of patients receiving an IV therapy post hip fracture developed severe hypocalcaemia. This risk was likely to be higher when receiving denosumab compared to zoledronate (33.3% vs 2.4%). Secondary hyperparathyroidism was the biggest risk factor for developing severe hypocalcaemia post injectables on our unit.

We recommend all ortho-geriatric patients with CKD and/or vitamin D deficiency to have an admission serum PTH checked, irrespective of serum calcium. If raised, injectables should be used with caution (especially denosumab) and more frequent monitoring of serum calcium is recommended.

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Trichoscopic evaluation in oral tofacitinib and oral betamethasone in the treatment of moderate to severe alopecia areata

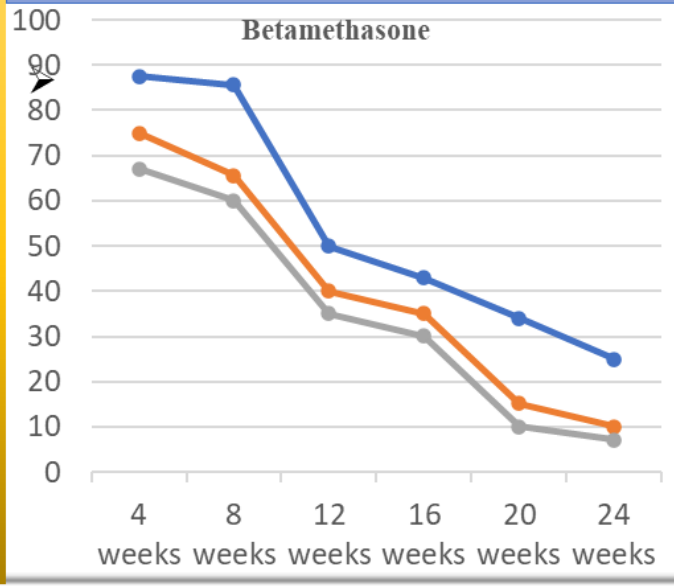
Dr. SOUMI BISWAS, Prof (Dr) Arun Achar

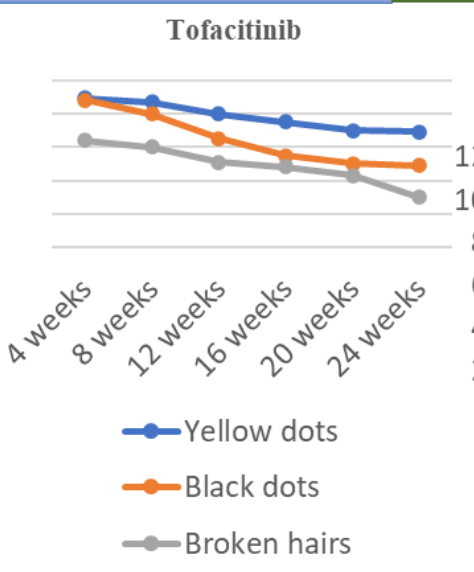
- INTRODUCTION
- Alopecia Areata (AA) is a chronic autoimmune disease.
- Patchy or complete hair loss of any hair bearing sites resulting from collapse of hair follicle immune-privilege.
- The main modality of treatment is immunosuppressants- from oral corticosteroid to JAK inhibitors.
- Dermoscopy is a non-invasive and effective tool for evaluating treatment response and prognosis.

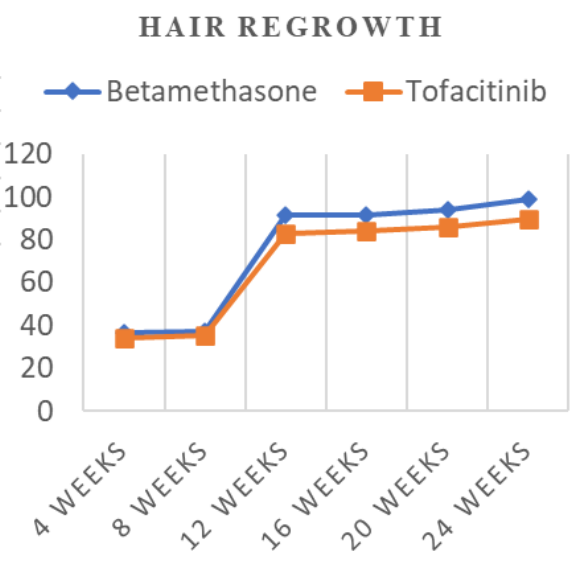
- Materials and method
- Sample size- 82
- ≥ 18 years old included with SALT score 21-100%
- Pregnancy, lactating mothers excluded
- Group 1- oral tofacitinib 5mg twice daily
- Group 2- oral betamethasone 5 mg twice weekly
- Study duration- 6 months

Result

- SALT Score negatively correlated with short vellus hair (p=0.02), broken hair(p=0.04), tapering hair(p=0.012).
- Baseline SALT Score in betamethasone group- 56.5± 6.27
- In tofacitinib group-65.35± 7.28
- Betamethasone group- Yellow dots decreased by after 12 weeks whereas, in tofacitinib group it is after 24 weeks(p=0.01)
- Black dots and broken hair in betamethasone group decreased by after 4 weeks whereas in tofacitinib group, after 8 weeks (p=0.013)
- Pigmented hair appears in betamethasone group after 12 weeks, whereas in tofacitinib group after 24 weeks (p=0.001)







Conclusion

- Oral betamethasone and tofacitinib both were effective in treatment alopecia areata with faster onset in oral mini pulse.
- Larger multicentre study is warranted to validate this findings

References

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Identification of Genetic Markers Associated with Cisplatin-Induced Toxicity Using Public Genomic Databases

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Introduction

- Cisplatin is a commonly used chemotherapeutic agent, but its use is limited by toxicities like nephrotoxicity, neurotoxicity, and ototoxicity[1].
- This study utilizes publicly available genomic and clinical data to identify genetic variants and differentially expressed genes linked to cisplatin-induced toxicity for precision medicine.

Methods

- Clinical and genomic data of patients on Cisplatin-based chemotherapy were obtained from TCGA and stratified into high- and low-toxicity groups based on adverse event severity[2].
- Differential gene expression analysis (DESeq2), mutation frequency comparison (Fisher's exact test), and Gene Set Enrichment Analysis (GSEA) were used to identify genes and pathways associated with toxicity.
- Findings were validated using independent data from PharmGKB.

Gene	Function	Adjusted p-value
TPMT	Drug metabolism	< 0.05
COMT	Drug metabolism	< 0.05
ERCC1	DNA repair	< 0.05
XPC	DNA repair	< 0.05
SOD2	Oxidative stress response	< 0.05
NQO1	Oxidative stress response	< 0.05

Table 1: Differentially Expressed Genes Associated with Cisplatin Toxicity

Gene Variant	High-Toxicity Group (%)	Low-Toxicity Group (%)
DPYD	30%	10%
UGT1A1	25%	8%

Table 2: Mutation Frequency in High- and Low-Toxicity Groups

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Results

- Genes related to drug metabolism (TPMT, COMT), DNA repair[3] (ERCC1, XPC), and oxidative stress response (SOD2, NQO1) showed significant differential expression between high- and low-toxicity groups (adjusted $p < 0.05$).
- DPYD and UGT1A1 variants were more frequent in the high-toxicity group (Tables 1 and 2). These suggest the potential utility of genetic markers in guiding toxicity risk[4] and therapy.

Conclusions

- This study identifies potential genomic biomarkers for cisplatin-induced toxicity, providing insights into precision oncology.
- Genetics screening before cisplatin administration may help optimize dosing and minimize adverse effects[5]. Further validation in independent cohorts is essential for implementation.

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Population-Specific DPYD Variants and Fluoropyrimidine Toxicity Risk: An Analysis Using Public Genomic Databases

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Introduction

- Fluoropyrimidines like 5-FU and capecitabine are widely used in cancer treatment, but toxicity varies.
- Genetic variants in DPYD, which encodes the main FP-metabolizing enzyme, influence toxicity risk.
- This study analyses DPYD variant frequencies across populations to evaluate different FP-induced toxicities[1].

Methods

- Allele frequencies of key DPYD variants were analyzed using 1000 Genomes (Phase 3) and gnomAD v2.1.1 data.
- Populations included Indian (South Asian), East Asian, and African cohorts.
- Chi-square and Fisher's exact tests were used to compare frequencies[2].
- Functional annotations were retrieved from dbSNP and ClinVar.
- Risk estimates were calculated using Odds Ratios (OR) with 95% Confidence Intervals (CI).

DPYD Variant	Indian (%)	East Asian (%)	African (%)	Reference SNP (rsID)
DPYD*2A	0.05	0	0.1	rs3918290
c.2846A>T	0	0	Rare	rs67376798
c.1236G>A (HapB3)	1.4	0	0.3	rs56038477
DPYD*13	0	0	Extremely rare	rs55886062
c.85T>C	24.91	7.2	40.2	rs1801265

Table 1: DPYD Variant Frequencies Across Populations

Population	Odds Ratio (OR)	95% Confidence Interval (CI)
Indian	3.8	2.9 – 4.7
East Asian	1.2	0.9 – 1.5
African	4.2	3.3 – 5.1

Table 2: Risk Estimates for FP-Related Toxicity

References

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Results

- Differences were prominent in DPYD variant frequencies across populations.
- Variants like c.85T>C were common in Indians (24.91%) and Africans (40.2%), while others like DPYD*2A and c.2846A>T were rare or absent[3] (Table 1).
- Carriers of risk alleles had a 3.5–4.2 fold increased risk of FP toxicity, highlighting population-specific vulnerability (Table 2).

Conclusions

- DPYD variant patterns differ by population.
- Ethnicity-guided screening is recommended before FP therapy. Precision dosing may reduce toxicity in Indians and Africans[4].
- More prospective studies are needed.

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Paraoesophageal ectopic parathyroid adenoma: an unusual case

Introduction

- Primary hyperparathyroidism is a relatively common endocrine condition, with solitary parathyroid adenomas accounting for over 80% of cases.[1,2]
- 10-22% of cases can be ectopic due to deviation of the parathyroid from the normal pathway of embryological descent.[1,3]
- Ectopic parathyroid adenomas can be difficult to localise preoperatively given the variety of possible anatomical sites, posing challenges for surgical intervention.[3,4]

Case report

Overview of case

We describe the case of a 68-year-old gentleman with persistent and refractory primary hyperparathyroidism. He initially presented with recurrent calcium oxalate renal stones and was managed conservatively with adequate hydration and vitamin D supplementation. However, his Calcium levels continued to rise, and he was re-reviewed by Endocrinology (see Table 1). Bone mineral densitometry showed osteopenia (right femur T score –1.4).

Localisation

Ultrasound and four-dimensional computed tomography did not localise a parathyroid adenoma. Parathyroid Scintigraphy with singlephoton emission computed tomography/computed tomography (SPECT CT), found modest focal increased paraoesophageal uptake, presumed at this time to be salivary activity.

Outcome

Three years after the initial referral, a repeat SPECT CT scan confirmed a 13mm left paraoesophageal ectopic parathyroid adenoma at the level of the aortic arch (see Fig.1). Surgical management was discussed, however due to the location of the adenoma posing high surgical risk, a conservative approach was agreed by the patient.

	Result	Reference range
Serum adjusted Calcium (mmol/L)	2.88	2.20-2.60
Serum Phosphate (mmol/L)	0.68	0.80-1.50
Serum PTH (pmol/L)	27.8	2.0-8.5

Table 1: Biochemical analysis on re-referral to Endocrinology

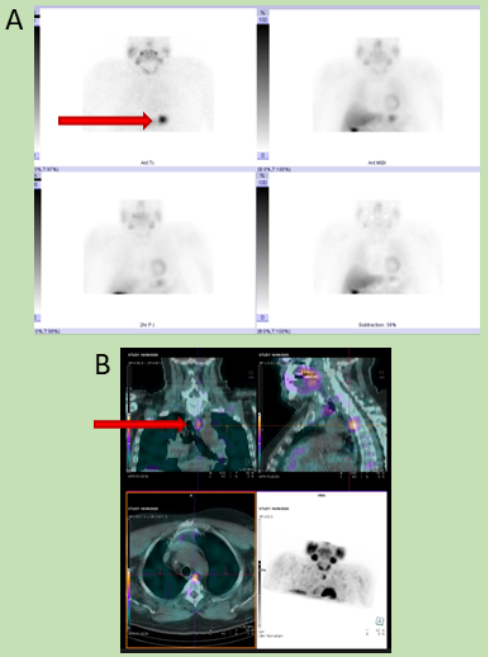

Figure 1: NM Parathyroid Subtraction Scan Tc/MIBI

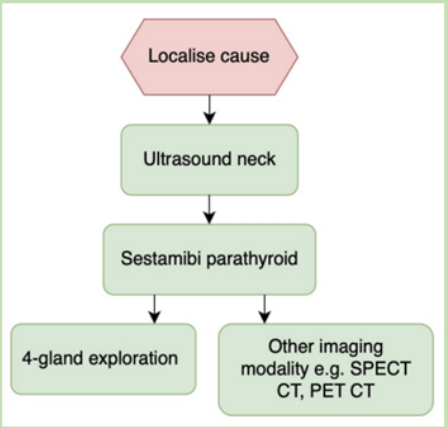

Figure 2: Diagnostic imaging workup of parathyroid adenomas

Discussion

Ectopic parathyroid adenomas are an important cause of persistent and refractory hyperparathyroidism.[4]
In our case, ultrasound and scintigraphy of the parathyroid did not locate the ectopic adenoma, however a SPECT CT located the mediastinal nodule successfully. SPECT CT combines the advantages of anatomical and functional imaging and offers improved sensitivity for localising ectopic parathyroid adenomas (see Fig.2).[3] Given the location, surgical management of ectopic lesions entails higher risk and requires multispecialty collaboration.[3,5]

Key messages

- The diagnosis and management of ectopic parathyroid adenomas can be challenging and requires specialist multidisciplinary team input.
- An ectopic location should be considered in patients with persistent primary hyperparathyroidism without an identified cause on initial imaging.
- SPECT CT should be considered where other imaging modalities were unable to localise the lesion

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Atypical presentation of Young Stroke with Vertebral Artery Dissection

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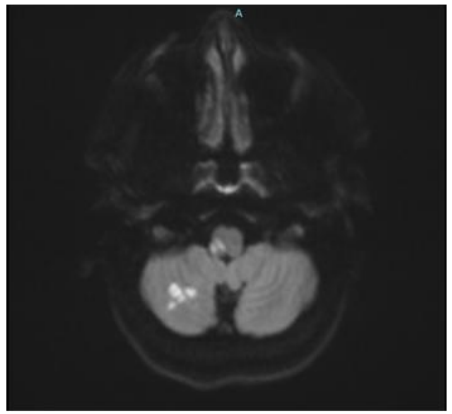
Introduction

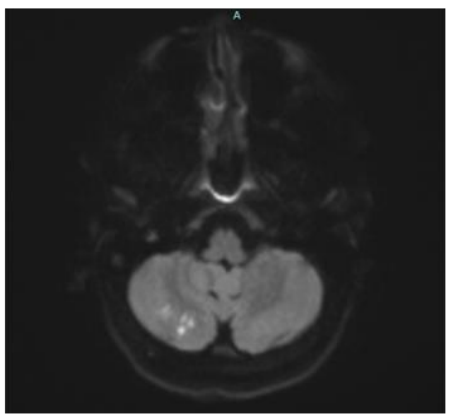
Stroke is a leading cause of morbidity and mortality worldwide, and while commonly associated with older adults, it also affects younger individuals in their most productive years. In this population, stroke is more likely to result in long-term disability than death, significantly impacting quality of life, employment, and independence. One important yet under-recognized cause of ischemic stroke in young adults is cervico-cerebral arterial dissection, which accounts for up to 25% of cases. Vertebral artery dissection, in particular, may occur spontaneously or after minor trauma, and is associated with risk factors such as migraine, smoking, hypertension, and recent infection.

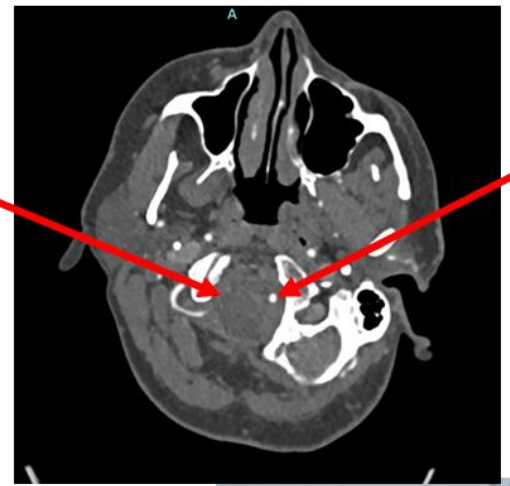
Case Summary

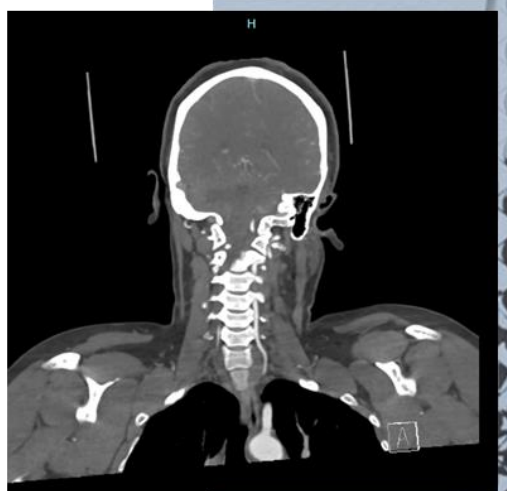
A 38-year-old female with a background of migraines presented with a 2-day history of right-sided stabbing headache, localized to forehead and occipital region.

- **Associated factors:** Facial numbness, photophobia, diplopia, dizziness, and balance issues.
- **Risk factors**: 15 pack-year smoking history.
- **Examination**: No neurological deficits, with normal vital signs.
- **Investigations**: Blood tests, ECG, and CXR were normal, with a normal CT head. However, MRI showed multiple small infarcts in the right cerebellum. Aspirin 300mg was started.
- **Further workup:** Including telemetry monitoring, thrombophilia screening, and a bubble echo, were performed and were unremarkable.
- **Day 2:** While on telemetry, she developed atrial flutter, which was treated with digitalization and anticoagulation. Her rhythm reverted to normal sinus rhythm the next day.
- **Day 6**: She reported persistent neck and shoulder pain, and gabapentin was initiated for pain control.
- **CT angiogram:** Revealed a right vertebral artery occlusion, likely due to a recent dissection.
- **Supportive management**: Physiotherapy for balance and mobility, and the smoking cessation team was involved due to her smoking history.









Learning points

- Young stroke patients may present with atypical symptoms, such as headache, dizziness, and visual disturbance, complicating the diagnosis.
- Vertebral artery dissection should be considered in young individuals with stroke.
- Early imaging, including MRI and CT angiography, is essential for diagnosing vascular events.
- A multidisciplinary approach, including physiotherapy, and smoking cessation, is vital in managing complex stroke cases.

Reference

Vertebral artery dissection from etiopathogenesis to management therapy: a narrative review with neuroimaging's case illustration | The Egyptian Journal of Neurology, Psychiatry and Neurosurgery | Full Text

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Prolonged Survival in Metastatic Pancreatic Cancer: A Case of Multimodal Therapy

Trishtha Agarwal [1], Kaandeeban Mohanraj [2] , Ananth Pai [1]

Kasturba Medical College, Manipal, India [1], Meenakshi Mission Hospital and Research Centre, Madurai, India [2]

INTRODUCTION

- Pancreatic ductal adenocarcinoma (PDACs) encompasses > 85% of pancreatic cancers and represents one of the most aggressive malignancies with poor prognosis with the lowest survival rates of less than 5%.
- Liver metastasis is a common feature, present in over 50% of patients at the time of diagnosis.
- Recent advances suggest that a multidisciplinary approach integrating systemic chemotherapy, surgical resection and targeted radiotherapy chemotherapy may offer durable remission in selected patients.

CASE PRESENTATION

We report a case of a 48-year-old male diagnosed with biopsy confirmed pancreatic adenocarcinoma with liver metastasis. The patient received 6 cycles of Nab- paclitaxel and Gemcitabine, which resulted in significant tumor regression. After 8 weeks he underwent Whipple's pancreaticoduodenectomy. Postoperative PET imaging demonstrated a complete metabolic response (CMR), stereotactic body radiotherapy (SBRT) was advised by Radiation Oncology for residual oligometastatic liver lesions. Three weeks postoperatively, the tumor markers showed further decline leading to normalization and he was also further continued on chemotherapy. At 72 weeks following the initiation of treatment, the patient achieved pathological complete response with no radiological evidence of recurrence.

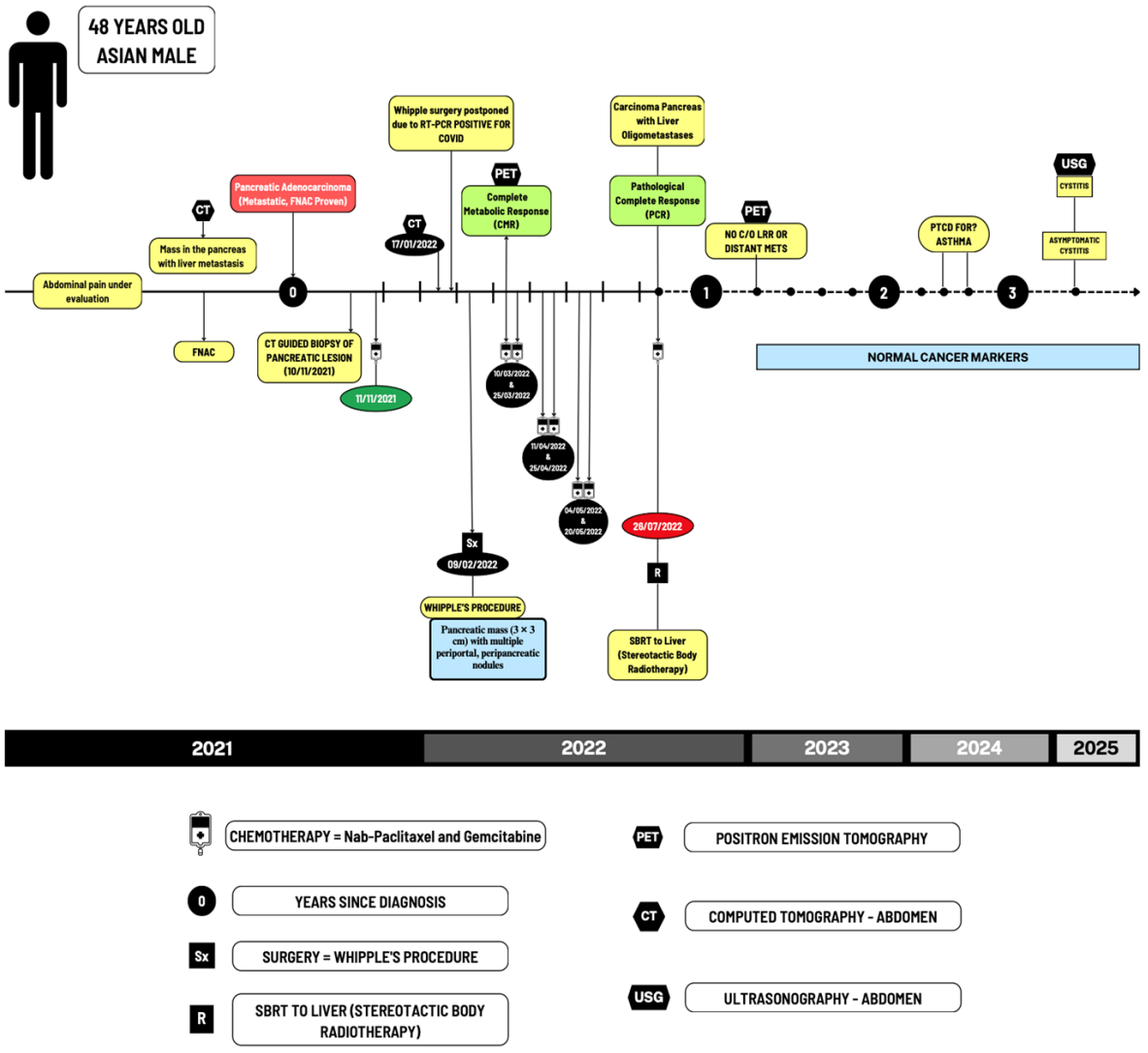

FIGURE 1

Clinical Timeline of Multimodal Management in Metastatic Pancreatic Adenocarcinoma

DISCUSSION

- This case demonstrates the potential of multimodal therapy to achieve complete pathological and metabolic remission in metastatic PDAC.
- Unlike most case reports that achieve partial response or survival without resection, this patient had curative-intent surgery following a favourable response to neoadjuvant therapy.
- SBRT targeted residual disease, and chemotherapy was continued to consolidate response.
- This integrated approach resulted in over 2.5 years of disease-free survival, challenging the traditional outlook on metastatic PDAC.

CONCLUSION

- Median survival of Pancreatic cancer with liver metastasis is less than 6 months.
- This case illustrates how a personalized multidisciplinary approach can lead to prolong survival and possible cure in highly selected patients. the life expectancy three times longer than expected.
- The integration of neoadjuvant chemotherapy, surgical resection and targeted radiotherapy proved to be a better approach than the traditional approach.

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Disparities In Melanoma Breslow Thickness At Diagnosis in North East London

Dr Yik Ting **Chan** (FY1)

NHS Barts Health NHS Trust

Background

International studies have observed inequalities in the stage of diagnosis of melanoma. As this has not been sufficiently studied in the UK, the purpose of this study was to investigate whether there are age-related, gender, and ethnic disparities in the diagnosis of melanoma by looking at the Breslow Thickness (BT) at diagnosis in hospitals across North East London (NEL). To assess whether these could be modified with the improvement of patient awareness or general practitioners' and/or dermatologists' resources.

Aim

To improve early detection and potentially improve disease-specific outcomes in patients with melanoma In NEL.

Methods

Obtained all cases (n= 483) of melanoma diagnosed at Royal London Hospital (RLH) and Whipps Cross Hospital (WXH) and tertiary referral cases mainly from Queen's Hospital (QH) and Homerton Hospital (HH) between 2019 and 2021.

An anonymised cases list was obtained from the Barts Health Cancer Registry. The epidemiology data, clinical details and histology reports including BT of melanoma at diagnosis were obtained from the electronic care record system.

Associations between advanced melanoma (BT > 4.0 mm) and patients' epidemiologic factors including age, ethnicity, and gender were described and analysed using graphs.

Results

	Royal London Hospital (RLH) (N= 134)		Whipps Cross Hospital (WXH) (N=142)		Queen's Hospital (QH) (N=150)		Other Hospitals (N=57)	
Age	< 70 (n=106)	≥ 70 (n=28)	< 70 (n=85)	≥ 70 (n=57)	< 70 (n=77)	≥ 70 (n=73)	< 70 (n=41)	≥ 70 (n=16)
Breslow thickness, mm								
Mean	1.5	2.2	1.9	2.2	2.7	3.7	1.7	3.9
BT > 4	9 (8.5)	6 (21.4)	9(10.6)	9 (15.8)	12 (15.6)	23 (31.5)	3 (7.3)	3 (18.8)
Ulceration	14 (13.2)	5(17.9)	12(14.1)	9 (15.8)	10 (13.0)	13 (17.8)	4 (9.8)	6 (37.5)

Table 1. Advanced melanoma and ulceration in younger and older patient group

	No. (%)							
	Royal London Hospital (RLH) (N= 134)		Whipps Cross Hospital (WXH) (N=142)		Queen's Hospital (QH) (N=150)		Other Hospitals (N=57)	
Age	Female (n=71)	Male (n=63)	Female (n=78)	Male (n=64)	Female (n=71)	Male (n=79)	Female (n=35)	Male (n=22)
Breslow thickness, mm								
Median	0.6	0.7	0.8	0.9	2.0	2.1	1.1	1.7
Insitu	0 (0)	3 (4.8)	2 (2.6)	1 (1.6)	0 (0)	0 (0)	0 (0)	0 (0)
< 1.0	48 (67.6)	41 (65.1)	42 (53.8)	32 (50)	5 (7.0)	11 (13.9)	11 (31.4)	4 (18.2)
1.0 – 2.0	3 (4.2)	5 (7.9)	6 (7.7)	11 (17.2)	28 (39.4)	24 (30.4)	14 (40.0)	4 (18.2)
2.0– 4.0	7 (9.9)	3 (4.8)	15 (19.2)	10 (15.6)	17 (23.9)	16 (20.2)	3 (8.6)	2 (9.1)
> 4	5 (7.0)	10 (15.9)	9 (11.5)	9 (14.1)	16 (22.5)	19 (24.1)	3 (8.6)	4 (18.2)
No BT information	8 (11.3)	1 (1.6)	4 (5.1)	1 (1.6)	5 (7.0)	9 (11.4)	4 (11.4)	8 (36.4)
Ulceration	8 (11.3)	11 (17.5)	10 (12.8)	11 (17.2)	8 (11.3)	15 (19.0)	6 (17.1)	4 (18.2)

Table 2. Melanoma Breslow thickness and ulceration between males and females across different hospitals

Figure 1. Advance Melanoma among different ethnic groups in all hospitals

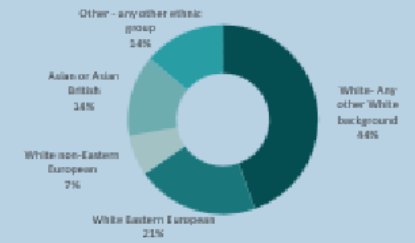

Figure 2. Advance Melanoma distribution in Ethnic Minorities

Age

- Majority of patients were diagnosed below the age of 70. The median age at diagnosis was 61 years
- Thicker melanoma and more advanced stages of the disease were more commonly seen in elderly patients compared to their younger counterparts. (Table 1)

Gender

- Number of melanoma cases in our study was approximately equally distributed between males (47.3%) and females (52.7%).
- The commonest site of melanoma in males and females was the trunk (43.9%) and lower limb (36.5%), respectively
- Men were more likely to have advanced (BT>4) and ulcerated tumors at diagnosis. (Table 2)

Ethnicity

- Patients were divided into White – British and Ethnic Minority groups which includes all ethnic groups except the white British group.
- The majority of patients (75.6%) were White – British
- Overall, 75 patients (15.5%) had advanced melanoma (BT >4 mm), and 14 out of 75 (19%) patients were from ethnic minorities. (44% white- any other white background, 21% in white Eastern European, 7% white non-eastern European, 14% Asian or Asian British, 14% other - any other ethnic group) (Figure 1-2)

Discussion

Our data showed that there are age-related, gender disparities and potential ethnic disparities at diagnosis for patients with melanoma in the study groups. However, the statistical significance of these finding is pending further evaluation from the dermatology clinical team.

This study provides a comprehensive description of the variation of BT of melanoma at presentation among different age groups, ethnic groups, and genders. Our results suggest that more emphasis is needed on promoting skin self-examination and enhancing awareness in high-risk populations to improve the outcome of melanoma.

Acknowledge

Special thanks to Professor Catherine Harwood and Dr Rebeca Goiriz for providing guidance and feedback throughout this project and Queen's Hospital CNS Nina Dowie and Homerton Hospital fellow Dr Isobel Spring.

Impact of PET-CT Reporting Delays and Incidental Extra-Thoracic Findings in Lung Cancer Diagnosis

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Background

- PET-CT is pivotal in lung cancer diagnosis and staging, uncovering thoracic and extra-thoracic findings that guide MDT decisions.
- **Timely PET-CT reporting (<3 days)** and adherence to **Getting It Right First Time (GIRFT)'s 5-day turnaround time (TAT)** are crucial for meeting NHS England's Faster Diagnosis Standard, ensuring streamlined pathways.
- **Incidental extra-thoracic findings** often reveal critical pathologies, including metastases, with major implications.
- This study investigates **PET-CT reporting, PET-CT to MDT TATs**, and **predictors of extra-thoracic malignancies** to optimise patient care strategies.

Aims & Method

- To determine **delays in lung cancer pathways** and assess **incidental findings on PET-CT**.
- **A retrospective analysis of 124 patients** referred to the local Lung MDT after PET-CT scans (August–October 2024).
- **Excluded two patients (missing data)** from PET-CT reporting TAT analysis, and **eight (pre-reviewed cases)** from PET-CT to MDT TAT analysis.
- **Incidence and predictors of unexpected extra-thoracic findings** were analysed for all patients using **logistic regression**.

Results

Cohort Characteristics
- Mean age: 69.3 years
- Female: 52.4% (n=65)
- Smokers: 83.9% (n=104)
- History of cancer within 5 years: 22.6% (n=28)

Impact on MDT discussions:
- Delays in 10.3% of cases (n=12)
- Delayed cases:
  -Mean PET-CT reporting TAT: 101.8 hours
  -Mean PET-CT to MDT TAT: 10.58 days
- Non-delayed cases:
  -Mean PET-CT reporting TAT: 65.05 hours
  -Mean PET-CT to MDT TAT: 7.38 days, p < 0.001

Incidental Extra-thoracic Findings
- 54.8% (n=68)
- Gastrointestinal (21.7%, n=27),most frequent site
- Further investigations required: 29.8% (n=37),
- Confirmed malignancies: 15.3% (n=19)

Predictors of extra-thoracic malignancies.
- Male sex: OR = 53.557, p = 0.025
- History of malignancy within 5 years: OR = 0.021, p = 0.013

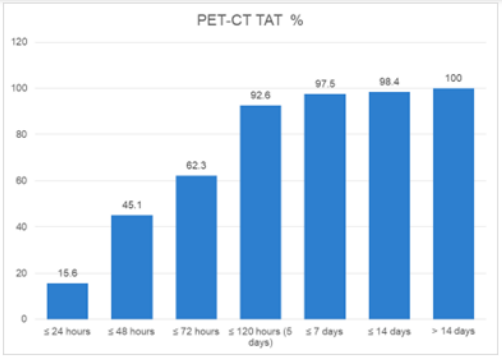

Fig.1. Bar chart showing the cumulative percentage of PET-CT reports available within different turnaround time (TAT) categories.

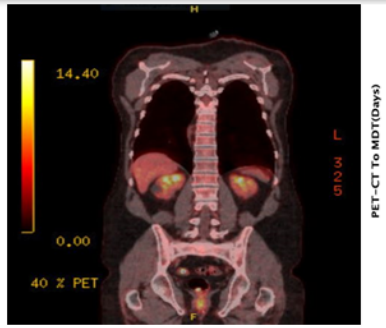

Fig.2. PET-CT in a 54-year-old man with advanced COPD revealed incidental colonic uptake. Subsequent colonoscopy with polypectomy confirmed a tubular adenoma.

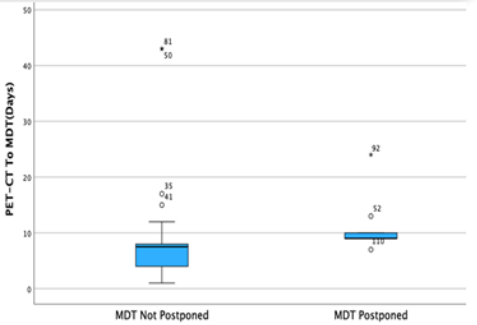

Fig.3. Boxplot comparing PET-to-MDT intervals between-postponed cases.
MDT postponement was associated with a significantly longer PET-to-MDT TAT(Mean:58 days vs 7.38 days; Mann-Whitney U =.5, p <.001).

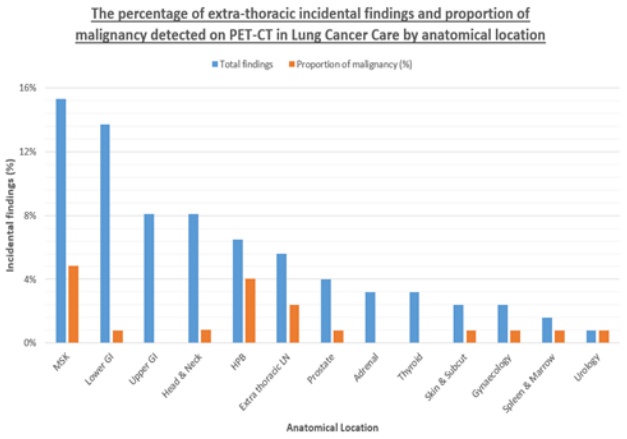

Fig.4.A graph displaying the percentage of incidental findings from PET-CT to primarily investigate lung malignancy. Total findings for anatomical location are displayed and compared to the incidental findings that were found to be malignancy.

Conclusion

High rates of incidental extra-thoracic findings, including malignancies, and failure to meet GIRFT's TAT recommendation underscore the need for strategies to optimise pathways and achieve NHS Faster Diagnosis goals in lung cancer.

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The presenter declares **no conflicts of interest. Corresponding Author:** Dr Zaw Tun Aung (**Email:** zaw.aung1@nhs.net)

Lung Cancer in Non-Smoking Identical Twin Sisters: Highlighting the Need for Reassessing Screening Strategies

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Introduction

- Lung cancer screening primarily targets smokers, yet non-smokers can develop lung cancer, often diagnosed late due to the lack of screening.
- This case presents identical twin sisters, lifelong non-smokers, diagnosed within a year—one with squamous cell carcinoma (SCC), who subsequently passed away, and the other with synchronous bilateral lung adenocarcinomas and brain metastases.
- Both worked in retail with no known asbestos exposure.
- This case underscores familial risk, the need for early detection, and the potential expansion of screening criteria for high-risk non-smokers.

Case Description

Twin 1

- In her 70s, lifelong non-smoker.
- Presented with cough and weight loss.
- Diagnosed with metastatic **squamous cell carcinoma** (T4 N2 M1c) involving the lung, thigh, and erector spinae muscles.
- Treated with chemotherapy and radiotherapy.
- Died approximately one year after diagnosis.

Twin 2

- Identical twin, lifelong non-smoker (minimal passive exposure).
- Presented with cough and dyspnoea months after her sister's diagnosis.
- Imaging: LUL 25 mm spiculated nodule and RUL subsolid lesion; LUL lesion showed interval growth.
- LUL biopsy: **Adenocarcinoma**; RUL wedge resection: **Minimally invasive adenocarcinoma**.
- Staging: Solitary 1 cm brain metastasis (T2a N0 M1b).
- Treated with SRS and started on tepotinib for MET exon 14 skipping mutation.

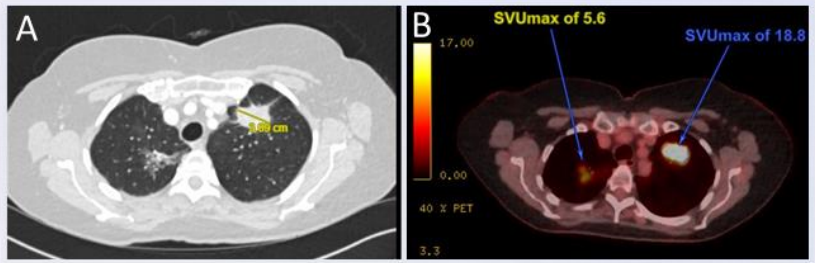

Figure 1.(A) Axial CT image of Twin 2 showing a spiculated solid nodule in the left upper lobe(LUL) and a subsolid lesion in the right upper lobe(RUL).(B) Corresponding PET-CT demonstrating intense FDG uptake in the LUL lesion and moderate uptake in the RUL lesion.

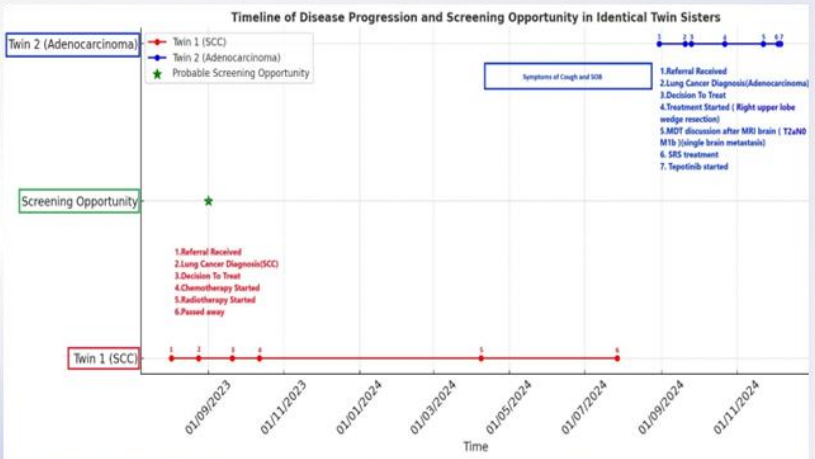

Figure 2 : A schematic timeline illustrating the disease progression and management of both twins.

Conclusion & Learning Points

❑ **Genetic Predisposition in Never-Smokers**
- This case highlights a potential hereditary risk for lung cancer, reinforcing the role of genetic factors[1].

❑ **Limitations of Current Screening Criteria**
- UK lung cancer screening primarily targets smokers, potentially missing high-risk individuals with familial predisposition.

❑ **Early Detection and Clinical Impact**
- Earlier screening of the second twin could have enabled curative intervention, underscoring the need to refine screening for at-risk non-smokers.

❑ **Future Screening Considerations**
- Literature review shows most reported twin cases occurred in smokers[2].
- This rare case involving never-smoking identical twins highlights the need for genetic studies to inform potential expansion of lung cancer screening criteria.

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The presenter declares **no conflicts of interest. Corresponding Author:** Dr Zaw Tun Aung (**Email:** zaw.aung1@nhs.net)

Precision medicine in type 2 diabetes: targeting SGLT2-inhibitor treatment for kidney protection

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Introduction

- SGLT2-inhibitors reduce the risk of kidney failure in people with type 2 diabetes.
- It is unclear which people with type 2 diabetes and no or early-stage CKD have clinically relevant kidney protection benefit from SGLT2-inhibitors.
- Could this be predicted by a clinical risk score, analogous to QRISK for statins?

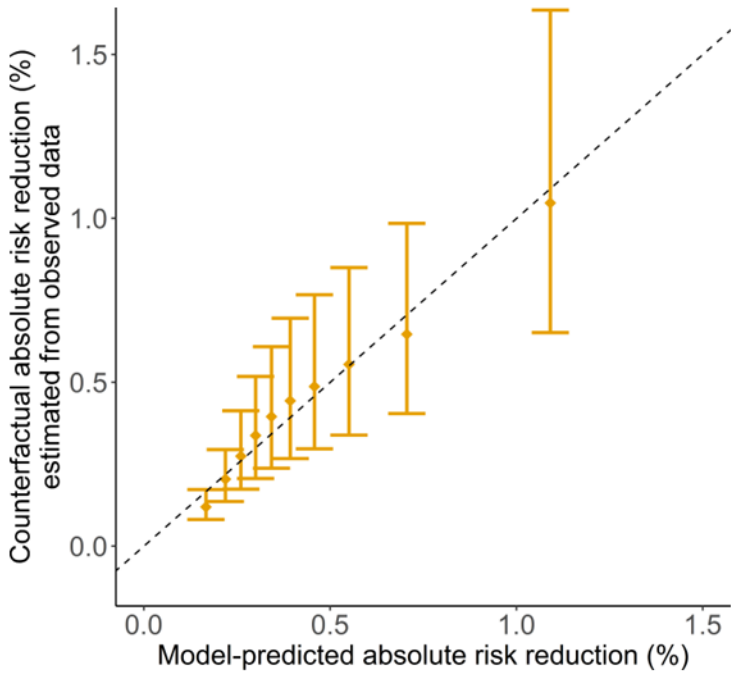
Methods

We developed and validated a prediction model for kidney protection benefit, integrating an established risk score (CKD-PC risk score for kidney disease progression, i.e. ≥50% eGFR decline or ESKD)[1] with the relative treatment effect from SGLT2-inhibitor trial meta-analysis (HR 0.62, 95%CI 0.56-0.68)[2].

Study population: routine primary care data (CPRD, 2013-2020) of 141,500 adults with type 2 diabetes, eGFR ≥60mL/min/1.73m^2, normal or low-level albuminuria (<30mg/mmol), no CVD/HF, who started SGLT2-inhibitors (34%) or comparator drugs DPP4-inhibitors/sulfonylureas (66%).

[1]*Diabetes Care. 2022 Jul 20;dc220698.* [2]*Lancet. 2022 Nov 19; 400(10365): 1788–1801.*

The model accurately predicts individual-level kidney protection benefit from SGLT2-inhibitor treatment



Calibration:
Slope 1.10, 95%CI 1.09-1.12

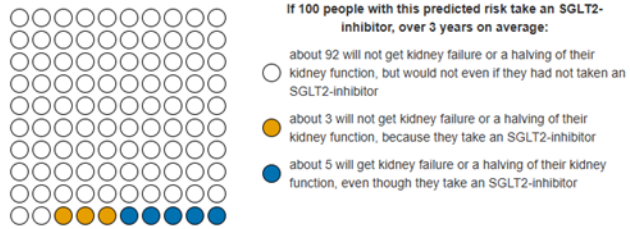
Discrimination:
C-statistic of CKD-PC risk score 0.68, 95%CI 0.67-0.69
(C-statistic of albuminuria: 0.60, 95%CI 0.60-0.61;
C-statistic of CKD-PC risk score in original validation study: 0.78 95%CI 0.77-0.79)

Clinical utility:
Using model predictions to target the same proportion of the population (17.9%) as a ≥3mg/mmol albuminuria threshold (currently recommended in guidelines) would prevent over 10% more events over 3 years (253 vs 228), with decision curve analysis showing superiority across all levels of risk tolerance.

Prototype decision-support tool based on prediction model

- Requires routine clinical features only
- Visualises personalised benefit
- Applicable to UK practice

Try the tool here!



Conclusions

Our model accurately predicts kidney protection benefit in people with type 2 diabetes and early-stage/no CKD in external validation using UK primary care data.

This enables individualised prescribing of SGLT2-inhibitors for kidney protection, akin to statins for primary cardiovascular prevention.

Appropriate use of Lidocaine 5% patch in Medicine of the Elderly (MOE) department
Royal Infirmary of Edinburgh

Dr Deepa Rangar, Dr Fizza Usman and Dr Effie Bourazopoulou

BACKGROUND

NHS Lothian MOE Department expenditure annual review revealed a threefold increase in spending on Lidocaine 5% patches, despite the stable cost per patch.

BUT WHY?

- Poor adherence to using MSK protocol for pain management in the elderly
- Inconsistent use of monitoring forms intended to assess the patches' effectiveness

Aim

To achieve over 90% compliance with the NHS Lothian protocol for management of musculoskeletal (MSK) pain in frail elderly patients

METHODS

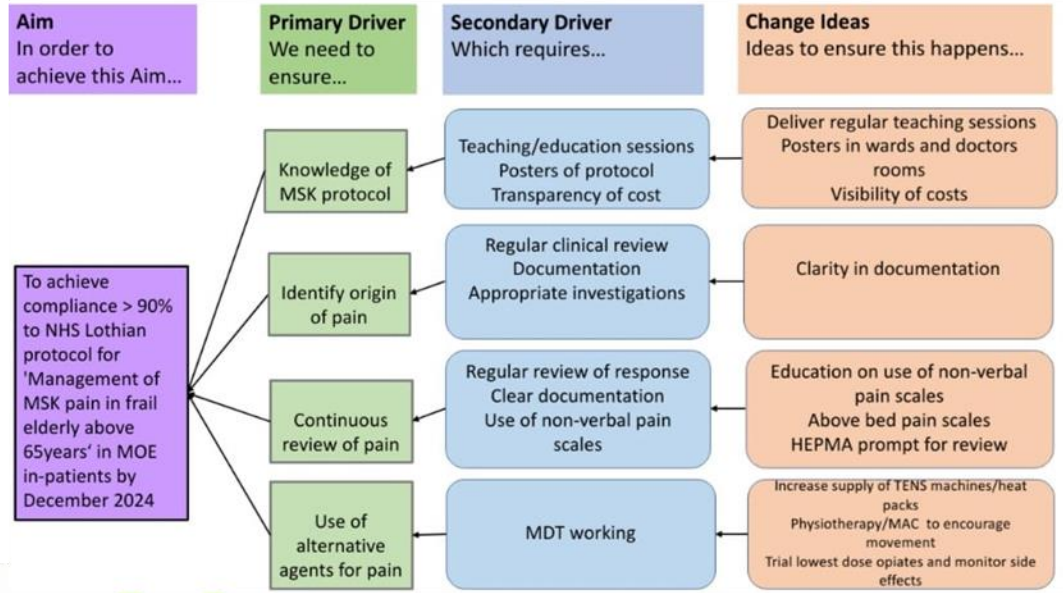
Data Collection

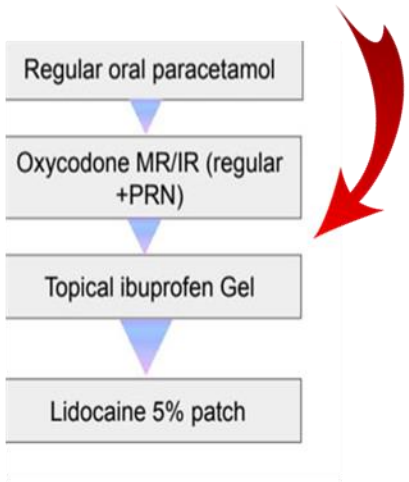
- Surveys from prescribers
- Surveys from nurses
- From electronic patients' notes (TRAK) & prescribing system (HEPMA)

PDSA 1: Departmental Education

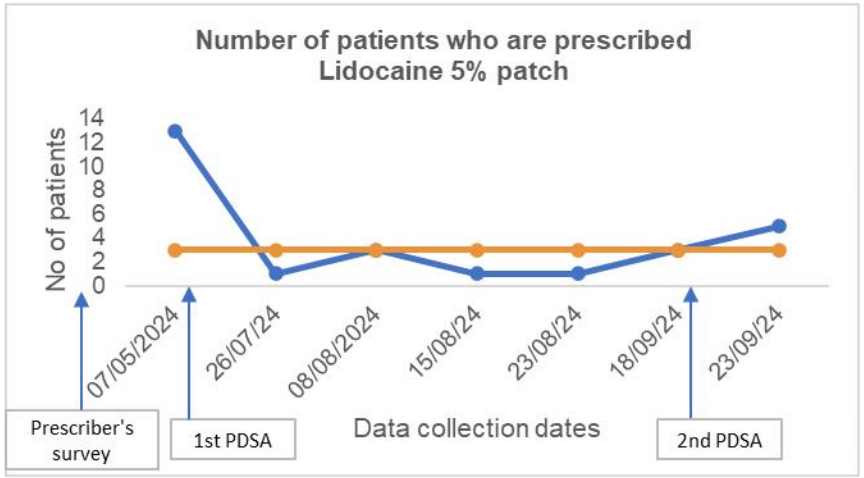
PDSA 2:
Focused education on MSK protocol and Lidocaine patch monitoring form

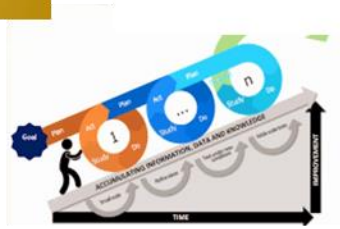
DRIVER DIAGRAM





RUN CHART





Future PDSAs:

- Automatic prompts on electronic prescribing system in 72hrs to review prescription
- Making MSK Protocol more accessible to doctors

RESULTS

- 5 patients were prescribed patches in 09/24 compared to 13 patients in 05/24 after 2 PDSA cycles
- 80% of prescribers used patches first to avoid adverse effects of opiates
- It was felt difficult to challenge prescriptions from GP
- Lidocaine patch monitoring form was infrequently used and requires modification.

Safety & Efficacy of the Medtronic MiniMed 780G For Glycemic Control: A Systematic Review & Meta Analysis

Mariam Mehmood, Areeba; Ali, Shujaat; Aslam, M.Ammar; Rasheed, M. Hassan; Faizan M; Rasool, Minahil; Afzaal, Areeb

Diabetes mellitus affects over **460 million** people globally and remains a major cause of morbidity and mortality. Type 1 diabetes (T1DM), which primarily impacts individuals in high-income countries, presents ongoing challenges despite insulin therapy, including glycemic variability and hypoglycemia. Advances in diabetes management, such as **continuous glucose monitoring** (CGM) and **automated insulin delivery** (AID) systems, have significantly improved glycemic control and reduced complications.

Objectives

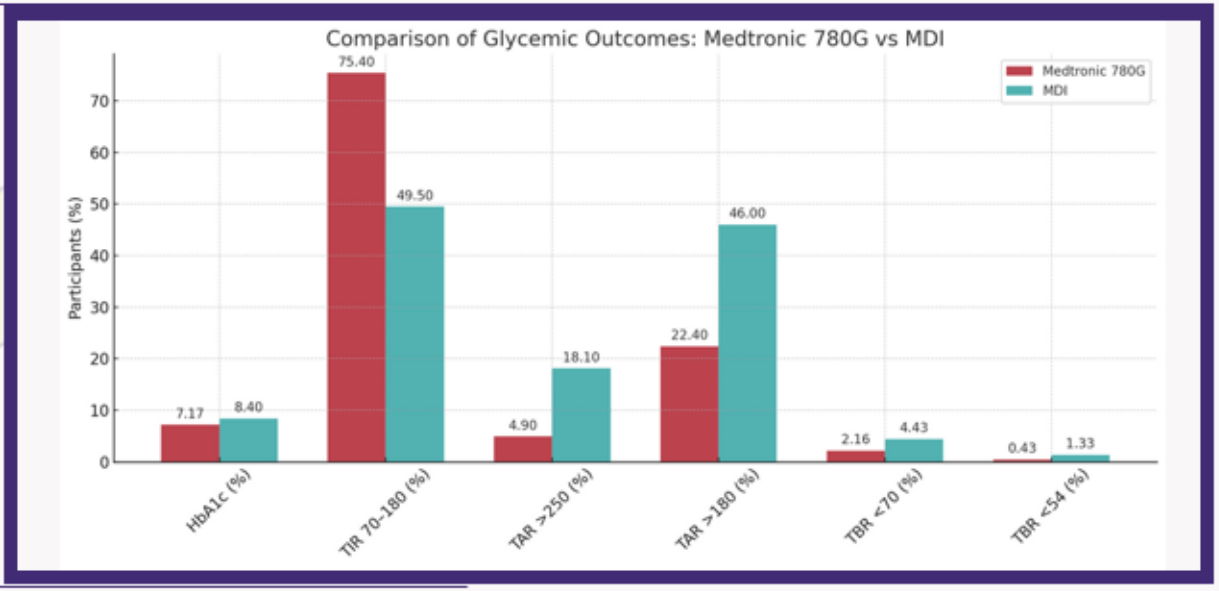
To evaluate the safety and efficacy of the Medtronic MiniMed™ 780G from following metrics;

- Time in range (TIR)
- Time above range (TAR)
- Time below range (TBR)
- Risk of Hypoglycemia
- Diabetic Ketoacidosis

Methods

A PRISMA-compliant systematic review and meta-analysis were conducted using PubMed, Embase, and the Cochrane Library. Eligible studies were randomized controlled trials (RCTs), crossover, or pilot trials comparing the MiniMed 780G with other insulin delivery methods in type 1 diabetes. Non-English studies, reviews, abstracts, and trials involving other AID systems were excluded. Two reviewers independently performed data extraction and risk of bias assessment. A total of 3 RCTs involving 146 T1DM patients were included.

Results



Our meta-analysis of three RCTs (146 participants) showed that the MiniMed 780G system significantly improved glycemic control in type 1 diabetes. It reduced HbA1c by 1.21% and increased time-in-range (70–180 mg/dL) by 26.15%, & reducing time above range by 24.32% (>180 mg/dL) and 13.5% (>250 mg/dL). Reductions in time below range were not significant. No severe adverse events were reported. These results suggest that the 780G system effectively lowers hyperglycemia and improves glucose stability without increasing hypoglycemia risk.

Key Findings

1.21%
Reduction in HbA1c
CI: -1.67, -0.75, P < 0.00001

+26.15%
Improvement in TIR
CI: 22.45, 29.85, P < 0.00001

-24.32%
Reduction in TAR
CI: -18.62, -7.57, P: <0.00001

POSTER ID= A6882865

Predictors of mortality during hospitalisation for Hyperosmolar Hyperglycaemic State

Tania Kew[1], Aspasia Manta[2,3], Jhanvi Pravesh Sawlani[1], Abigail Hallum[4] , Angelica Sharma[5], Amar Mann[1], Lakshmi Rengarajan[1], Charlotte Boden[4], Joseph Dalzell[4], Sulmaaz Qamar[6] , Alexandra Lubina Solomon[7], Elena Armeni[6], Gerry Rayman[8], Ketan Dhatariya[5], Punith Kempegowda[1,3], DEVI Collaboration[3]

1. Queen Elizabeth Hospital Birmingham, University Hospitals Birmingham NHS Foundation Trust, UK; 2.Endocrine Unit, Attikon University Hospital, National and Kapodistrian University of Athens, Greece; 3.Department of Applied Health Sciences, University of Birmingham, Birmingham, UK; 4. Sandwell and West Birmingham NHS Trust, Birmingham, UK; 5. Norfolk and Norwich University Hospital, Norwich, UK; 6. Royal Free Hospital, London, UK; 7. Dudley Group NHS Foundation Trust, Dudley, UK; 8. Ipswich Hospital, Ipswich, UK.

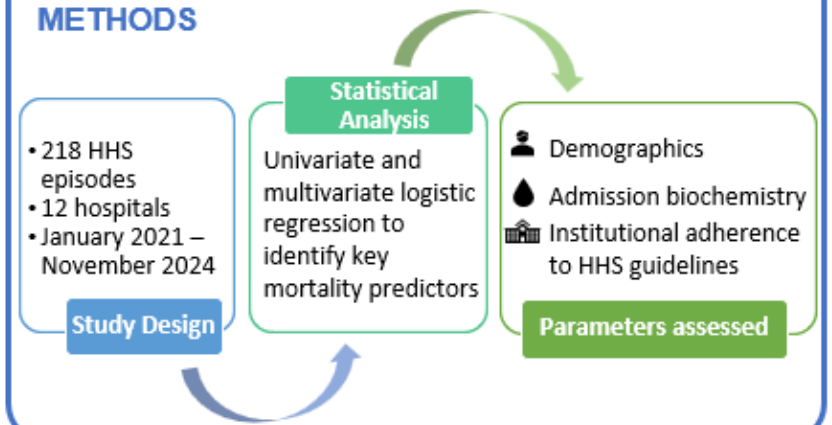
INTRODUCTION

- Hyperosmolar Hyperglycaemic State (HHS) is a life-threatening metabolic emergency of diabetes mellitus (DM), however, data on mortality and predictors of inpatient death are scarce.
- We developed a national surveillance system to monitor trends in HHS admissions and patient outcomes using the DEKODE (Digital Evaluation of Ketosis and Other Diabetic Emergencies) model. [1,2]

AIMS

1. Determine key predictors of mortality and risk stratification for HHS
2. Assess the impact of biochemical markers on HHS outcomes
3. Compare institutional variability in HHS outcomes

METHODS



RESULTS

Participants

- 218 HHS episodes were identified, we observed a mortality rate during index admission of 16.1% (35/218 patients).

Key predictors of mortality

Variable	OR	95% CI	p-value
Age	1.045	1.008 - 1.085	**<.018**
Sodium	1.068	1.003 - 1.136	**.038**
Urea	1.049	.994 - 1.107	.085
Serum osmolality	.985	.955 - 1.017	.360
Hospital B vs A (ref)	5.176	.580 - 46.178	.141

Table 1. Multivariable logistic regression analysis for HHS mortality. OR. odds ratio; 95% CI, 95% confidence intervals

Key predictors of mortality	Non-significant factors	Institutional variability
Age and sodium at diagnosis were significant predictors of mortality. **4.5%** ↑ for each additional year of age (OR = 1.045, 95% CI 1.008-1.085, p = 0.018). **6.8%** ↑ for each unit increase in sodium (OR = 1.068, 95% CI 1.003-1.136, p = 0.038).	**Demographics:** Gender, BMI, CCI **Biochemistry:** Glucose, pH, Bicarbonate, Potassium **Insulin required for HHS resolution**	Odds of mortality were higher in Hospital B compared to Hospital A, but not statistically significant. (OR = 5.176, 95% CI 0.580-46.178, p = 0.141).

CONCLUSION

- Age and serum sodium at diagnosis were the strongest predictors of inpatient mortality in HHS.
- No significant inter-hospital differences were observed, suggesting institutional factors alone do not influence outcomes.
- Evaluating institutional performance and guideline adherence may reveal critical gaps in HHS management, enabling the implementation of targeted interventions to reduce variability in care.
- Integrating age and sodium into risk stratification models may enable early identification of high-risk patients and support timely, individualised care.

KEY POINTS

Recognising predictors of HHS mortality is crucial for identifying high-risk patients.

Serum sodium as a key biochemical predictor of mortality would suggest more intensive monitoring may be essential when assessing treatment response.

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Identifying blind glaucoma patients with a semi-automated algorithm: A cross-sectional survey revealing missed certification of visual impairment

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Background

- Blind (severely sight impaired) patients are eligible for social benefits but these require ophthalmologist referral for a certificate of visual impairment (CVI).
- Glaucoma is the most frequent cause of irreversible blindness worldwide and in the UK, causing lots of these patients to require certification.
- Certification criteria are ambiguous and subjective, and ophthalmologists frequently disagree about eligibility.
- Variability in judgement combined with reliance on ophthalmologist referral leads to inequity in the provision of care in the community.

Methods

- A retrospective cross-sectional study was undertaken of all glaucoma patients attending a tertiary referral clinic over 12 months.
- A semi-automated algorithm using visual acuity and perimetry data was used to identify CVI-eligible patients (Figure 1).
- A computed vision application (GFDC) was developed to classify perimetry plots using Hodapp-Parrish-Anderson criteria.
- CVI-eligible patients were cross checked against the ECLO register to quantify the rate of missed registration.
- Missed patients were scrutinised to explore potential reasons for lack of certification.
- Analysis and data visualisation were undertaken in R.

Results

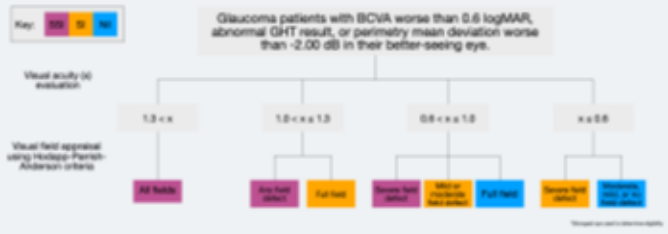

***Figure 1** | The semi-automated algorithm used to screen patients.*

- Of 5,620 individual patients screened with the semi-automated algorithm (Figure 2), 919 were classified as sight impaired, and 64 were classified as severely sight impaired (blind).
- Of the blind glaucoma patients, 7 (11%) were misclassified due to having a better-seeing eye that had not been tested (Figure 3; 'extenuating circumstances').
- 21 of 57 eligible glaucoma patients (37%) were unregistered for a CVI.
- Reasons for missed registration (Figure 3) included administrative failure (24%), lack of consent (10%), reversible visual impairment (19%), frailty and co-morbidity (71%), and mental health diagnoses (38%).

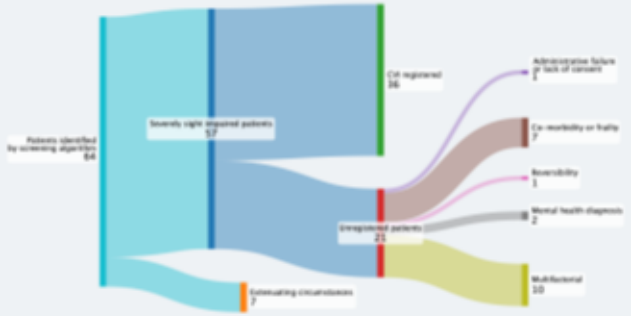

***Figure 3** | Sankey diagram depicting the risk factors for severe sight impairment without CVI-registration. Multifactorial missed certification is common, and the most common risk factors are frailty and co-morbidity.*

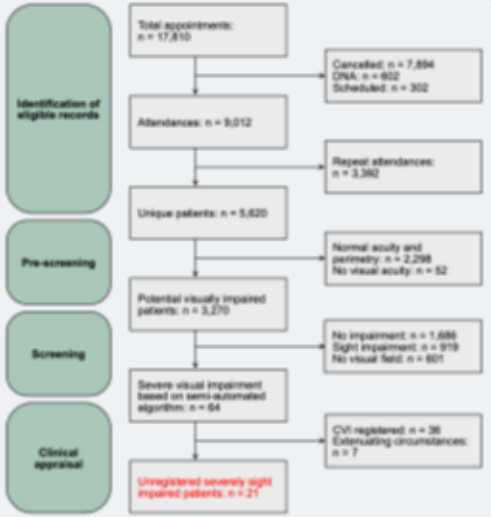

***Figure 2** | Patient flow chart depicting how the cross-sectional study was undertaken. Initial administrative screening was undertaken to identify the number of individual patients that attended glaucoma clinics over a 12-month period. Pre-screening was undertaken using strict perimetry and visual acuity criteria applied to the better-seeing eye. Subsequent screening was undertaken using best corrected visual acuity and Hodapp-Parrish-Anderson classification (facilitated by GFDC) to categorise patients as sight impaired or severely sight impaired (blind). Blind patients were investigated further to verify CVI-registration and explore specific reasons for missed registration.*

Conclusions

- Many blind glaucoma patients are not CVI-registered, implying under-provision of support in the community.
- Reasons for missed registration may include co-morbidity (especially frailty and mental health diagnoses), administrative failure, and the inherent subjectivity of referral criteria.
- An objective algorithm using visual acuity and perimetry parameters can identify blind glaucoma patients without generating false positive results.
- Automated screening could prompt ophthalmologists to consider CVI-referral or act as an additional referral mechanism.
- Improving the provision of certification could reduce the observed inequity in social support received by eligible glaucoma patients.
- Potential research applications include cohort identification for clinical trial recruitment and observational research.
- The Glaucoma Field Defect Analyser is free to use for interested clinicians and researchers (details below).

Web Application Details

The code is freely available for clinicians and researchers to use at larger scale (via https://gfdc.app); and Arun Thirunavukarasu (ajt205@cantab.ac.uk) is happy to advise on set-up and troubleshooting.

1) Oxford University Clinical Academic Graduate School, University of Oxford; 2) Cambridge Eye Research Centre, Cambridge University Hospitals NHS Foundation Trust; 3) Bedfordshire Hospital NHS Foundation Trust; 4) University of New South Wales; 5) University of Cambridge School of Clinical Medicine, University of Cambridge; 6) Vision and Eye Research Institute, Anglia Ruskin University

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THE NATIONAL CAPSULE AUDIT OF CCE POLYP SIZING SYSTEM – CAP ACCESS STUDY

Ian Io Lei, Hussain Ibrahim, Ruari Jardine, Anastasios Koulaouzidis, Ramesh P. Arasaradnam, CAP ACCESS study group

Background:

- Following the introduction of colon capsule endoscopy (CCE) in the NHS England pilot study across England, colon capsules have been increasingly recognised as an alternative diagnostic modality for lower GI investigations.
- With the increasing number of colon capsule endoscopy procedures, subsequent post-CCE referrals for optical endoscopy (Colonoscopy or flexible sigmoidoscopy) also rockets up. The referral criteria for lower GI optical endoscopy are based on the identified polyps' size, number and locations.
- Therefore, the accuracy of polyp detection, size measurement and characterisation by CCE is critical to avoid subsequent unnecessary lower GI optical endoscopies.

Aim:

To compare the size, number, and location of polyps identified on CCE compared with lower GI optical endoscopy (OE) and histopathology (HP).

Compare polyp prevalence and the regional datasets between Highland and England.

Results:

- 2.5mm size overestimation compared to HP and a 2.7mm overestimation compared to OE.
- 17.3% of further OE could be deferred if the CCE polyp sizing system is more accurate.
- Highland has a higher further procedure rate, incomplete procedure and higher flexible sigmoidoscopy rate.
- Overall per-polyp sensitivity = 80.3%. >9mm = 95.2% while <6mm = 62.9%

Methods:

No. of centre:	12 hospitals
Period:	20 months (June 2021 – June 2023)
Study type:	Retrospective audit
Total no. of CCEs screened	1265 cases
Method of pairing	Paired by local team and CCE clinicians based on the location, size, and morphology of the polyp in the CCE video and Optical endoscopy reports.
Polyp sizes measurement	Recorded from GP referrals, endoscopy and histology reports
The Polyp size was then compared between CCE, OE and HP	$Size_{CCE}$ vs $Size_{OE}$ $Size_{CCE}$ vs $Size_{HP}$ $Size_{OE}$ vs $Size_{HP}$
CCE to colonoscopy referral	NHS England Criteria (Tier1 – Tier 4) ESGE crtieria

Table 1. Comparison between NHS Highland and England: Summary of CR, OE conversion, reasons for OE conversion, and duration between CCE and OE.

	Overall (N=12)	NHS Highland (N=1)	NHS England (N=11)	P value (X^2 Test) England vs Highland
Total number of patients	2508	1398 (55.7%)	1112 (44.3%)	
Number of further procedures	1264 (50.4%)	729 (52.1%)	535 (48.2%)	0.051
Indications for further procedures				
Incomplete CCE procedure (not able to fully inspect the whole colon including poor bowel preparation)	433 (17.2%)	253 (18.1%)	180 (16.2%)	0.044
Polypectomy	810 (32.2%)	461 (33.0%)	349 (31.4%)	0.944
Both (Incomplete procedure + polypectomy)	167 (6.7%)	101(7.2%)	66 (5.9%)	0.228
Suspected IBD	13 (0.1%)	9 (0.6%)	4 (0.4%)	0.480
Suspected Malignancy	5 (0.3%)	5 (0.4%)	0 (0.0%)	0.341
***Other**	6 (0.2%)	0 (0.0%)	6 (0.5%)	-
Technical failure	1 (<0.1%)	0 (0.0%)	1 (0.1%)	-
No. of colonoscopies	717 (28.6%)	388 (27.8%)	329 (29.5%)	0.332
No. of flexible sigmoidoscopies	525 (20.9%)	344 (24.6%)	181 (16.3%)	<0.001
No. of CTCs	4 (0.2%)	2(0.1%)	2 (0.4%)	-
Histology confirmed CRCs	12 (0.5%)	8 (0.6%)	4 (0.36%)	0.631
Significant polyps	1108	778 (69.6%)	330 (29.5%)	

Duration from CCE to OE (NHS England only n=444)	Median days	(Range)
NHS England Urgent OE	31	(4-308)
NHS England Routine OE	51	(8-642)
4 confirmed cancer cases	28	(11-78)
Overall duration (urgent and routine)	38	

*Other factors for further investigations included incidental small bowel tumour, normal CCE, and unclear fitness for further endoscopy.

% of matched polyps between CCE and OD	45% (30 out of 66 polyps in total)
% of patients had subsequent colonoscopy	30% (29 out of 96 patients)
% of patients had subsequent Flexi. Sig.	17% (16 out of 96 patients)

Size (mm)	N polyp pairs	Size(CCE)-size (HP) (mm)				Size (CCE) - Size (OE) (mm)				Size (OE) - Size (HP) (mm)			
		Mean	95% CI		p value	Mean	95% CI		p value	Mean	95% CI		p value
Total	758	2.5	2.8	2.3	<0.001	2.7	2.9	2.4	<0.001	-0.13	0.09	-0.35	0.579
Size<6 (Tier 1)	201	0.025	0.3	-0.27	0.87	0.47	0.09	0.86	0.015	-0.72	-0.44	-1.0	<0.001
6=<size<10 (Tier 2)	282	1.9	2.2	1.6	<0.001	2.5	2.7	2.2	<0.001	-0.53	-0.24	-0.82	0.017
Size>10 (Teir 3)	275	5.0	5.6	4.5	<0.001	4.3	4.9	3.7	<0.001	0.71	1.2	0.25	0.125

Conclusion:

The current polyp sizing system in CCE tends to overestimate polyp dimensions, which results in unnecessary follow-up procedures that could otherwise be deferred. Future integration of AI has the potential to enhance the accuracy of polyp size estimation, thereby improving both cost-effectiveness and reducing the rate of reinvestigations.

Comorbidity-Driven COPD Outcomes: The Urgent Need for Full Optimization by Respiratory Physicians

Dr Sobia Chaudhary MBBS, MD; Dr Sundeep Kaul MBCHB, PhD, FRCP

Department of Respiratory Medicine, Harefield Hospital, GSTT

Background:

COPD is a leading cause of morbidity and mortality globally and in the UK, with most patients experiencing multiple comorbidities.

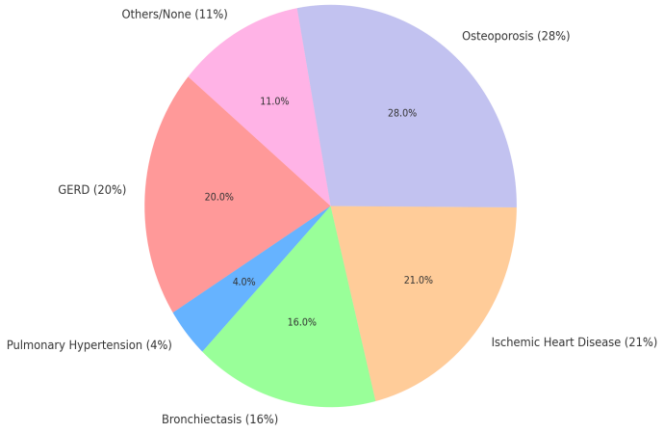
Common comorbidities like GERD, osteoporosis, pulmonary hypertension, bronchiectasis, and ischemic heart disease are often underdiagnosed and undertreated, increasing risk of hospitalisation and mortality.

Study Design:

Retrospective cohort of 500 COPD patients (>60 years, confirmed by spirometry).
Data: comorbidities, exacerbation frequency, hospitalisations, mortality.

Results:

Comorbidity Prevalence (n=500)
Osteoporosis: 28%
Ischemic Heart Disease (IHD): 21%
Gastroesophageal Reflux Disease (GERD): 20%
Bronchiectasis: 16%
Pulmonary Hypertension (PH): 4%
Other/None: 11%



Key Findings:

Over 85% of COPD patients have at least one comorbidity; 22% have five or more.
Comorbidities significantly worsen outcomes, including increased hospitalisations and mortality.

Conclusion & Recommendations:

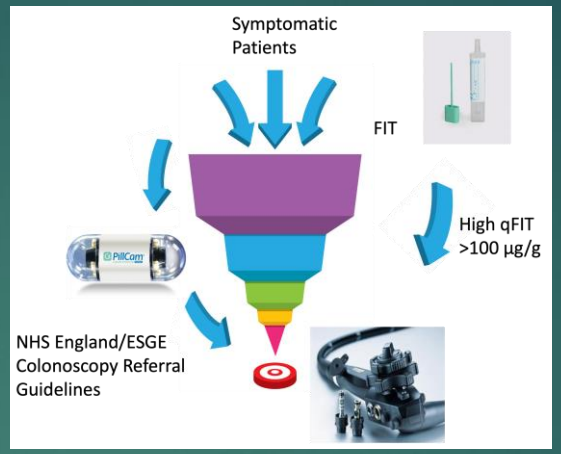
Critical gaps exist in the recognition and management of COPD comorbidities.
Urgent need for:
Early diagnosis and targeted management of key comorbidities.
Integration of cardiopulmonary rehabilitation.
Multidisciplinary, holistic care models to improve quality of life and reduce mortality.

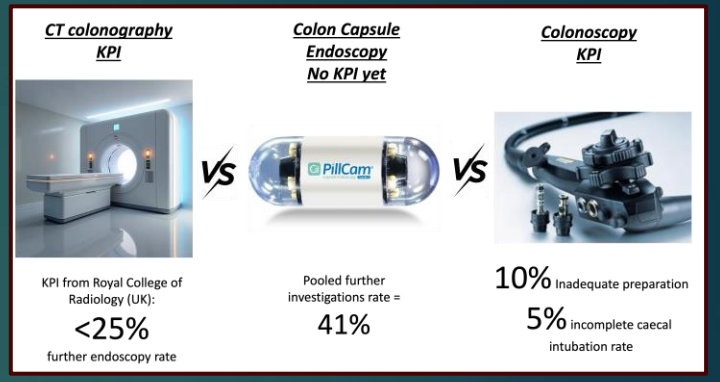
Why Reinvestigation Rates Matter in Colon Capsule Endoscopy – A Systematic Review and Meta-Analysis

Ian Io Lei, Alexandra Agache, Alexander Robertson, Camilla Thorndal, Ulrik Deding, Ramesh Arasaradnam, Anastasios Koulaouzidis

Background:

- CCE - Alternative modality to visualise the colon compared to optical endoscopy (OE) and CT colonography (CTC)
- Factors that lead to follow-up colonoscopy include:
  - Poor bowel preparation
  - Pathology for biopsies and polypectomy
  - Battery exhaustion before excretion
- Further colonoscopies cause:
  - Reduce cost-effectiveness
  - Increase CO2 emission
  - Patients' discomfort due to repeated bowel preparation





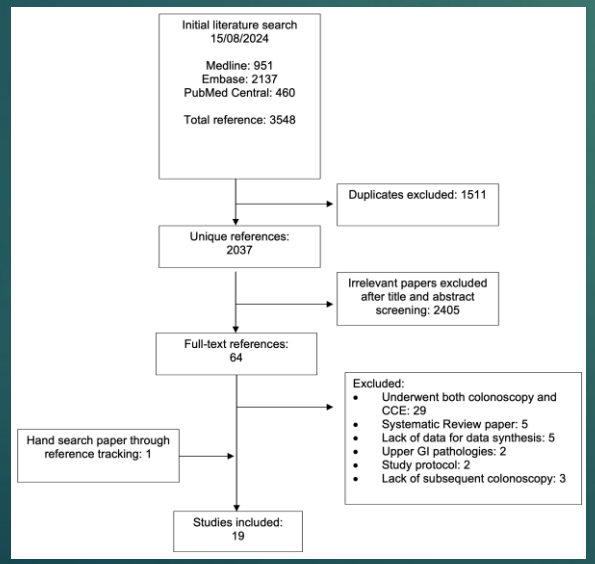
Aim of this Systematic review and meta-analysis:

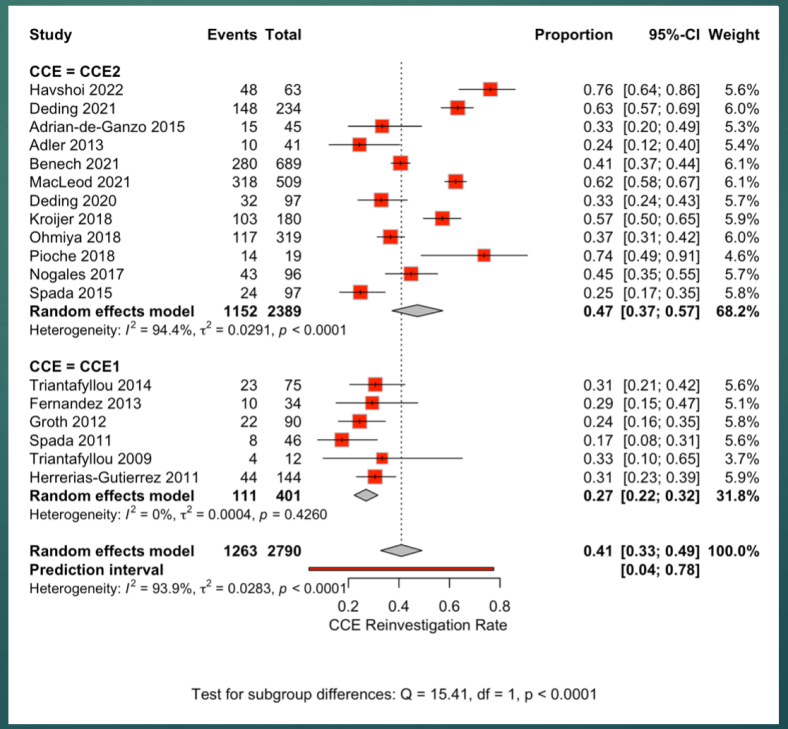
To evaluate follow-up endoscopy rates and identify factors influencing these rates to support the effective implementation of CCE

Method:

Studies included:

- prompted by incomplete procedures, poor bowel preparation, or any detected gastrointestinal pathology in the terminal ileum or colon.
- Any clinical indication for CCE.
- Study with a minimum of 10 cases





Results:

- Pooled overall FER = 0.41 with I^2 = 93.6.
- CCE2>CCE1 in FER: 0.48 (95% CI: 0.39–0.57) vs 0.27 (95% CI: 0.22–0.32)
- Substantial heterogeneity
- For ≥80% adequate bowel cleansing, FER = 0.28 (95% CI: 0.22–0.33).
- Meta-regression identified indication, completion rate, and bowel cleansing adequacy as key contributors to FER.
- Subgroup analysis revealed no statistically significant differences across specific indications.

Conclusion:

This study revealed a significant follow-up endoscopy rate for CCE. To enhance the reliability, cost-effectiveness, and environmental sustainability of CCE, further research is needed to reduce CCE follow-up endoscopy rates.

Inter and Intra-observer Variability in Bowel Preparation Scoring for Colon Capsule Endoscopy: Impact of AI-Assisted Assessment

Ian Io Lei, Daniel Gaya, Alexander Robertson, Benedicte Schelde-Olesen5, Alice Mapiye, Anirudh Bhandare, Chander Shekhar, Ursula Valentiner, Christos Konstantakis, Pere Gilabert, Pablo Laiz, Santi Segui, Nicholas Parsons, Cristiana Huhulea, Hagen Wenzek, Elizabeth White, Anastasios Koulaouzidis, Ramesh P. Arasaradnam

Introduction:

Colon capsule endoscopy (CCE) is a non-invasive modality for mucosal assessment of the colon with pan-enteric visualisation capabilities. Most AI solutions currently focus on highlighting only the frames of interest, allowing readers to bypass large portions of the CCE recording. However, this efficiency introduces a paradox.

By skipping large portions of the video, readers can no longer directly assess the overall quality of bowel cleansing. Moreover, bowel cleansing assessment is inherently subjective.

Aims:

- To evaluate differences in bowel cleansing assessment between the AI-assisted and standard arms among readers with varying experience levels in CCE interpretation.
- The secondary objective was to evaluate both the interobserver and intraobserver variability by comparing standard and AI-assisted readings of the same CCE videos, following a washout period to minimise recall bias. This study also assessed the interobserver agreement between the two available scores: Leighton-Rex and CC-CLEAR scores.

Methods:

25 completed CCE videos were pseudonymised and randomly selected from 673 videos from the CESCAIL study. 9 CCE readers with varying level of experience assess the bowel cleansing score using both standard read and AI-assisted read with a minimum of 8 weeks' intermission.

(Experienced reader was defined by >500 CCE lifetime reads)

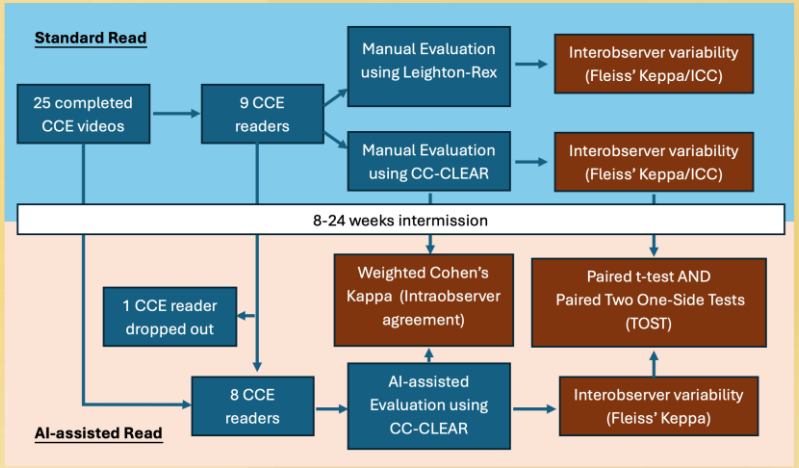


Figure 1: Study flowchart

Bowel cleansing AI algorithm:

It uses TransUNet architecture trained to detect intraluminal content in capsule frames, relies on binary patch-level labels "clean" or "dirty", rather than full-frame manual segmentation (16). Cleanliness is calculated on a frame-by-frame basis by quantifying the proportion of visible mucosa. This information is then summarised in a timeline plot, illustrating fluctuations in bowel cleanliness throughout the capsule examination. From this continuous analysis, the algorithm extracts features aligned with CC-CLEAR thresholds and classifies video segments into corresponding cleanliness categories (scores 0–3)

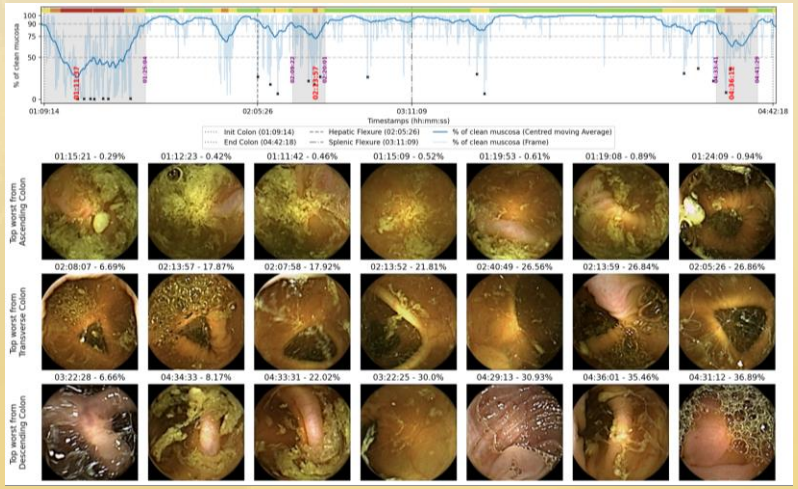


Figure 2: AI output for assisted bowel cleansing assessment

Table 2: Intra-observer agreement within the same reader comparing Standard vs AI-assisted read using ICC and weighted Cohen's Kappa

Readers (n=8)	CCE readers	ICC (95%CI)	Weighted Cohen's Kappa (k)	P value
Experienced	Reader 1	0.77 (0.68-0.84)	0.316	<0.001
Experienced	Reader 2	0.90 (0.85-0.93)	0.321	<0.001
Experienced	Reader 3	0.81 (0.73-0.87)	0.338	<0.001
Experienced	Reader 4	0.78 (0.69-0.85)	0.352	<0.001
Non-expert	Reader 5	0.69 (0.57-0.78)	0.109	0.004
Non-expert	Reader 6	0.21 (0.02-0.39)	-0.007	0.771
Non-expert	Reader 7	0.03 (-0.16-0.23)	-0.031	0.178
Non-expert	Reader 8	0.80 (0.72-0.86)	-0.023	0.796

Results:

- For the Leighton Rex scores, interobserver agreement was poor, with a Fleiss' Kappa of 0.15, and moderate agreement on ICC (0.55). In contrast, the CC-CLEAR score showed fair agreement with Fleiss' Kappa of 0.27 and excellent agreement by ICC (0.90).
- Experienced readers maintained higher interobserver agreement (Fleiss' Kappa: 0.41, ICC: 0.87) compared to less experienced readers (Fleiss' Kappa: 0.15, ICC: 0.56).
- AI-assisted scoring did not enhance interobserver agreement and may have reduced scoring consistency, particularly among less experienced readers.
- Intraobserver agreement, assessed by comparing each reader's standard and AI-assisted scores, was excellent among all experienced readers. In contrast, half of the less experienced readers demonstrated poor or no agreement. These patterns were consistent across both intraclass correlation coefficients (ICC) and weighted Cohen's kappa (κ) metrics.

Table 1: Summary of the interobserver Agreement of both Standard Read and AI-assisted Arms.

Interobserver Agreement – Standard Read				
Readers (n=9)	Fleiss Kappa	Boostrapped Fleiss Kappa (95%CI)	ICC	Bootstrapped ICC (95%CI)
Leighton Rex (all)	0.15	0.15 (0.11-0.18)	0.55	0.55 (0.48-0.62)
Experienced readers	0.18	0.18 (0.13-0.24)	0.60	0.60 (0.54-0.67)
Less experienced readers	0.12	0.12 (0.06-0.18)	0.54	0.53 (0.46-0.63)
CC-Clear (all)	0.27	0.27 (0.23-0.30)	0.90	0.90 (0.86-0.92)
Experienced readers	0.29	0.29 (0.24-0.25)	0.90	0.90 (0.87-0.92)
Less experienced readers	0.24	0.24 (0.18-0.29)	0.88	0.88 (0.83-0.91)
Interobserver Agreement – AI assisted Read				
CC-Clear (n=8)	0.27	0.14 (0.10-0.11)	0.69	0.59 (0.49-0.67)
Experienced readers	0.41	0.27 (0.21-0.33)	0.87	0.68 (0.60-0.75)
Less experienced readers	0.15	-0.034 (0.079-0.004)	0.56	0.51 (0.35-0.63)

Conclusion:

Interobserver agreement was fair across both standard and AI-assisted readings, with no overall improvement observed in the AI-assisted group. Notably, agreement worsened among less experienced readers using AI assistance.

Enhancing Personalized Care in COPD Exacerbation: Role of Cardiac/inflammatory Biomarkers

Pouria Khashayar, Patricia Khashayar, Keneth Spearpoint, Manivannan Srinivasan, Thida Win

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Introduction

Chronic obstructive pulmonary disease (COPD) is one of the leading causes of death worldwide. Many patients with **acute COPD exacerbations** need intensive care.

The relationship between COPD and cardiovascular diseases (CVD) is well established, with many studies confirming **comorbidities leading to poor prognosis**.

The role of cardiac dysfunction in increasing the mortality rate (between 30% and 60%) in COPD individuals is known to be linked to advancing age as well as long-term disabilities and therefore a tremendous burden on the society.

This systematic review & meta-analysis was designed to understand whether **existing cardiac biomarkers can help predict all-causing mortality in AECOPD patients**

Methodology

PubMed and Web of Science were searched using "Exacerbated COPD, cardiovascular (CVD) events "cardiovascular mortality, CAD, MI, & HF" and cardiac/inflammatory biomarkers (Troponin (Tn), B-Type Natriuretic Peptide (NT-BNP), and C-Reactive Protein (CRP))"

Analyses were conducted using Comprehensive Meta-Analysis Cochrane's Review Manager (RevMan).

Results

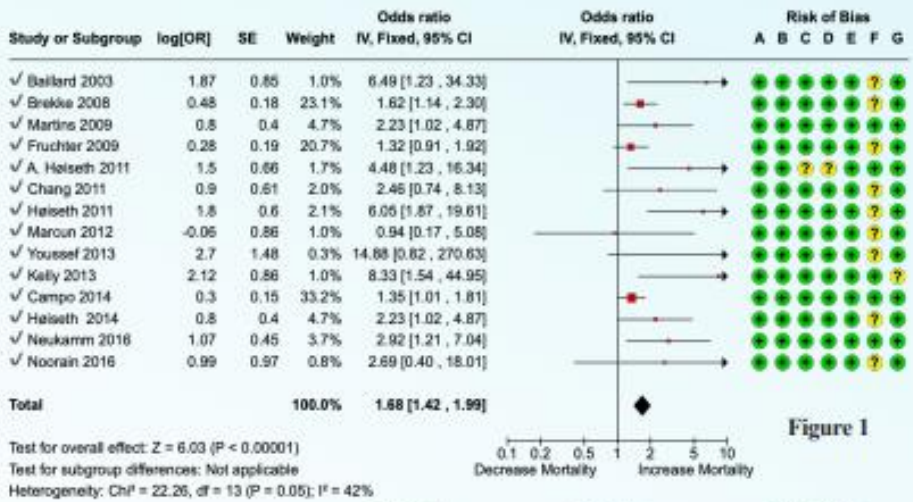

Figure 1

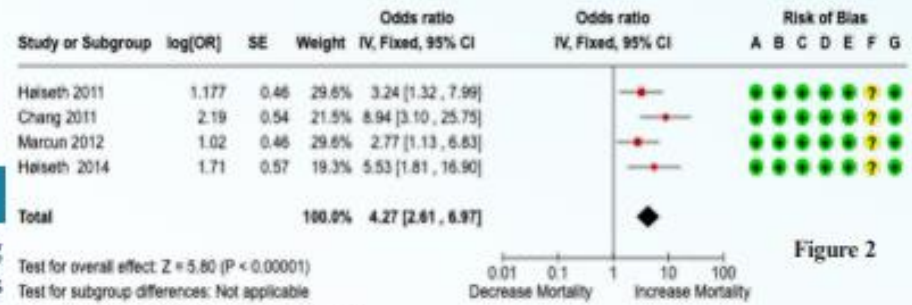

Figure 2

- < 10 mg/dL
- Residual Inflammatory marker

hs-CRP

- < 0.04 ng/ml
- Ca2+ regulator for muscle contraction.

Troponin

- <100 pg/mL
- Hemodynamic & neurohumoral marker

NT-proBNP

Results

Cardiac Tn ↑ from 18% to 73% was reported in 51% (95% CI 48%–53%) AECOPD patients and related to all-cause mortality ↑ (OR 1.68; 95% CI 1.42–1.99; I2 42%).

NT-proBNP ↑ was significantly linked with all-cause mortality ↑ (OR 4.27; 95% CI 2.61–6.97; I2 9%).

No study has been done regarding the **CRP** and its association with **all cause mortality yet.**

Conclusion

Incorporation of cardiac and inflammatory biomarkers into AECOPD management **improves patient stratification and personalized** disease management, providing **targeted interventions: pharmacological therapy & pulmonary rehabilitation.**

Early identification of high-risk patients can **survival rates** ↑, **hospital stay** ↓ **and re-admission rate** ↓ and **combined burden** ↓ of COPD and CVD on the healthcare systems and society.

DIETARY AND EXERCISE INTERVENTION FOR PATIENTS WITH METABOLIC DYSFUNCTION ASSOCIATED STEATOTIC LIVER DISEASE (MASLD): A SYSTEMATIC REVIEW AND META-ANALYSIS

Binika Gurung[1], Sujita Gurung[1], Dr Nwe Ni Than[2]
[1]Warwick Medical School, [2]University Hospital Coventry and Warwickshire

WARWICK
THE UNIVERSITY OF WARWICK

Background

- Non-Alcoholic Fatty Liver Disease (NAFLD) was renamed Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD) [1].
- It is a chronic liver disease that is caused by a build-up of fat (steatosis), independent of alcohol intake[2].
- Losing 5-10% of body weight has been shown to reduce liver steatosis[3].
- Therefore, lifestyle modifications through diet and exercise are recommended to improve outcomes.

Aims

✓ To assess the impact of diet, exercise and diet and exercise combined on BMI, HFC and liver stiffness in patients with MASLD.

Methods

- PRISMA 2020 guidelines used to report this systematic review and meta-analysis, Fig 1.

○PubMed, MEDLINE, SCOPUS and EMBASE were searched on the 15th of October 2024.

○Inclusion criteria applied:
≥18 years old, MASLD or NAFLD diagnosed, RCTs, peer-reviewed, full text and one of the outcomes measured: BMI, HFC, Liver stiffness, liver enzymes and HbA1C.

○Data extracted were: BMI, HFC (%) and liver stiffness (kPa).
○STATA used to apply DerSimonian and Laird random effects model for meta-analysis.

○Cochrane Risk of Bias Tool used to assess RCT quality.

Figures

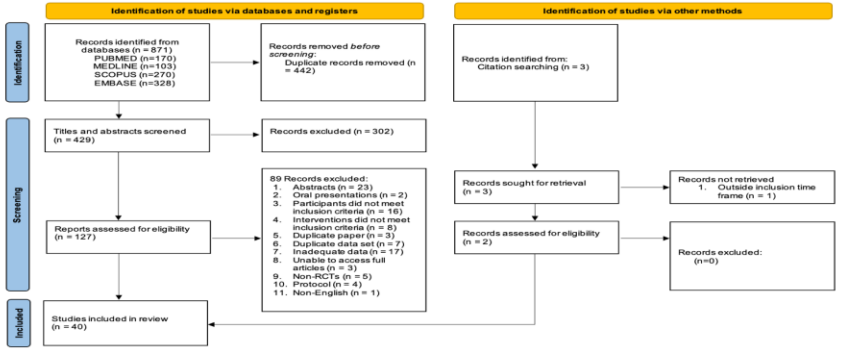

Fig 1. PRISMA flow chart.

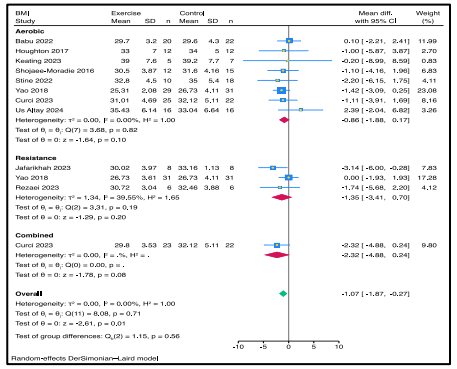

Fig 2. Forest plot on the effects of exercise on BMI.

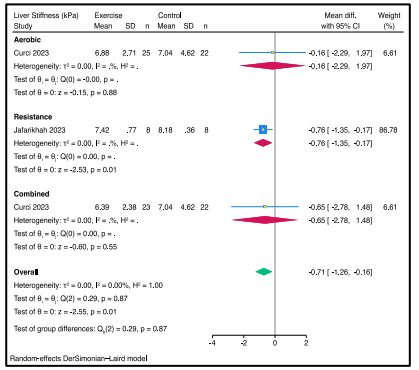

Fig 3. Forest plot on the effects of exercise on liver stiffness.

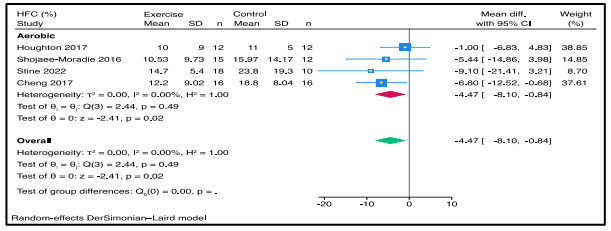

Fig 4. Forest plot on the effects of exercise on HFC (%).

Results

- Forty RCTs were included for review with 18 focusing on diet, 11 on exercise and 11 on both.
- ROB assessment showed that 62.5% were low risk, 12.5% high and 25% of some concern.
- Exercise proved to be effective and statistically significant on all outcomes, as visualised in Fig. 2-4. Fig 2. Shows an MD of -1.07 [-1.87,-0.27]. Fig 3. Shows an MD of -0.71 [-1.26, -0.16]. Fig 4. shows an MD of -4.47 [-8.10, -0.84].
- A combination of dietary changes and exercise does not seem to have a positive outcome on any of the parameters, which is most likely related to limited study data.

Limitations:

- Unable to obtain full data sets from some studies due to time restrictions.
- Only considered papers published in English.
- Heterogeneity within studies, i.e. different methods of calorie restriction, and differences in exercise.

Conclusion

- In conclusion, diet and exercise both proved to be effective in improving liver stiffness and HFC in patients with MASLD.
- 30-60 minutes of aerobic exercise 3-5 times a week provided the greatest effect.
- Mediterranean and low-calorie diets of at least 500kcal reduction per day also proved effective.
- Future work should focus on longer intervention durations and find techniques that can improve adherence to interventions.

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Guillain-Barre Syndrome following Tetanus Vaccination

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INTRODUCTION

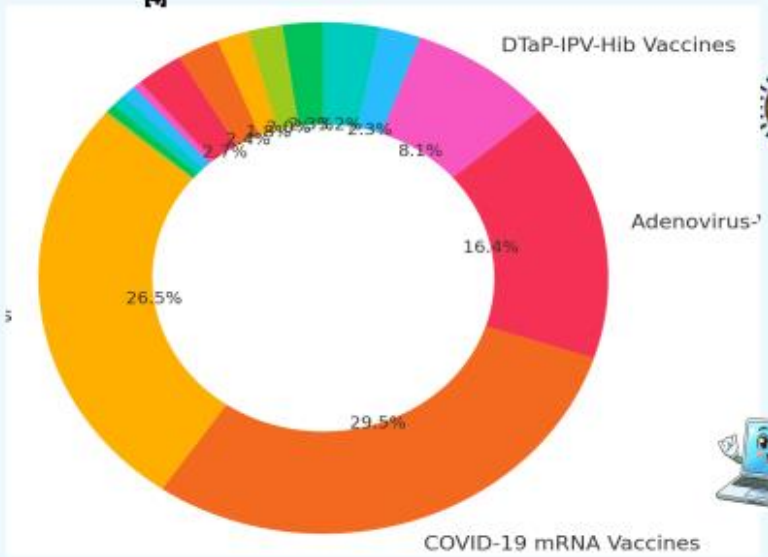
Guillain-Barré Syndrome (GBS) is a common cause of acute flaccid paralysis, seen across all ages but more frequently in the elderly. Around one-third of cases may involve respiratory failure, often indicating severe disease. GBS is usually preceded by gastrointestinal or respiratory infections, with organisms like *Campylobacter jejuni*, Epstein-Barr virus, and influenza commonly implicated. It has also been associated with certain vaccinations. We present a rare case of a man in his sixties who developed bilateral lower limb weakness and was diagnosed with GBS following a tetanus vaccination after a dog bite. The clinical pattern was similar to GBS triggered by infection.

METHOD

A man in his late sixties developed bilateral lower limb weakness, upper limb tingling, and breathing difficulty two weeks after a tetanus vaccine given post–dog bite. Exam showed proximal weakness and areflexia. CSF analysis revealed raised protein and IgG. He received IV immunoglobulin; infection and antibody tests were negative. EMG showed sensory and motor abnormalities. CT ruled out malignancy, and symptoms improved with physiotherapy.

[5]

[4]



DISCUSSION

This case featured a man with progressive weakness, areflexia, and albumin-cytologic dissociation, with neurophysiology confirming GBS. Negative infection and serology results suggested the tetanus vaccine as a trigger. GBS often follows immune stimulation, including vaccination. While a link between GBS and influenza vaccines is established, evidence for DTP vaccines is limited. Sporadic cases after tetanus-containing vaccines have been reported since 1978[1], though a 1997 study found no significant public health risk[2]. The US Advisory Committee on Immunization Practices advises caution if GBS occurs within six weeks of tetanus vaccination.[3]

CONCLUSION

This case confirmed GBS through clinical presentation and diagnostic tests, identifying tetanus vaccination as the only risk factor, suggesting a causal relationship. It underscores the importance of recognizing GBS as a potential adverse event following tetanus vaccination and the need for vigilance in monitoring and reporting such cases.

REFERENCE

PMID: 37753771[1] PMID: 9431302[2]
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