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Digital health and innovation posters

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Perception and Utilization of Artificial Intelligence (AI) Tools among NHS Doctors: a survey-based study

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Introduction

AI is revolutionizing patient care by providing accurate diagnoses and treatment recommendations, while also aiding healthcare professionals in achieving their educational and scientific goals. Therefore, it is vital to explore the views of those at the forefront of patient care. This survey-based study investigates the perceptions and utilization of AI technology by NHS doctors.

Materials and methods

An anonymous online questionnaire, designed by the author, was distributed via email to junior doctors working at Bradford Teaching hospitals, and to members of various online forums tailored for medical doctors working in different specialities and locations within the NHS.

Results and discussion

In this survey-based study, 55 responses were collected. Among participants, 51 (92.7%) were junior (non-consultant) doctors currently working in the NHS and 4(7.3%) were consultants. A significant proportion of participants (63.63%) believed that AI would replace at least part of their job in the future, while 25.45% were confident it wouldn't, and 10.9% remained uncertain(figure 1).



Figure(1) Would AI replace part of your job in the future? Most participants thought AI would be most useful in medical record keeping (98.18%). A substantial proportion endorsed AI's potential role in medical research (74%), risk stratification and prognosis (63%), remote consultations (49%), diagnosis (40.7%), proposing treatment plan (40.7%) and other fields of health care (14%). Despite the enthusiasm, 60% expressed ethical concerns regarding the utilization of AI in health care.

The second section of the survey explored the utilization of AI tools by NHS doctors. Remarkably, 63% of participants reported using ChatGPT, or similar AI tools, in their professional work (figure 2). The main use was in writing emails (81%), followed by studying and medical education (49.7%), scientific research (33.3%), searching the web (33.3%) and other professional tasks (14%) such as time management and career planning (figure 3).



Figure(2) Have you ever used ChatGPT for your professional work? Figure(3) what do you use ChatGPT for?

While limited by a small sample size, this survey highlights the eager anticipation, from medical professionals, particularly junior doctors, for the awaited role of AI in transforming our medical records. AI should be used to relieve physicians of burdensome administrative tasks, granting rapid access to information and "reducing clicks rather than adding more pop-ups".

Additionally, AI should serve as an aid rather than a replacement, supporting physicians in providing precise and expeditious diagnoses.

Notably, the government has recently announced deployment of the latest AI imaging technology to aid in diagnosing cancer, stroke, and heart conditions within the NHS. AI has already demonstrated its value in various domains of health care, including precision medicine, early detection of heart failure, and diabetes management.

However, ethical and legal concerns persist. It is vital for regulatory bodies and the medical community to address critical ethical and legal issues including informed consent, transparency, algorithmic fairness, and data privacy, as AI technology advances.



On the other hand, as healthcare professionals increasingly utilize evolving AI tools for communications, research and education, a pressing need emerges for clear and comprehensive guidance. This guidance is essential to empower medical professionals to maximize their benefits while ensuring they stay within ethical and legal boundaries.

Conclusion

A significant proportion of medical professionals displayed positive perceptions and effective interactions with AI tools. Larger studies are imperative to further explore the dynamics of doctors' interactions with AI, as this is key to the success of any new technology

> Bradford Teaching Hospitals



2023

Quality improvement and patient safety | audit posters October 2023





Nottingham University Hospitals NHS Trust

Utility Of FDG-PET Scan In The Diagnosis Of Alzheimer's Disease

Authors : Abdullah Almayahi ,Akram Hosseini, Asad Ahmed, Hina Khan

Background

Alzheimer's disease (AD) is a progressive neurodegenerative disorder characterized by a nonreversible impairment in cerebral functioning. AD is the commonest type of dementia ¹. In patients with AD, PET can be used to assess changes in brain glucose metabolism, and various neurotransmitter systems ². These assessments are helping to further our understanding of the complex mechanisms that underlie AD and improve the diagnostic accuracy of the disease.

The aim of this audit is to assess the utility of PET scans in the diagnosis of Alzheimer's disease

Method

- We conducted a retrospective cross-sectional analysis of patients who attended a dementia clinic in one of the tertiary centers in the UK for 2 years.
- Out of the 146 dementia patients, 37 were definitively diagnosed with Alzheimer's disease, 20 with frontotemporal dementia, 7 with dementia with Lewy body, and 3 with corticobasal degeneration, there were an additional 79 cases of nonspecific cognitive impairment.

Results

- Of 37 patients with AD,25 (67.57%) have positive findings on PET scans. while 5 (13.51%) were negative, and 7 cases (18.92%) did not have PET scan.
- In the same group of 37 patients with AD, 8 (21.62%) had MRI features suggestive of AD, 25 (67.57%) had negative MRI results and 4 (10.81%) did not have MRI.
- Notably, 13 cases (8.9%) of the total 146 showed PET scan features of Alzheimer's disease; however, the clinical presentation suggested another diagnosis.



Distribution of dementia patients



Distribution of PET Scan Results in 37 Patients with Alzheimer's Disease

Conclusions

This audit provides valuable insights into the utility of PET scans in diagnosing Alzheimer's disease. The PET scan demonstrated potential as a diagnostic tool for AD, with a significant proportion of AD cases exhibiting positive results. Additionally, results demonstrate that PET scans are superior to MRI in detecting Alzheimer's disease (AD), with 67.57% of patients showing positive findings compared to 21.62% with suggestive MRI features. Further research and a larger sample size are needed to corroborate findings and explore PET scans' role in AD diagnosis and management.



Comparative efficacy of PET Scans and MRI in Diagnosing Alzheimer's Disease

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University Hospitals of Leicester

NHS

A single-centre audit for assessing appropriateness of rejected Transthoracic Echocardiography requests and correlation with British Society of Echocardiography published clinical indications Abhishek Dey, Ushna Riaz, Arouj Abbas, Salwa Anis, Paul Baker-Brookes, Mei Mei Cheung, Naser Elameri

INTRODUCTION

The rising prevalence of cardiovascular diseases has resulted in an increased burden on Transthoracic Echocardiography (TTE) services which has shown a meteoric surge of 5.7% per annum between 2014 and 2019 nationwide resulting in a breach of the 6-week maximum diagnostic wait policy.1

This demand-supply mismatch is further compounded by inappropriate TTE requests which lead to eventual difficulties in triaging resulting in cancellation.

To standardise the triage system and better define indications of TTE, the British Society of Echocardiography(BSE) in collaboration with the British Heart Valve Society (BHVS) has released a comprehensive set of guidelines.²



AIM

The aim of our study was to determine the appropriateness of TTE requests and to evaluate factors responsible for rejection in accordance with the BSE guidelines. We further assessed the perception and knowledge among requesting clinicians

regarding rejected TTE requests.

METHODOLOGY

A retrospective analysis was conducted of all rejected TTE requests in a University Trust including a tertiary care Cardiology-Unit for the months of January-February, 2023.

RESULTS

Glenfield Hospital, University Hospitals of Leicester NHS Trust



SURVEY to access the perception and knowledge regarding TTE request (59 Responders)

Very confident/confident about their transthoracic echo requests which is likely to be accepted



Confident to escalate a rejected 1% request to senior clinicians



Assigned rersponsibility to request an echo for a patient they have limited knowledge about

Not aware of the BSE quidelines on echo indications.

METHODOLOGY (Contd.)

The rejected requests were sub-categorised into in-patient vs out-patient, site-specific and requesting specialty-specific cohorts and compared based on reasons of rejection and BSE guidelines specified indications.

CONCLUSION

The study highlights the importance of a standardised guideline-centric framework for requesting TTEs to streamline service provision and reduce diagnostic delays thereby improving patient

Proposed changes to reduce rejections :

Access to community Echo reports for senior clinicians



Staff Education

Teachings I Morning huddle reminders Memory aids: Posters, checklists

Support for junior clinicians Teaching at Induction I Distribution of

quidelines 1 senior support at ward rounds

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Impact Of Age-adjusted D'dimer In The Diagnostic Accuracy Of Pulmonary Embolus And Its Cost Saving Implications. A District Hospital Experience. Abraham Simon, Gayathri Prakash, Mohammad Kabir, Sharmeen Leeza, Channa Nadarajah

Hampshire Hospitals

INTRODUCTION:

Venous Thromboembolism(VTE) encompasses Deep Vein Thrombosis(DVT) and Pulmonary Embolism(PE). The Royal College of Radiologists(RCR) recommends 15% PE detection in all CT Pulmonary Angiograms(CTPA) done. The National Institute of Clinical Excellence(NICE) introduced VTE guidelines which includes age-adjusted D'dimer, to help improve diagnostic accuracy.

OBJECTIVES:

We evaluate Hampshire Hospital Foundation Trust's(HHFT) PE management in accordance with NICE guidelines, analyzing age-adjusted D'dimer's impact on diagnosis and its potential cost savings.

METHODS:

- ★ A retrospective audit of all patients who underwent CTPA over a 6-month period between 01.01.22 to 30.06.22.
- ★ Patients under the paediatric team were excluded.

CONCLUSION:

All CTPA's (n = 1518)	198 positive	Equates to 13.04%
Age adjusted CTPA's (n = 1214)	174 positive	Equates to 14.33%
Low Wells', Negative D'dimer	100% scans negative	
Low Wells', high D'dimer, Negative Age adjusted D'dimer	97.94% negative	
Low Wells', high D'dimer, Positive Age adjusted D'dimer	17.24% positive	Equates to 17.24%

RECOMMENDATIONS:

- ★ Improve accuracy of Wells Score calculation Education of Medical Team
- ★ Age Adjusted D'Dimer calculation and result Test request system automatically calculates Age Adjusted D'Dimer and displays outcome
- ★ Re-Audit following the implementation of above.

REFERENCES:

Appropriateness of usage of computed tomography pulmonary angiography (CTPA) investigation of suspected pulmonary embolism. https://www.rcr.ac.uk/audit/appropriateness-usage-computed-tomography-pulmonary-angiography-ctpa-investigationsuspected [Accessed 02 September 2023]





NHS Trust

of Leicester

Follow-up Imaging Recommendations On A Chest Radiograph Report:

A Comparative Study Of Inpatient And GP Chest Radiograph Pathways At A Tertiary Thoracic Center

20

Dr Adarsh Shivaram¹, Dr Rajashri Patil² University Hospitals of Leicester, UK

INTRODUCTION

Chest radiograph has a longer reporting time than other radiograph requests, and clinicians may miss follow-up advice in reports. **British Thoracic Society** recommends arranging a **follow-up Chest radiograph after 6 weeks** for patients with persistent symptoms or physical signs or at higher risk of underlying malignancy.

The hospital team is responsible for arranging follow-up with the patient and the GP. ¹ The recommended time period for Chest radiograph and CT scan follow-up is 6 weeks and 1 week, respectively. ²

The radiology department currently uses a code **"GPCTFU"** and **"GPXRFU"** in reports for GP requests to automatically override the GP pathway and directly arrange a follow-up imaging appointment ensuring that the follow-ups are not missed and relieving GPs of the burden of arranging follow-up imaging.

AIM

- Review onus of Chest radiograph requests from clinicians in hospital and GPs.
- Calculate time taken to report for reports with follow-up advice
- Assess if "Actionable Reporting" is followed
- Compare if the follow-up alerts were observed equally by clinicians in hospital and GPs.
- Calculate burden of reports with follow-up advice after patient discharge.

METHODOLOGY

- Retrospective data from 01/11/2022 to 10/11/2022 was analysed.
- Data source was information available about Chest radiograph requests on PACS.
- The sample for the audit data included only Chest radiograph reports with follow-up advice.
- Actionable reporting was assessed based on whether reports answered clinical questions, provided tentative/differential diagnosis, and had appropriate/clear advice for next steps.³

RESULT AND DISCUSSION

A total of 2563 Chest radiographs were performed, the table below summarises our findings.

Inpatient requests	COMPARISON	GP requests
1263	Total Chest radiographs performed	1299
63	Chest radiographs with follow-up recommendations	117
24 (38%)	Number of follow-up imaging done	106 (90.5%)
8.9 days	Average time taken for reporting	6.6 days

- In Actionable reporting, only 3 in-patient reports did not have appropriate/clear advice for next steps.
- 47 out of 63 in-patients (74.6%) were discharged before their radiograph was reported.

Length of stay in days



CONCLUSION

- In-patient follow-up rate(38.1%) was lower than GP followup rate(90.5%).
- GP chest radiograph were reported **2.35 days faster** than In-patient Chest radiograph.
- In-patients with longer duration of stay were more likely to have their follow-up imaging.
- Actional reporting is comparable in both In-patient and GP categories.

RECOMMENDATION

- Increase awareness among clinicians to follow-up on reports post-discharge through posters and videos.
- Check the feasibility of implementing existing 'codes for follow-up' used in GP reports for in-patient reports.
- Send alerts to clinicians and GPs for reports with follow-up advice.
- Re-audit after measures have been taken to ensure adherence to guidelines.

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A Retrospective Study Of Antibiotic And DMARD Prescription Practices In Rheumatology Inpatients At A Tertiary Center: Are We Compliant With The Guidelines?

University Hospitals of Leicester

Dr Adarsh Shivaram¹, Dr Robin Mathews², Dr Nishant G C³, Dr Veena Patel⁴

INTRODUCTION

- Patients with rheumatic diseases have **increased susceptibility for infections**, due to the intrinsic immunological alterations associated with these conditions and also due to the medications (steroids and **immunosuppressive**) used to treat them.
- Recent guidelines^{1,2} by the BSR and BHPR recommend **temporarily discontinuing** both conventional and biologic DMARDs during serious infections.

OBJECTIVE

- Identify the proportion of patients who had their **immunosuppressive treatment stopped** during period of infection.
- Compare **inflammatory markers** and **length of stay among patients** whose immunosuppressive were stopped and those who did not stop.

METHODOLOGY

- **Timeline** = 01/09/2022 to 31/12/2022
- **Population** = 649 patients with raised CRP who were known to have rheumatological diagnosis on synthetic DMARDS and biologics who are enrolled and having blood monitoring on DAWN software were identified.
- **Sample = 52** of them had an inpatient admission which required antibiotics.
- Further data related to their admission and investigations reports were collected from the trust's Digital Health record.



 All 52 patients were taking conventional DMARDs (MTX = 29, SSZ = 15, HCQ = 13, LEF = 8, MMF = 5) and 4 patients were also taking biologic DMARDs (etanercept = 2, adalimumab = 1, sarilumab = 1)

camanas ().	DMARDs- stopped	DMARDs- not stopped
Mean highest CRP	183.17	178.16
Mean highest WBC	11.72	12.41
Mean highest neutrophil count	10.16	10.19
Average length of stay	13.25	11.00

REFERENCES

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CONCLUSION

- **100%** of **biologic DMARDS** were stopped while they were on antibiotics.
- Almost 25% of our sample did not have their conventional DMARDs stopped during the period of infection.
- CRP levels and longer length of stay were noted in our cohort among patients who had stopped DMARD at the time of antibiotic prescription which may be due to other associated reasons, age, source of infection and other co-morbidities. Need more information to understand this findings.

FURTHER ACTIONS

- Implement the guidelines locally to stop the immunosuppressives when patient is unwell with infection in line with BSR and BHPR guidelines.
- Create more awareness among medics and allied health professionals i.e pharmacists, nurses by education sessions,
- Creation of prompts at the time of prescription on hospitals electronic medication chart. .
- We have electronic medication chart for inpatients and we are working to identify rheumatological patients on immunosuppressive therapy at the time of admission.

(2) Holroyd CR, Seth R, Bukhari M, et al. The British Society for Rheumatology biologic DMARD safety guidelines in inflammatory arthritis—Executive summary.Rheumatology.2018 Aug 21;58(2):220–6.

In-patient TAVI - Patient Characteristics, Journey and Potential for Practice Change

University Hospitals of Leicester NHS Trust

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Background

Symptomatic Aortic stenosis has very poor outcomes if left untreated and in the last few years there has been a significant increase in the number of patients treated, both electively and on an urgent in-patient basis.¹ **Transcatheter Aortic valve implantation** (TAVI) is a minimally invasive procedure that has revolutionized the treatment of patients with symptomatic severe aortic stenosis who are not suitable surgical candidates. It requires specific anatomical pre-requisites and access to a TAVI service. In-patient TAVI involves work-up, MDT discussion and procedure in one admission. Patients are transferred to Coronary Care Unit (CCU) post-TAVI for observation and monitoring.

Discharge summaries help bridge the patient care from in-hospital to primary care, and serve as one of the resources for financial coding.

Aims & Objectives

- To evaluate the pre and post procedure length of stay of patients undergoing in-patient TAVI.
- To assess the quality of discharge summaries.
- To Identifying any existing gaps in the current practices and propose changes to bridge them.

Methodology

We conducted an audit on individuals who had inpatient TAVI procedures, in the cardiology department at a high volume tertiary center in the UK. The data was collected retrospectively from the hospital's TAVI registry, patient's discharge summaries and care plans from the hospital's electronic medical record. The timeline for the data was from 01/04/2022 to 31/03/2023. We analyzed our data against the National and Trust guidelines. ¹⁻³



In-patient TAVI Pathway



123

referrals

48

In-patient

TAVIs

TAVI

MDT

A total of **254** TAVIs were performed from **01/04/2022 to 31/03/2023**, among which **48** were **in-patient. 123 in-patient TAVI referrals** were made of which, **only 48** individuals were **accepted** for in-patient TAVI procedure.

These included **58%** males and **42%** females. In-patient mortality was **0%** and the 6-month mortality was **6.25%**.

The average age of patients at the time of procedure was **80 years**, ranging from **56 to 93 years**. The mean frailty score of patients before the procedure was **4**, ranging from 1-7.



No excessive post procedural complications were noted in this high risk cohort. 10% of patients had their discharges delayed due to physiotherapy or occupational therapy needs.

Most discharge summaries did not have all the crucial information about the procedure such as type and size of valve, complications, post TAVI echo, follow-up plans and anti-platelet regime.

Conclusions

Our department's existing practices adhered to National TAVI guidelines. However, there is a scope for improvement in reducing the pre and post-procedure length of stay in the in-patient TAVI group. Coronary Care Bed availability was identified as another factor affecting the length of stay. In addition, there is a potential to improve the documentation of TAVIs in discharge summaries.

Recommendations

- Establishing a pathway that includes designated slots for work-up of patients in need of urgent TAVI.
- Creation of a ward dedicated to post TAVI patients.
- Pre-procedure assessment of care needs by physiotherapy and occupational therapy teams.
 Undertake a OIP to ensure complete.
- Undertake a QIP to ensure complete documentation of the procedure.

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Ambulatory Emergency Care Unit (AECU) First Seizure Pathway Audit

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¹ London North West University Healthcare NHS Trust¹

Introduction -

Our Ambulatory Emergency Care Unit (AECU) runs a pathway for patients presenting with a suspected first seizure, that aims to avoid admission and streamline assessment and onward referral to Neurology outpatients. NICE guideline NG217 "*Epilepsies in children, young people and* adults" provides specific guidance on assessment and referral for patients presenting with a suspected first seizure.

We are aware that some criteria in the current trust policy are not always completed.

Results and discussion

Over a 3-month period, 47 patients were identified. 11 patients were excluded from sampling for incorrect referral details or not attending their AECU appointment. A further 5 were excluded as they did not attend their subsequent neurology appointment. One patient was excluded after it was established they had an historical diagnosis of epilepsy. A total of 30 patients were included in the audit.

There was significant variation in the completion of both the local pathway criteria and NICE criteria for patients attending AECU.

Documentation of driving status, occupation, and safety netting advice including with regards to driving was inconsistent. This may well have been discussed with patients, but documented evidence of this was often missing.

Materials and Methods -

Patients referred to AECU as a potential first seizure over a 3-month period were screened. Retrospective data collection over a 3-month period using a password protected data collection tool including ED discharge records, EPR records, clinic referral data, clinic letters and investigation results with reference to the three areas above.



Conclusion

We have incorporated reiteration of the need for documentation of driving status etc. in local induction and teaching. Work is ongoing to update the first seizure pathway to improve performance.



What Is Wellbeing? Laying The Groundwork For Improving The Wellbeing Of Stage 1 Internal Medicine Trainees In North West London.

Chelsea and Westminster Hospital

NHS

Alexander Emery [London,UK]1, Emma Rowlandson¹

¹ Chelsea and Westminster Hospital NHS Foundation Trust

Introduction -

There is no standardized definition of Wellbeing¹. Programs aiming to measure and improve the Wellbeing of individuals in healthcare settings are becoming more prevalent¹. The lack of an agreed definition of Wellbeing, however, makes this challenging, not least because the components and determinants of Wellbeing are often individual and seemingly abstract. NHS England have recently funded posts for IMT Wellbeing and Education Fellows in London to attempt to improve this.

Materials and Methods

- 1. Qualitative literature and resource review of Wellbeing research and commentary
- 2. Interim results of a new IMT Wellbeing and Education Survey

Results and discussion -

The Geneva Charter for Wellbeing hosted by The World Health Organization in 2021² attempted to define Wellbeing as: "A positive state experienced by individuals and societies. Like health, it is a resource for daily life and is determined by social, economic, and environmental conditions.". Other organizations use mental health as a proxy for Wellbeing. NHS England have developed a Health and Wellbeing framework³ and The British Medical Association have developed a Mental Wellbeing Charter⁴, while the General Medical Council's annual National Training Survey uses a version of the Copenhagen Burnout Inventory⁵ to create an overall burnout score, which it uses to discuss the Wellbeing of doctors in training. If I could do one thing to improve my Wellbeing as an IMT, it would be:



Conclusion -

References

Our interim survey shows trainees perceptions of Wellbeing varies, and the majority feel neutral when asked how their employers or training organizations value their Wellbeing. Based on the above, and with reference to internal medicine trainees in the UK, a working definition is proposed: <u>"Wellbeing is an active state experienced by individuals, influenced by physical, psychological and social factors, as well as one's own physical and mental health, that allows them to function at their full potential".</u>

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Promoting Multidisciplinary Team Cohesion On The Acute Floor Through Establishing Medical Emergency Team Huddles And Hospital At Night

A McWhirter¹, J Onimowo², C Dore³, D Simpson⁴, C Hewitt⁵, A Jaidev⁶, T Jhetam⁷

MATERIALS AND METHODS

Modified Gemba walks and root cause analysis using the Ishikawa tool took place followed by multiple key stakeholder meetings.

ENVIRONMENT

No projector

Handovers not used for learning

SYSTEM

switchboard

specialties

Interventions across multiple PDSA cycles:

procedures for medical handovers/MET huddles

- MET huddles at 0830 and 2030 established

- Structured handover proforma & standard operating

Room not

available

Too many bleeps

receiving calls

Room too

MEDICAL

HANDOVERS

- Hospital at Night meeting at 2am at

Royal Sussex County Hospital (RSCH)

- Pre-alerts for meetings set up via

- MET document and dedicated

- Transition made to paperless QR

- Continued education at inductions

code sign-in for all meetings

and teaching sessions across

pages on Microguide

small

PEOPLE

Leadership

No roles

allocated

Confusion if

calls overlag

Too many

baton bleep:

Not enough clerking bleep

Poor IT systems

EQUIPMENT

Meeting Agenda

specialties



BACKGROUND

The Royal Sussex County Hospital is one of 4 hospitals

which comprise University Hospitals Sussex NHS Trust.

From a questionnaire sent to medical juniors:



92% felt structured medical handover would improve patient safety

2/3 believed there was a need to improve current handovers

88% felt MET huddle beneficial to patient safety

AIMS

1. To establish morning and night MET Huddles at RSCH by April 2022, aiming for 100% meetings being held.

2. To create, by October 2022, a sustainable method of touching base with members of the multidisciplinary team working at night in RSCH by establishing a 2am huddle meeting.

on their roles at MET calls (increased from 25%) A snapshot survey in Feb 2022 showed that 100% of handover proforma forms completed. Drop in sign-in rate



MET huddles and H@N meetings have now been rolled out at Princess Royal Hospital (PRH)

DISCUSSION

RESULTS
Post intervention survey: 100% of junior doctors now clear **1. MET huddle was useful**

SUSTAINABILITY: Embedding H@N culture, continued education and making information available. Importance of regular stakeholder meetings with QIP champions which includes doctors across medicine/intensive care/anaesthetics as well as CCOT and the site team & IT fellows to make best use of IT systems

SPREAD: Successful spread to PRH, followed by interest from 2 other Trusts for support in starting their H@N

TRAINING: Working with CCOT/site team to provide training for H@N support roles. SOP written to improve triage of bleeps overnight

WELLBEING: Exploring ways the meetings can be used to support team members, ensuring adequate breaks and refreshments

CHALLENGES: Overcoming resistance to change, encouraging engagement from other specialties, adequate meeting space

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¹IMT3, ²AIM & ICM ST7, ³ACCS CT3, ⁴Anaesthetics ST3, ⁵IMT2, ⁶ACCS CT2, ⁷JCF, University Hospitals Sussex

University Hospitals Sussex NHS Foundation Trust

Strongly agree

Strongly disagree

Agree
 Neutral

2. H@N meeting was useful

Disagree

Agree

Neutral

Disagree

Strongly agree

Instilling a Culture of Debriefing Post Cardiac Arrest: A Quality Improvement Project

Dr Amelia Gelson-Thomas, Dr Harry Fox, Dr Emily Hocknell Somerset NHS Foundation Trust, Musgrove Park Hospital



Introduction

Debriefing following cardiac arrests is a powerful tool that promotes learning, collaboration, and continuous improvement in healthcare settings. However, the rates of debriefing in hospitals often fall short of their potential. Recognising the significance of debriefing in optimising patient outcomes and fostering a culture of staff wellbeing, we are actively working to improve debriefing rates and ensure its integration as a standard practice.

Methodology

Baseline Findings

 We commenced with an evaluation of baseline practices among junior doctors at Musgrove Park Hospital through a survey based on a 6-month period.

PDSA Cycle 1

- To address time constraints as a barrier to debriefing, we implemented strategies to optimise efficiency.
- Raised awareness of the 'S.T.O.P 5: Stop for 5 Minutes'¹ model for efficient debriefing after cardiac arrest and promoted this through our poster (image 1).
- Assessed the impact on debriefing implementation through colleague surveys.

PDSA Cycle 2



Consider using S.T.O.P.5 debrief tool, STOP for 5 minutes

(Walker CA, McGregor LE, Robinson S, Royal Infirmary of Edinburgh, Scottish centre for Simulation and Clinical Human Factors, 2018)



Key findings over the last 6 months: • 47% had never hot debriefed or been offered • Where responders felt debrief should have occurred 53% reported it was never or only rarely offered • 87% very likely or likely to accept an offer to debrief

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Image 1: Our poster used in PDSA cycle 1

- Comprehensive teaching sessions emphasising the 'STOP 5' model, delivered across diverse platforms, including departmental and grand round teachings, catering to doctors of all levels.
- Assessed teaching effectiveness: informativeness and impact on acceptance, request, and initiation of debriefs.

PDSA Cycle 3

- Integrated debriefing education into the induction process for new doctors.
- introduced a debrief tick box on the on-call handover checklist to facilitate discussion during handovers.

Results

Baseline Findings:

- Collected based on a 6-month period.
- 50% very likely to accept a debrief.
- 47% never had a debrief.
- 53% rarely or never received debriefing when expected.
- 44% think debriefing should always occur.

PDSA Cycle 1:

- Data collected over a 2-month period.
- Increased awareness and streamlined the debriefing process, leading to improved debriefing implementation.
- 20% never had a debrief down from 47%
- In expected situations, only 10% of people never debriefed.
- 80% very likely to accept debriefing.
- 70% think debriefing should always occur.

PDSA Cycle 2:

- 76% of surveyed doctors had never received formal debriefing education.
- Post-teaching: 94% felt informed about debriefing.
- 100% more likely to accept a debrief
- 94% more likely to request a debrief
- 88% comfortable initiating a debrief with 'STOP 5'¹ model.

PDSA Cycle 3:

- Monitoring the checklist over 5 weeks demonstrated that debriefing discussions occurred in 86% of completed checklists, affirming progress towards instilling a culture of debriefing.
- Formal debriefing education became an integrated part of the induction for new junior doctors into the trust.



Image 2: Graph showing the comparison of debriefing from baseline to PDSA 1

Conclusion & Recommendations

Our interventions have shown improved debriefing practices among doctors at Musgrove Park Hospital. The implementation of posters increased the occurrence of debriefs, while teaching sessions positively influenced awareness and willingness to accept and initiate debriefs. Integrating teaching into the induction process ensures that this education continues and the introduction of the debrief tick box at handovers promotes debriefing as a standard practice. To further instil a debriefing culture, our next cycle will introduce simulation-based teaching, allowing the practice of requesting, initiating and leading a debrief effectively.

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Giant Cell Arteritis Pathway: Quality Improvement Project (QIP)

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Introduction

Giant Cell Arteritis (GCA) is a large vessel granulomatous vasculitis with a predilection for the extra-cranial vessels which may result in ischemic complications such as vision loss.

Treatment pathways for GCA have been shown to improve diagnosis, early treatment and clinical outcomes. A established rapid access GCA pathway at London Northwest University Healthcare was updated in 2019 to incorporate temporal artery ultrasound (TAUS, figure 1).

In this QIP we have re-audited the pathway and compared to the recent BSR guidance for GCA (References).

Objective

To audit the GCA pathway against BSR guidelines/ audit tool

Methods

Data for 124 suspected GCA patients (Jan 2021 to Jan 2023) referred to secondary care were retrospectively analysed for demographics, clinical presentation, diagnostics (blood tests, TAUS/TA biopsy) and diagnostic yield. Patients were identified from a radiology and biopsy database. Audit standards were set against the (BSR) audit tool for Giant cell arteritis and compared to previous audits.



No (14/124)

No (33%)

Biopsies per year

Figure 1

					Results
Table 1 Demographics, symptoms, ESR & CRP					
	S	uspected	Confirmed*		BSR Qualit
n		124	48		Specialist r
Age (mean/ range)	6	9 (43-98)	74 (54- 94)		days follow
Sex M:F (%F)	2	6:98 (79)	15:33 (69)		Same day i
Headache		117 (94)	46 (96)		glucocortic
Scalp tenderness		60 (48)	28 (58)		FBC, CRP, E suspicion o
Jaw claudication		32 (26)	11 (23)		Confirmato
Visual symptoms		36 (29)	9 (19) 4**		Same day (
Polymyalgia		18 (14)	18 (37%)		visual symp
Mean ESR (range)	3	8 (2-137)	56 (5-133)		Glycemic n
Mean CRP (range) *Confirmed wit	8 h cli	(0.6-243) nical dx TAI	28 (0.6- 197) IS or biopsy		Appropriat
**patients with visual loss. Percentage bracketed unless stated				Provision o GCA	
Temporal Artery US and Biopsy results			Documente		
124 suspected GCA of GCA				of GCA rela	
48 positive US (34%) Treated GCA 59 negative US (61%) Discharged			The presen and treatm		

17 US borderline positive (14%)

TA Biopsy 10 (8%)

4 positive -confirmed GCA

2 negative- treated GCA

4 negative- no GCA

Table 2 Audit v's BSR Standards				
BSR Quality Standards	Achieved (%)	Expecte d (%)		
Specialist review within 3 working days following clinical suspicion of GCA	79	100		
Same day initiation of high dose glucocorticoids	78	100		
FBC, CRP, ESR/PV checked at suspicion of GCA	94	100		
Confirmatory tests TAUS/ TAB	89	100		
Same day Ophthalmology review for visual symptoms	67	100		
Glycemic monitoring	48	100		
Appropriate bone protection	100	100		
Provision of written information on GCA	100	100		
Documented discussion on symptoms of GCA relapse and action plan	70	100		

Conclusions

The presence of a GCA pathway has 'streamlined' diagnostics and treatment but has highlighted areas to improve, such as provision for ophthalmology and glycemic monitoring (Table 2)

Introduction of TAUS has significantly decreased need for TA biopsy (40/year v's 12/ year)

References

https://www.rheumatology.org.uk/Portals/0/Documents/Guidelines/Aud it%20tools/GCA audit tool.pdf?ver=2021-02-05-175509-010

Improving Management of NSTEMI by Junior Doctors on the Medical Take

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Introduction

- The 2019/20 Myocardial Ischaemia National Audit Project (MINAP) report demonstrated 86,547 cases of MI admitted to NHS hospitals.
- 65% of these were non-ST- segment elevation myocardial infarction (NSTEMI). There is evidence from registry-based studies that case fatality from NSTEMI is higher than STEMI.
- Further research from the UK illustrate that almost one third of patients admitted with MI did not receive medications as per current guidelines therefore experienced higher fatality rates.
- Therefore, augmenting physicians' awareness of NSTEMI management is the cornerstone of improving patient care and thereby disease outcome.
- The aim of this project is to address the knowledge gap about management of NSTEMI among junior doctors on the medical take, which should translate to improvement in clinical outcomes for NSTEMI.

Methods

- This study is a closed loop audit conducted at an Acute Medicine Unit at a Tertiary Hospital in the UK during October 2022 to August 2023.
- All patients admitted by junior doctors to AMU from A&E with the diagnosis of NSTEMI during this period were
 included in this study.
- Exclusion criteria were as follows: direct admission to Cardiology department, patients for which the A&E or medical doctor discussed their plan with Cardiology, Type 2 MI, patients already on anticoagulation and patients who met criteria for urgent PCI.
- Data collection included prescription rates for dual antiplatelets, fondaparinux and secondary prevention as well as requisition for HbA1c, Lipid profile, ECHO and referral to cardiology at the time of admission. Intervention included presentation in the department meeting, discussion during medical handovers and educational posters.
- Data Analysis was conducted using Microsoft Excel.

Results

- 28 patients were included in the first cycle, and 24 patients in the second cycle.
- In the first cycle, the prescription rates for aspirin loading dose, a second antiplatelet loading dose and fondaparinux were 85.1%, 64.3% and 35.7% respectively.
- Maintenance doses of aspirin and the second antiplatelet were prescribed for 67.9 and 53.6 percentage of patients, respectively.
- The second cycle demonstrated prescription rates for aspirin loading and maintenance dose as 91.7% and 62.5%, second antiplatelet loading and maintenance dose as 87.5% and 58.3%, and fondaparinux as 75% respectively.

- Among the patients who were eligible for secondary prevention; in the first cycle, the prescription rates for beta blocker, ACE inhibitor/ARB and statin were 46.1 %, 41.6% and 48% respectively.
- This changed to 30%, 33.3% and 55% respectively, in the second cycle. In the first cycle, no patient had their HbA1c and lipid profile checked.
- This improved to 4.2% and 16.7% respectively.
- In the first cycle, 25% and 89.3% of patients had an ECHO and a referral to Cardiology requested, respectively.
- This changed to 45.8% one 70.8% respectively, in the second cycle.



Conclusion

- This study identifies a significant gap in current management of NSTEMI by junior doctors on the medical take.
- Results of the re-audit illustrate the value of educating junior doctors on up-to-date guidelines, thereby, improving compliance to the same and in turn, patient outcomes.

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A Review Of The Process Of Eating And Drinking With Acknowledged Risks (EDAR) In A District General Hospital: A 3-Cycle Quality Improvement Project

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1. INTRODUCTION

In cases of dysphagia which are unlikely to improve, for example in Dementia, Eating and Drinking with Acknowledged Risks (EDAR) can be considered. This is where individuals continue to eat and drink despite a perceived risk of choking or aspiration¹. There should be an MDT approach to the decision including involving Speech therapists (SLT) who may recommend an amended consistency of food and fluid to reduce risk of aspiration¹.

2. PLAN

We aimed to find out whether proper discussions and plans were completed for EDAR. Patients with dysphagia from stroke were excluded.

Outcome measures included:

- 1) Completion of the Trust EDAR summary Form
- 2) If a joint decision for EDAR has been taken by the MDT
- 3) Capacity assessment for the patients for decision regarding feeding
- 4) Discussion with the patient if they have capacity or with family/IMCA if they do not have capacity,
- Discussion of the risks of EDAR including 5) aspiration pneumonia and death

Stakeholders included: Patients, Families and the MDT including Doctors, Nurses, AHP including SLT



4. STUDY

3. DO



- Patients with joint decision by an MDT to pursue EDAR
- Patients who do not have capacity who have a best interest decision agreed with the relatives/IMCA
- Patients with capacity who choose EDAR
- —Clear discussion of risks and outcomes of EDAR

Discussion of anticipatory care plans including regarding further admissions to hospital

Reference 1. Royal College of Physicians. Supporting people who have eating and drinking difficulties. London: RCP, 2021.

Graph 2: EDAR decisions made after MDT/ best interest meeting/patient discussion 100% 100% 100% 80% 83% 67% 60% 63% 40% 38% 20% 25% 11% 0% Feb-23 Mar-23 Apr-23 May-23 Jun-23



5. ACT

We provided education about EDAR by presenting at Medical meetings, speaking directly to ward staff and putting up posters. These interventions correlated with improvement in the parameters assessed:

- ✓ Joint MDT decisions improved (63% to 83%)
- ✓ In capacitous patients, decisions were made after discussion with them in 100% of cases from 25% of cases initially.
- ✓ When patients did not have capacity, family/IMCA were involved in 100% of cases from 38% initially
- ✓ There was improvement in discussion of risks of EDAR (13% to 50%), and of advanced care planning including discussion of further hospital readmissions from aspiration pneumonia (12.5% to 77%).

The final intervention involves discussions with SLT and Matrons to ensure sustained quality improvement

6. CONCLUSIONS

We recommend every Trust has an EDAR proforma with all points as mentioned. The forms were taken home by patients when discharged and GPs were notified. Through improved management of EDAR and usage of the forms, we improved quality of life, showed respect to patients' autonomy and helped reduce unnecessary re-admissions to hospital.

Milton Keynes University Hospital NHS Foundation Trust

Improving the Discharge Summaries for Patients with Acute Coronary Syndrome: a Quality Improvement Project

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Milton Keynes University Hospital

BACKGROUND

There are established guidelines for management of patients presenting with acute coronary syndrome (ACS). However, implementation of strategies to improve adherence to guidelines regarding secondary prevention remains suboptimal.

AIMS

This QIP aims evaluate the quality of discharge summaries for patients admitted with ACS to identify gaps and introduce measures to ensure appropriate secondary prevention.

METHODS

- Data were collected retrospectively from EPR in MKUH.
- We identified patients admitted to and discharged from the cardiology ward in MKUH with ACS in two different cycles.
- We reviewed the documentation of duration of dual antiplatelet therapy (DAPT) and DVLA advice in discharge summaries and whether HbA1C and lipid levels were checked during admission.
- Following the initial audit, we designed an educational poster which was placed in the cardiology and acute medical wards (Figure 1).
- A re-audit was then done to analyse the effects of our Figure 1 intervention



RESULTS

We reviewed 22 discharge letters between June 2022 and July 2022 and 13 letters between February 2023 and March 2023. The results are summarised in the figure below (*Figure 2*).



Figure 2

CONCLUSION

Dissemination of posters did not improve the documentation of DAPT duration and DVLA advice in discharge summaries. There was also no improvement in the measurement of HbA1c and lipid levels. Therefore, a more active intervention is needed. We suggest automatic population of discharge summaries on eCare. This is currently being incorporated into our electronic patient records and would be feasible to replicate in similar units.

EPR – electronic patient record, MKUH – Milton Keynes University Hospital, DVLA – Driver and vehicle Licensing Agency

Post-MI secondary prevention optimisation and follow-up in the community

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Objective

To compare the advice given to GP surgeries in discharge summaries against the National Institute For Health And Care Excellence (NICE) recommendations for patients presenting with myocardial infarction (MI) in order to ensure optimisation of ACS treatment and secondary prevention in the community.

Introduction

It is well-documented that optimal medical treatment reduces the risk of consecutive coronary events.¹ Hospitalisation due to ACS could be an effective intervention point for specialists to not only start guidelinedirected therapy but also to facilitate optimisation of the secondary prevention in the community.² The NICE guidelines recommends communicating with GP surgeries via post- MI discharge summaries to achieve it.²

Methodology

55 patients who were admitted to the coronary care unit (CCU) with chest pain or ACS between April and May 2023 per admission records and had final diagnosis of NSTEMI or STEMI on their discharge summaries were included. The discharge summaries were checked for 6 main areas of advice to the GP surgeries outlined by the NICE for all patients presenting with MI (dual antiplatelet therapy and its duration, statins, ACEis/ ARBs, repeat blood tests and ACS follow-up).

Results

- 100% of the patients were discharged on appropriate dual antiplatelet therapy (DAPT).
 35% of the patients did not have
- clear documentation of DAPT duration.
- •91% of the patients were on maximum statin dose on discharge.
- •For only for 4% of the patients, GPs were advised to repeat lipid profile.
- •62% of the patients could have benefited from advice to their GPs for up-titration of ACE-i or ARB.
- 48% of the discharge summaries did not include advice for U&Es to be repeated following an ACE-I/ARB uptitration as an inpatient.
 40% of the patients did not have a documented ACS follow-up.





Conclusion

Our findings emphasise the untapped potential of post-ACS discharge summaries as a tool for enhancing collaboration between hospital specialists and GPs to better optimise ACS prevention and follow-up in the community.

An audit of cardiac risk stratification and surveillance in a tertiary oncology department in the UK

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INTRODUCTION

- Cardiovascular risk stratification and cardiac surveillance can prevent and facilitate early treatment of cancer therapy related cardiac dysfunction (CTRCD).¹
- Accordingly, the European Society of Cardiology (ESC) Cardio-Oncology guidelines recommend all anthracycline-treated patients should have a baseline transthoracic echocardiogram (TTE) with global longitudinal strain (GLS) measurement.²
- Patients at very high (≥20%) and high (10-19%) risk of anthracycline-related CTRCD should have a threemonth post treatment TTE, as well as measurement of NT-proBNP and/or cardiac troponin levels at baseline and before every subsequent chemotherapy cycle.²

AIMS

 To assess the extent of cardiovascular risk stratification and surveillance in a population of doxorubicin-treated patients at a tertiary oncology department in the UK.

METHODS

- Patients had to be at least 18 years old and have received a doxorubicin-containing chemotherapy regimen between January 2020 and January 2021 at a single tertiary centre in the United Kingdom.
- Baseline TTEs and cardiac troponin/NT-proBNP blood tests could be no longer than 12 months prior to starting chemotherapy.
- All doxorubicin doses had to be administered at the same trust.
- We used the HFA/ICOS risk stratification tool³ to stratify patients by anthracycline-related CTRCD risk. Categories were: low (<2% risk), medium (2-9% risk), high (10-19% risk) and very high (≥20% risk).



- 353 patients meeting our eligibility criteria received doxorubicin treatment during the study period. 211 (59.8%) of these 353 patients had a baseline TTE. Of these patients, 89 (42.2%) had left ventricular GLS measured (Table 1).
- 46.4% of patients were deemed low risk, 31.8% medium risk, 18.0% high risk and 3.79% very high risk (Table 1).
- Of patients at high or very high risk of CTRCD, 10 (21.7%) had a baseline cardiac biomarker assessment and 1 (2.17%) had a cardiac biomarker measurement before every cycle. 16 had a TTE within 6 months after completing chemotherapy (Table 2).
- 10 of the 46 very high-risk and high-risk patients died within 6 months after completing chemotherapy. Cause of death was mostly related to oncological disease.



Figure 1 - Graphical representation of the variation of patient characteristics amongst patients who had a baseline echocardiogram and those that did not. Statistical calculations were performed using Fisher's Exact Test.

- Age and cancer type (solid vs haematological) did not differ significantly between patients who had had a baseline TTE and those who had not (Figure 1A).
- Female patients (OR: 1.705; 95% CI: 1.108 2.593; p<0.05) and patients who had survived to January 2023 (OR: 2.254; 95% CI: 1.447 – 3.531; p<0.0005) were overrepresented amongst the patients who did not have a baseline TTE (Figure 1B and 1D respectively).

CONCLUSIONS

- We show that baseline cardiac risk stratification and cardiac surveillance of doxorubicin-treated patients was not at the current standard set by the ESC guidelines.
- Insufficient baseline echocardiography and biomarker measurement likely means that patients were not risk stratified optimally. Infrequent cardiac surveillance likely represents missed opportunities to start early cardioprotective therapy, which can have prognostic benefit.⁴
- However, this study covers a period during the COVID-19 national lockdown and before the publication of the ESC Cardio-Oncology guidelines, so it is highly likely that cardiac risk stratification and surveillance has since improved.
- Future work should include a repeat audit as well as further elucidating the barriers to effective risk stratification and cardiac surveillance of anthracyclinetreated cancer patients.
- In the current study, both female patients and those with favourable survival prognosis were less likely to be fully risk stratified. This may be because they were deemed lower risk. Additionally, female patients may more often present with advanced disease requiring prompt treatment.

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IMPROVING THE CARE OF THE DETERIORATING CARDIOLOGY PATIENT USING SIMULATION-BASED EDUCATION: A QUALITY IMPROVEMENT PROJECT



Background

Simulation-based education is *valuable tool for modern medical education* and provides an opportunity for healthcare professionals to *demonstrate and develop skills in a safe environment*⁽¹⁾. It is a *popular technique to teach emergency scenarios*, which can be life-threatening in a deliberate manner to allow mastery of a complex and stressful situation ⁽²⁾.

Problem?

- Acute cardiological problems are common
- Increasing volume of complex interventional cardiac procedures, CHIP and TAVI $^{\rm (3)}$
- Doctors-in-training are managing more complex cardiovascular emergencies, with minimal prior exposure.

Overall aim?

 Improve confidence, attitude, and knowledge of managing acute cardiovascular emergencies through simulation-based teaching using simulation-based education.

Solution?

 Develop bespoke, effective simulation-based teaching programme for doctors-in-training (FY and IMT grades)



Figure 1. A cardiac emergency simulation in action!

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5

4.75

Scale

^{4.5}

4.25

Λ

1st Pre

during the project

Method

Plan: In conjunction with *QI methodology*, we identified the care of patients could be improved with simulation scenarios developed based on *identified* departmental learning events from previous cardiac emergencies.

Do: Emergencies included acute pulmonary oedema, inferior myocardial infarction and arterial haemorrhage post TAVI.

Act: Scenarios were *multi-disciplinary* team-based, had dynamic timelines with an interactive mannequin, pre-programed vital signs and dynamic clinical courses depending on management (Figure 1).

Study: Feedback collected pre- and post-simulation sessions via a Likert style measure (5 point scale), *assessing confidence, attitude, skills* (Figure 2) and open answer feedback.

Attitude

• I would like more

simulation teaching

during my rotations

Simulation is a good

way to learn how to

s beneficial

approach emergencies

Simulation sessions with

a multidisciplinary team

Likert Scale

1 – Strong Disagree

3 – Neither disagree or

2 – Disagree

agree

4 – Agree

Figure 2. Demonstrating the domains assessed during a

5 – Strong Agree

Confidence

I am confident looking after

unwell cardiology patients

cardiac emergency

cardiac emergency

patien

I am confident with the

I am confident in safely

• Following an ABCDE

• Using a defibrillator

in an emergency

Assessing Shock

team

· I am confident in recognising a

I am confident in managing a

emergency handover of a sick

Skills

approach in an emergency

Recognising cardiac rhythms

Assessing Breathlessness

Communicating with the

5-point Likert scale.

Results

Two cycles completed with *overwhelming positive attitude towards simulation teaching.* Overall, confidence improved by 24% compared to baseline confidence levels (Figure 4).

This included combined measures such as confidence managing unwell cardiac patients, using a defibrillator, and escalating an unwell cardiac patient.

Every doctor-in-training strongly agreed that simulation was a good way to learn after the final session.

Comments such as "I'd like more!" and "Useful to have these sessions on a regular basis", highlighted positive and successful feedback.

1st Post

Time of feedback

Desire for more simulation teaching

Figure 3. Demonstrating the change in attitude measures

----- Simulation is a good teaching method

----- Multidisciplinary simulation is beneficial

Attitude Measures

2nd Pre

2nd Post



Figure 4. Demonstrates the improvement in overall group confidence during the project.

Conclusion

Simulation-based education improves confidence and provides a safe, controlled, and nurturing learning environment for doctors in training.

This technique for learning is a desired, rewarding, and *effective method to improve clinical care and trainee satisfaction during a cardiology rotation* (Figure 3).

Future directions?

Regular (monthly) provision of simulation session for doctors-intraining rotating through the cardiology department,

Expanding the range of scenarios, and our expertise in delivering realistic, *meaningful* training

We also plan to pilot multi-disciplinary team-based scenarios involving *nursing staff and allied healthcare professionals*, by working with the Cardiothoracic Nurse Practice Educator

Developing a formal *Cardiology Skills Days* with the Simulation Skills Department

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An audit on clinical characteristics and hospital course of patients admitted with Hyponatremia



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St John of God Hospital

INTRODUCTION

Hyponatremia, a serum sodium (Na) concentration less than 135mmol/L, is the most common electrolyte abnormality in current clinical practice.

The objectives of this audit are

- To investigate the frequency, clinical, biochemical characteristics, underlying diagnosis and clinical outcomes, and patient profiles of 30 hyponatremic patients.
- To classify which treatment regime and correction rate was followed as per European Society of Endocrinology Guidelines.

MATERIALS AND METHODS

We classified the patients of hyponatremia into the following Severe (26.75)

RESULTS AND DISCUSSION

Figure illustrates the number of patients as per clinical, and demographic characteristics and treatment administered in 30 hyponatremic patients.

The Carl State of the State of	Mild >130	Moderate 125-129	Severe <125
No. of patients	6	16	8
Age	60±2	58±6	65±4
Sex			
-Males	4	10	5
-Females	2	6	3
Volume status			
-Hypovolemic	2	5	6
-Euvolemic	2	7	1
-Hypervolemic	2	4	i
Densting	A Shared to a state		
Duration	A TRUE OF STOPPORT		IN YORK OLD
-Acute	3	9	7
-Chronic	3	7	1
Symptomatic			
-Yes	1	3	7
-NO	5	13	
Treatment administered.			
	世代語道の世界を見ていた。		
fluid restriction	6	15	6
-0.9%Nacl	3	11	0
-3% Nacl	ő	2	4
-drugs (mannitol, tolvaptans)	2	3	2
Rate of correction	and the second s		
- <4 mmol/L	5	5	4
- 4 to 8mmol/L	1	6	1
- >8mmol/L	0	5	3
	TET ANTI THE		The second second
Complications after			
treatment	Contraction of the second		
noutrion	6	0	5
-No	0	2	3
-Yes			

CONCLUSION

Following European society of Endocrinology guidelines, in our audit we saw

- no treatment modality stood as the absolute gold standard or benefit in our audit; hence we saw that more than one regime was meticulously used in most patients to reach the Na target.
- **>50%** of patients had hyponatremia detected incidentally on routine biochemical tests, consistent with the literature.
- This audit is directed for doctors to know recent treatment guidelines for diagnosing, classifying and managing hyponatremia patients





Pre-biologic assessment of adherence in severe asthma and association with biologic response – a UK Severe Asthma Registry Study

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INTRODUCTION

- Biologic therapies are approved for severe asthma that remains uncontrolled despite optimization and adherence to inhaled corticosteroids (ICS) and additional controllers.
- We determined the pre-biologic adherence assessment methods used at UK Severe asthma Centres and examined the relationship between adherence to ICS and biologic continuation.

METHODS

- We included all adult severe asthma patients and surveyed 21 severe asthma centres from the UK Severe Asthma Registry (UKSAR), which recorded pre-biologic adherence using medication possession ratio (MPR), FeNO suppression testing and serum prednisolone level.
- Adherence was defined as ≥75% MPR to ICS over the 12-month period prior to baseline visit or a negative FeNO suppression test in patients who had baseline FeNO of ≥45ppb. Adherence to oral corticosteroids was defined as a detectable serum prednisolone level.
- Response to biologic treatments was assessed during follow-up visits and defined as continuation of biologic at annual review.
- Multivariable logistic regression was used to examine the relationship between pre-biologic adherence and biologic continuation at one year.

Figure 1. Methods used for pre-biologic adherence assessment at 21 severe asthma centres – survey results.



Table 1. Adherence testing in patients who initiated biologic therapy (n=3,353)

	Adherence test indicated (n)	Adherence result recorded (n)	n (%)
MPR to ICS	3,307	1,943 (58.8%)	
<75%			141 (7.3%)
≥75%			1,802 (92.7%)
FeNO suppression test	1,166	110 (9.4%)	
Positive			68 (61.8%)
Negative			42 (38.2%)
Prednisolone level	1,733	272 (15.6%)	
Undetectable			≤5 (≤1.8%)
Detectable			≥267 (≥98.2%)

 Table 3. Logistic regression results for associations between pre-biologic

 adherence test results and continuation of biologic therapy at annual review

(n=1,237)	n	Univariable model* OR (95% Cl)	p	Multivariable model OR (95% CI)	p
MPR to ICS (%)	569		0.033		0.046
<75%		1		1	
≥75%		2.82 (1.09,7.31)		2.65 (1.02,6.91)**	
FeNO suppression	51		0.882	‡	‡
test		1			
Positive		1.15 (0.17,7.92)			
Negative					
Prednisolone level	118	+	1.000	‡	‡
Undetectable			+		

	n	MPR% to ICS ≥75% (n=1,802)	MPR% to ICS <75% (n=141)	p
Gender	1,943			0.538
Female		1,103 (61.2%)	90 (63.8%)	
Male		699 (38.8%)	51 (36.2%)	
Age at first assessment (Years)	1,943	53.0 (41.0,62.0)	48.0 (34.0,56.0)	<0.001
Duration of symptoms from	1,712	24.0 (10.0,39.0)	16.5 (6.0,29.0)	<0.001
baseline (Years)				
Smoking status	1,869			0.388
Never		1,102 (63.5%)	93 (69.4%)	
Current smoker		566 (32.6%)	37 (27.6%)	
Ex-smoker		67 (3.9%)	4 (3.0%)	
BMI (kg/-m²)	1,877	29.7 (25.8,34.9)	29.4 (25.1,33.6)	0.280
Comorbidities	1,943			
Depression or anxiety		138 (7.7%)	8 (5.7%)	0.389
Gastro-oesophageal reflux		248 (13.8%)	32 (22.7%)	0.004
Hypertension		143 (7.9%)	14 (9.9%)	0.403
Nasal polyps		416 (23.1%)	22 (15.6%)	0.041
Rescue OCS in last year	1,866	5 (3,8)	5 (3,8)	0.543
Invasive ventilation ever	1,776	185 (11.2%)	17 (14.3%)	0.300
Any hospital admission for asthma (Last year)	1,833	646 (37.8%)	58 (46.0%)	0.068
Daily OCS	1,935	905 (50.4%)	68 (48.9%)	0.739
Long-acting beta-agonist	1,919	1,597 (89.8%)	111 (79.3%)	<0.001
Long-acting anti-muscarinic	1,918	1,150 (64.7%)	77 (54.6%)	0.016
Biologic initiated after	1,818	, , , ,	× /	
assessment				
Omalizumab		294 (17.4%)	11 (8.7%)	<0.001
Mepolizumab		602 (35.6%)	40 (31.5%)	
Benralizumab		788 (46.6%)	75 (59.1%)	
Reslizumab		3 (0.2%)	0 (0%)	
Dupilumab		4 (0.2%)	0 (0%)	
ACQ-5 score	1,670	3.8 (2.8,4.8)	3.8 (3.0,5.0)	0.487
FeNO (ppb)	1,406	43.0 (23.0,79.0)	53.0 (28.0,92.0)	0.031
Spirometry				
FEV1 (L)	1,878	1.9 (1.4,2.5)	2.1 (1.5,2.7)	0.035
FEV1 % Predicted (%)	1,816	66.5 (51.5,81.3)	68.0 (52.3,85.3)	0.212
FEV1/FVC (%)	1,830	64.2 (53.4,72.6)	68.0 (58.3,75.4)	0.001
Blood eosinophil count	1,900	0.40 (0.20,0.67)	0.40 (0.14,0.63)	0.192
(N/10 ⁹ L)				
Highest blood eosinophil count	1,913	0.67 (0.40,1.00)	0.76 (0.50,1.20)	0.004
(N/10 ⁹ L)				
Total IgE (IU/mL)	1,854	158 (53,414)	176 (55,419)	0.861

Table 2 Baseline characteristics of patients on biologic therapy according to

RESULTS

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- According to the survey, 19 centres (90.5%) used MPR and 9 centres (42.9%) used FeNO suppression to assess pre-biologic adherence to ICS; 15 centres (71.4%) used prednisolone and/or cortisol level to assess adherence to daily oral corticosteroids [Figure 1].
- Of the 4,972 patients included, 67.4% (3,353) were initiated on biologics. 58.8% (1,943) of those on ICS had MPR recorded; 9.4% (110) with baseline FeNO ≥45ppb underwent FeNO suppression testing; and 15.6% (272) of daily oral corticosteroids patients had serum prednisolone recorded on the UKSAR [Table 1].
- A comparison of biologic patients adherent to ICS versus those who were non-adherent to ICS (according to MPR) is shown in Table 2.
- The adjusted odds of biologic continuation were 2.65-fold higher (95% CI 1.02, 6.91) in patients who were adherence to ICS, according to MPR, compared to those who were not [Table 3].



- Medication possession ratio to inhaled corticosteroids was the most commonly used form of adherence assessment prior to biologic initiation at UK Severe Asthma Centres.
- Good pre-biologic inhaled adherence to corticosteroids associated with biologic was continuation, underscoring the importance of adherence assessment in severe asthma management.

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* Adjusted for specialist centre. ** Adjusted for age, sex, hospital, oral steroids at baseline. ‡ OR inestimable or not estimated due to small numbers/sparse data † Fisher's Exact Test ABBREVIATIONS: ACQ, Asthma Control Questionnaire; BMI, Body Mass Index; FeNO, Fractional exhaled nitric oxide; ICS, Inhaled corticosteroids; MPR, Medication possession ratio; OCS, Oral corticosteroids.





Improving the Discharge Summaries within the Cardiology Department in a Tertiary Hospital

Guy's and St Thomas' **NHS Foundation Trust**

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Introduction

General Practitioners raised concerns that discharge summaries from the cardiology department are too long with containing excessive/ confusing cardiology jargon, including copying, and pasting entire reports, and no follow up plan or pint-of-contact number if there is any concern. As a result, the concern from a patient safety perspective was that pertinent information to the GP may not be recognised. Local patient safety team has suggested to conduct the audit/ quality improvement (QI) project to review the quality of the discharge summaries within the department.

Objective

To improve the discharge summaries within the cardiology department to streamline the handover process to the GP colleagues.



Conclusion

The results of our QI project showed an overall improvement in the discharge summaries within the cardiology department. Regular monitoring of the quality of discharge summaries and frequent reminders are essential for sustainability and maintaining the compliance.

This type of QI project should be expanded to improve the quality of hospital discharge summaries within the NHS.

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cycle.

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INTRODUCTION

• Infection is known to be a major complication of haematological conditions such as chronic lymphocytic leukaemia (CLL) and multiple myeloma (MM). Overall, this increases a patient's morbidity and mortality risk and can lead to a delay in treatment.^{1,2,3}

BACKGROUND

- Current guidance on infection prevention in these vulnerable groups include hepatitis B and C and HIV testing prior to treatment, 4.5 vaccination against influenza, pneumococcal, varicella zoster virus (VZV) and COVID-19, 4.5.6 promotes the use of levofloxacin, anti-fungal and anti-viral in intermediate and high-risk groups.7,8
- Eligibility of use of immunoglobulin (Ig) replacement therapy in secondary immunodeficiencies factors in cause and degree of hypogammaglobulinaemia, recurrence and severity of bacterial infections despite continuous oral antibiotic prophylaxis for 6 months and failure of response to vaccines.⁹
- This quality improvement project focused on steps taken to reduce risk of infection in patients newly diagnosed with CLL and MM.



METHODOLOGY

Retrospective study

- 75 patients who received a new diagnosis of CLL and MM and treated in
- BHRUT in the year 2021 were studied
- 26 with CLL and 49 with MM.

• Clinic letters, discharge summaries, pathology data and GP records were used to collect data reagrating pre-treatment viral screen, vaccination, prophylactics, IgG measurement and license for therapeutic Ig use.

23



1. Frimley Health NHS Foundation Trust		asymptomati management
2. University Hospitals Plymouth NHS Trust	Advice on routine vaccinations	18.4% (9/49) Mostly advis
3. Barking Havering Redbridge University Hospitals NHS Trust	Target: 80%	COVÍD
	Vaccination against influenza	90.5% (38/42
RESULTS:	Target: 90%	access to thei
• It was found that in both groups patients rarely received advice on routine vaccination in their clinic letters (30.8% in the CLL group and in the 18.4% MM group), though most	Vaccination against pneumococcal	17.1% (7/41)
were encouraged to take the Covid vaccine	Target: 90%	5 of which re
 Pneumocorcal and VZV vaccination rates were far below the target rates (only 1 in the CLL group and 17.1% and 4.88% respectively in the MM group) 		8 not include
Presence to vaccination is not reported in reuting practice	Nasalasilas assist COMP	00.20/ (27/4)
• Response to vaccination is not recorded in routine practice.	Vaccination against COVID	90.2% (37/4) 8 not include
• Post treatment igG measurement fell below the target rates (46.4% in the MM group with a target of 80%).	Target: 90%	access to their
 Prophylactic antimicrobial use was recorded in only of 3 receiving treatment in the CLL group, 25% received antibiotic and 39.3% antiviral in the MM group, no antifungals were 	Vaccination against VZV	4.88% (2/41)
prescribed to those receiving treatment across both groups.	Target: 90%	access to the
• 6 of the 26 CLL patients had infections in the community of whom 1 required 5 courses in the community, 2 required inpatient stays. The other patient was on expectant	Measurement of response to vaccine	0% (0/49)
management and had 2 inpatient stays. 7 in the MM group needed antibiotics in the community and 14 needed inpatient stays. In the MM group, there were 2 deaths that were		Unable to ac
secondary to sepsis.	GCSF use in prolonged neutropenia	was used, i.e letters or GP
	post-chemo	as a TTA in c
	Target: 90%	
Results	Prophylactic antibiotic use	25.0% (7/28) 5 were given given levoflo
Licensed for the sense title is use		received Len
	Prophylactic antifungal use	0% (0/28)
	Prophylactic antiviral use	39.3% (11/28
Number of informations tracted in boarding to the second s		All were give
Number of infections tracked in hospital		
Number of meetions in the community		14 3% (7/49)
Prophylactic antiviral use	Number of infections in the	the communi
Prophylactic antifung al use	community	chemotherap
Prophylactic antibiotic use		
GCSF use in prolonged neutropenia post-chemo		
Measurement of response to vaci ne		
Vaccination against VZV	Number of infections treated in	28.6% (14/49 stays to mana
Vaccination against COVID	hospital	the 14 was or
Vaccination against pneumococcal	IgG measurement (pre-treatment)	91.8% (45/49
Vaccination against influenza	Target: 80%	measurement
Advice on routine vaccinations	IgG measurement (post-treatment)	46.4% (13/28
Hepatitis and HIV screen (pre-treatment)		
0% 20% 40% 50% 80% 100% 120%	Target: 80%	
	Licensed for therapeutic Ig use	0% (0/49)
Target MM CLL		1

DISCUSSION

• Large proportion of covid and influenza vaccination despite low percentage of vaccination advice on letters may indicate that advice was given but not recorded Unfortunately, we were unable to fully access if GCSF was used as they are often prescribed as a takeaway prescription in clinic.

- None of the patients in the CLL group had recurrent or severe infections and were not on BTK inhibitors. Hence, prophylactic treatment was not warranted, only 1 out of the 3 patients on chemotherapy received co-trimoxazole and aciclovir and their chemotherapy regime was FCR. It should be noted that most of the CLL patients were on expectant management.
- Unlike CLL, MM is associated with a greater risk of infection, especially during the first 3 months of diagnosis with infection being a big contributor to early mortality. • Currently the European auidance advises a stratified risk approach to prophylactic prescribina, Risk stratification is multifactorial and takes into account age, co-morbidities, performance status, disease burden and the genetic abnormality associated with the malignancy.
- Less than half of MM on chemotherapy were receiving prophylactic antibiotics and anti-virals and none were receiving antifungals. This is difficult to interpret without understanding their myeloma risk, however based on recent evidence, prophylactic use of levofloxacin may increasingly be practised irrespective of their risk.
- It should be noted that some prescriptions are given in the outpatient setting as a paper prescription and our data may be an under-representation of prophylactic antimicrobial use
- All CLL patients that were treated for infections did not have any evidence of hypogammaglobulinaemia
- Overall, there was no evidence of recurrent, severe infections in the CLL group.
- In the MM group, there were 2 deaths that were secondary to sepsis. Both were having ongoing chemotherapy and had completed 3 cycles of VTD. Neither had hypogammaglobulinaemia pre-treatment. We were unable to access the vaccination records for both patients. One patient did not have any antimicrobial prophylaxis, whereas the other patient was on prophylactic aciclovir only. The other MM patients that required antibiotics mostly reported 1-2 unwell episodes, none of which were severe. Out of the 14 patients that required antibiotics, only 1 was on expectant management, the rest had ongoing chemotherapy.

• These observations further support the vulnerability of the MM group, especially those receiving chemotherapy and supports the idea of increased measures in infection prophylaxis

Improvement is needed in measuring Ig levels post-treatment. This is important as it can help highlight patients with possible secondary immunodeficiencies

Measures for infection prevention Hepatitis and HIV screen (pre-90.9% (26/28) 0% (3/3) led as they wer uded as they wer 30.8% (8/26) Mostly advised to vaccinate again: COVID ed to vaccinate agains 86.4% (19/22) 4 not included as we did not have access to their records) I as we did not have 5% (1/22) Was on expectant managemer eived single dose eived 2 doses d as we did not have 4 not included as we did not have records ess to their records 91.7% (22/24) 2 not included as we did not have access to their records , I as we did not have 4.55% (1/22) 4 not included as we did not have access to their records d as we did not have urately assess if GCSF not recorded in clinic Jnable to accurately assess if GCSF vas used, i.e not recorded in clinic etters or GP records. Often prescrib ecords. Often presc s a TTA in clinic o-trimoxazole, 2 wen azole. Cheme as given co-tr - FCR 6 (0/3 time patient as the one that was give aciclovir -trimoxazol 23.1% (6/26) required antibiotics in he community. 1 of which had eccived chemotherapy (1 cycle of R Bendamustine). Most patients had 1-nfections. One patient required 5 ourses in the community required antibiotics in ty. 2 were on expectant whilst the others were of 7% (2/26) required inpatient stays anage their infection. Both did not manage their infection. Both did not have hypogammaglobulinaemia. I of them had received chemotherapy (1 cycle of R-Bendamustine) and 1 inpatient stay. The other patient was on expectant management and had 2 investigate them. required 1-2 inpatient ze their infection, 1 of atient stays 65.4% (17/26) 2 out of the 3 that had chemotherapy had a pre-treatment measurement , that did not have an IgG Only 3 patients received chemotherapy. The rest were expectant management (0/26)

Results in MM

Results in the CLL group

levels it can help highlight patients with possible secondary immunodeficiencies. Disseminating awareness among health care professionals about current guidance and routinely auditing infection

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Smoking status documentation and nicotine-replacement prescription review on a respiratory admissions unit, a quality

improvement project.

Authors: Leonard Ron Chieng, Arkadeep Dhali, Adam Sharif, Charlotte Ford Institution: Nottingham University Hospitals NHS Trust



Cigarette smoking continues to be the primary reason for early mortalities across the globe. It is unmatched in generating premature and avoidable ailments, impairment, and mortality, especially linked to heart and lung conditions as well as cancer.

Introduction

Hence, a quality improvement project on the documentation of smoking status and nicotinereplacement prescriptions for patients admitted to the respiratory admissions unit at Nottingham University Hospitals NHS Trust was conducted with the aim to improve treatment of patients who are tobacco-dependent.

Methods

Data was collected on 99 patients over a 3-week period on a respiratory admissions unit based on respiratory medical notes and the hospital electronic health record system, Nervecentre. Information collected includes age, gender, NEWS on admission, smoking status of patient, quantity and duration for active and ex-smoker, action plan documented for active smokers, smoking status documented locations, community smoking cessation therapy referrals, relevant comorbidities, working diagnosis, nicotine replacement therapy offered, accepted and

prescribed.

Action plans to educate doctors and nurses about the importance of smoking documentation and to encourage the distribution of smoking cessation leaflets to patients were implemented after analysing the information collected.

A repeated collection of data for another 100 patients was conducted after 3 months.

Acknowledgements

Supervisor: Dr Harry Pick, Respiratory consultant

Other supporting staff: Morton Ward staff and Nottingham University Hospitals NHS Trust Clinical Governance team

Conclusion

cycle of OIP

Smoking status documentation is essential for patients as it helps with the process of formulating diagnoses and treatment plans. Prescribing nicotine replacement therapy (NRT) helps with smoking cessation hence improves the outcomes for patients. This QIP proves that education and awareness among colleagues along with supplementary leaflets provided helps with the compliance of smoking status documentation and NRT prescriptions.

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Results

Data collected from the first and second cycle of the QIP was compared.

Smoking status

the number of smoking status documentation on Morton Ward RAU improved significantly with the number of undocumented smoking statuses reduced from 16/99 (16.2%) to only 5/100 (5.0%) in the second cycle.

Nicotine replacement therapy (NRT)

There was a slight increase in the number of NRT offered to active smokers from 20/22(90.9%) to 21/22(95.5%) in the second cycle. It was also noted that there was an increase in the number of active smokers that accepted the NRT offered from 7/20(35%) to 9/21(42.9%) patients.



of the QIP.

Introduction

- The incidence of ischaemic stroke under the age of 55 has almost doubled during the last decade- compared with two decades earlier.¹
- Cryptogenic strokes (CS) account for almost 40% of all ischemic strokes.
- PFO is strongly associated with CS in young subjects.²
- Transcutaneous PFO closure showed benefits to prevent recurrent stroke in several studies.
- Transthoracic echo (TTE) and transoesophageal echo (TEE) were the only diagnostic tools for PFO until the development of transcranial Doppler (TCD) in 1982.

Aim of the work

- TCD is a sensitive technique for real time detection of microembolic signals.
- Only few stroke units in the UK has TCD
- As a quality assessment project, we compared the TTE/TEO that are used to screen for PFO in the UK with the TCD used in most of the stroke units worldwide.

Is Transcranial Doppler Underestimated in the Stroke Units in the UK?

Marwa Ahmed Eltemamy

ST3 Rehabilitation Medicine Trainee, St Helen and Knowsley Teaching Hospitals

Results

•Sensitivity is 94% •The gold standard for the detection of PFO • Low sensitivity (45.1%) because of direct visualization of the heart structures and assessment of PFO size. •Specificity is 92% • Very high specificity (99.6%) for PFO •A sensitivity of 89.2% and a specificity of 91.4% detection. to detect PFO. • It is the only diagnostic modality that •Has oesophagus-related contraindications and proves the embolismic potential of • Even when it is performed with a has some limitations when the patient is right to left shunt (RLS) to the target contrast agent and right-to-left shunt uncooperative because of sedation or organ (brain) and quantifies the (RLS) provoking manoeuvre, it is still a dysphagia. May have rare but serious burden of embolism. poor screening tool for PFO. complications. TEE TTE TCD

Conclusion

TCD is more sensitive to detect PFO compared with TTE and TEE (94% versus 45.1% and 89.2% respectively)³. PFO detection is one of the indications for the use of TCD in stroke units. TCD could be worthy as the financial burden of recurrent strokes highly outweighs the price of the machine.

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Impact of COVID-19 on Motor Neurone Disease Services in A Tertiary Neurological Centre

Ting MYH¹. Pereira R¹. Barritt A². Moulder L³

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Introduction

A diagnosis of motor neurone disease (MND) takes an average of 1-16 months from symptom onset. Early diagnosis is important to access supportive measures to maximise quality of life¹.

Aims

- To evaluate the impact of the COVID pandemic on local MND services
- To generate recommendations on reducing diagnostic delay and preparation for future pandemics in managing local MND services

Methods

All patients with motor neurone disease admitted to the neurological ward from September 2018 to September 2021 were included in this audit.



The aspects evaluated were the type of admissions (emergency versus elective), diagnostic delay, specialties referred prior to diagnosis, length of admission and referrals for non-invasive ventilation and gastrostomy services.

Results

Type of admissions

There were more emergency admissions during the pandemic period (13/16) compared to the pre-pandemic period (8/14). Diagnostic delay

Surprisingly, there was a shorter average diagnostic delay during pandemic period at 42(21-144) weeks in comparison to the pre- pandemic period at 63(13-60) weeks. This could be because the patients included in the pandemic period were skewed towards those requiring urgent admission for diagnostics or those with bulbar involvement.

Referral to other specialties

The main cause of diagnostic delay identified across both cohorts was seeing multiple other specialists prior to seeing a neurologist for a diagnosis of motor neurone disease. 17 out of 30 (57%) patients saw a different specialty prior to being referred appropriately to a neurologist.

Teams seen prior to		
 Neurosurgery General Medicine SALT Dietitian 	Period	No. of patients seen by a different specialty
• ENT	Pre-pandemic	6/14 (43%)
T&OOphthalmology	Pandemic	11/16 (69%)

Length of admission

The average length of admission was shorter during the pre-pandemic period at 9(1-47) days as a larger proportion of the patients were investigated as an outpatient first followed by a planned admission. During the pandemic period, this was longer at an average of 26(6-56) days.

Non-invasive ventilation(NIV) and gastrostomy services

In Scotland, a clinician survey done on MND services such as respiratory function tests, NIV and gastrostomy were identified to be the worst affected services during the pandemic². In our unit, patients with respiratory compromise were referred for NIV assessment to a separate tertiary centre and dysphagic patients were diverted to local gastrostomy services. The outcomes are listed in Table 1.

	Pre-pandemic	Pandemic
Total number of King's ALS Stage IV patients ³	3	8
Outcomes	1 died prior to receiving any intervention 1 was started on NIV as an inpatient 1 received both NIV and gastrostomy as an inpatient	1 died prior to receiving any intervention 2 patients declined all interventions 3 patients had an inpatient gastrostomy 1 was started on NIV as an inpatient 1 was started on NIV as an outpatient

Table 1: Comparison of MND services between the pre-pandemic and pandemic period.³King's ALS Clinical Staging Stage IV refers to patients with bulbar involvement requiring respiratory/gastrostomy support. Dead Alive

Total deaths/Inpatient deaths

The primary cause for the 3 inpatient deaths in the pandemic cohort were listed as motor neurone disease, with only one death listing COVID as a contributory cause. A study in Scotland concluded that the all-cause mortality in MND had been unaffected by COVID-19².



Total deaths by October 2022

NHS

University Hospitals Sussex

Discussion

- Possible causes of diagnostic delay identified include multiple specialist referrals and misdiagnosis
- The proportion of pandemic cases was evidently skewed towards those needing urgent admission for diagnostics and those with bulbar involvement possibly contributing to the higher total deaths seen
- During the pandemic, more patients were being seen by other specialty teams prior to a neurologist which is possibly owing to reduced GP face-to-face appointments to best guide the appropriate initial referral to the right specialty

Conclusion

- It highlights the importance of education and awareness of MND among healthcare professionals to facilitate early referrals and subsequently early access to supportive services
- There should be local pathways for non-invasive ventilation initiation and gastrostomy services for MND patients
- For future pandemic preparedness, GP services should review patients with bulbar problems face-to-face

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East Sussex Healthcare

Recognition and management of AKI in hospitalised patients

Waqar M, Robinson J, Tang WX, Mohammed Y, Jullian L, George O, Gunjal A, Morje M, O'Rinn D, Abousamra A, Davies J

Background

- Acute kidney injury is the sudden loss of renal function causing accumulation of urea and creatinine, often with reduced urine output.
- AKIs account for 2.4% of UK admissions, are multifactorial in cause, and prevalence is rising due to multimorbid populations.
- Timely recognition and management is vital to prevent permanent nephron damage.

Aims

- Evaluate the management of AKI patients in hospital from time of admission.
- Identify reversible causes of AKI.
- Improve trust-wide management of AKI

Method

References

- Data was collected using a tool designed with 2009 NCEPOD standard toolkit.
- Data was obtained from online and paper notes, drug charts, and investigation results.
- Recommendations from cycle 1 included updating the AKI protocol on the Extranet, and emailing protocols and results to staff in the trust.

Results: good practice

- 70 patients were assessed over two cycles (cycle 1 n=20, cycle 2 n=50).
- Good practice was observed across multiple domains in both cycles.
- Similar levels of AKI improvement were observed in both cycles (cycle 1: 80%, cycle 2: 76%).

Areas of improvement Cycle 1 vs. Cycle 2



Results: areas for improvement

- No renal imaging performed in 58% of patients.
- AKI stage not documented in 46% of patients.
- No fluid balance chart recorded for 32% of patients.
- 12% of refractory AKI patients were not discussed with specialists.

AKI Care Bundle
Recognition of AKI
U+Es reviewed
AKI stage recorded
Urine dip recorded
VBG/ABG performed
Fluid assessment recorded
Bladder scan performed
Management of AKI
Fluids given if dehydrated
Medication review for nephrotoxics
Fluid balance chart
Renal imaging if obstructive cause
If kyperkalaemia, treatment prescribed
If critical, discussed with specialist

Conclusions

- Recognition and management of AKI was improved following the introduction of a clinical toolkit.
- Management is multi-stage so ongoing auditing is essential.

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Iron Therapy in Heart Failure Patients Challenging logistics, invaluable benefits

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INTRODUCTION

More than a million people in the UK are living with heart failure (HF) and it accounts for one million bed days per year which is 2% of the NHS total and 5% of all emergency admissions to hospital. HF accounts for approximately £2bn per year.^{1,2} Iron deficiency anemia is common in HF and is independently associated with HF re-hospitalizations. The European Society of Cardiology (ESC) recommends that all patients with HF are screened for anaemia (Class I. Level C) and if iron deficiency anaemia is identified, recommends consideration of intravenous (I.V) ferric carboxymaltose (FC) for improvement of symptoms, exercise capacity and guality of life in patients with a left ventricular election fraction (LVEF) of <45% as well as reducing re-hospitalizations even in patients with an LVEF of 50% (Class IIa, Level IIA,B). 3

I.V FC administration usually requires two doses a week apart. With ever increasing demands on all NHS services, the logistics of offering this service efficiently cannot be under-estimated. However, neither should the benefits.

We therefore carried out an audit to evaluate our hospital's adherence to these ESC quidelines with the aim of developing strategies to streamline delivery of the HF I.V FC service and reduce HF re-hospitalizations.





Etrack for Echo with an LVEF <45%

ICE for Hb, Ferritin, iron studies -TSAT

Evolve for Ferinject prescription on drug chart

Microsoft Excel for data analysis

CONCLUSION

For the patient, the benefits of I.V iron therapy on symptoms/quality of life is immeasurable, for the hospital, reducing HF re-admissions is invaluable.

RESULTS

業

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Despite many patients meeting criteria for I.V FC, with no contraindications, this audit highlights the suboptimal adherence to ESC guidance. Breakdown in adherence occurred at all stages. Only 69% of eligible patients had their initial ferritin screening. The main reason was a lack of awareness, particularly in noncardiology wards/ outliers, highlighting the importance of a heart failure team. There is an increasingly higher volume of admissions, and not all HF admissions make it to a cardiology ward and often due to staffing shortages, not all HF patients get a heart failure specialist review prior to discharge ⁴ Education of all medical teams is therefore key in this regard.

Secondly often patients require at least one outpatient dose of FC, in most centers, this service is usually run by ambulatory care which is already oversubscribed. We therefore aim to pilot the use of our new community heart failure hub



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Figure 1: Results showing the proportion of eligible patients n (%) who were given I V FC as well as the number of readmissions.

A Clinical Audit on Assessing the Severity of Acute Pancreatitis: Improving the Use of the Glasgow-Imrie Criteria and Patient Outcomes

Naadir Nazar¹, Phoebe Read¹, Charles Bailey¹

¹Maidstone & Tunbridge Wells NHS Trust

Introduction: Acute pancreatitis (AP) is one of the most common gastrointestinal conditions that causes hospitalization (1), it can progress to severe acute pancreatitis (SAP) which is defined by pancreatic and extra-pancreatic necrosis, ITU admission, multisystem organ failure and death. Overall mortality of AP is 2-8% (2) however when the cases become severe mortality rises up to 85% (3).

Severity should be predicted on admission using scoring systems such as the Glasgow-Imrie Criteria to appropriately risk stratify patients and ensure severe cases are reviewed and treated aggressively to prevent mortality.

Scores of \geq 3 are indicative of SAP and the patient requires review by both a senior doctor in the patient's parent team and an intensive care specialist to optimize treatment and determine the need for transfer to the intensive care unit.

Methods: We performed a 2-cycle closed loop audit on the practice of scoring surgical patients using the Glasgow-Imrie criteria. Each cycle was registered with our local clinical audit department (#1313, #1652, #2049).

This was an audit of 95 patients who were admitted to the general surgery department with acute pancreatitis at Maidstone & Tunbridge Wells NHS Trust over the course of six months.

Our initial intervention involved presenting at a local clinical governance meeting alongside posters and a departmental wide email to encourage the use of the score.

Our second intervention was the integration of an online scoring proforma on the electronic notes (Figure 1).

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To be completed within the first 48 hours from admission PaO2 less than 7.9kPa Patient is older than 55 ^Yes No WBC is greater than 15 x 10 ³ /µL (10^9/L) Calcium is less than 2mmol/L (8mg/dL) ^Yes No Serum urea is greater than 16mmol/L (BUN is greater than 44.8mg/dL) LDH is greater than 600 IU/L (AST or ALT is greater than 200 U/L) ^Yes No Albumin is less than 32g/L (3.2g/dL) Glucose is greater than 10mmol/L	Glasgow-Imrie Criteria for Severity of Acute Pancreatitis			
PaO2 less than 7.9kPa Patient is older than 55 C Yes No WBC is greater than 15 x 10 ³ /µL (10^9/L) Calcium is less than 2mmol/L (8mg/dL) C Yes No C Yes No Serum urea is greater than 16mmol/L (BUN is greater than 44.8mg/dL) LDH is greater than 600 IU/L (AST or ALT is greater than 200 U/L) C Yes No Albumin is less than 32g/L (3.2g/dL) Glucose is greater than 10mmol/L	To be completed within the first 48 hours from admission			
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WBC is greater than 15 x 10 ³ /µL (10^9/L) Calcium is less than 2mmol/L (8mg/dL) C Yes No Serum urea is greater than 16mmol/L (BUN is greater than 44.8mg/dL) LDH is greater than 600 IU/L (AST or ALT is greater than 200 U/L) C Yes No C Yes No Albumin is less than 32g/L (3.2g/dL) Glucose is greater than 10mmol/L	C Yes C No	C Yes C No		
C Yes C No Serum urea is greater than 16mmol/L (BUN is greater than 44.8mg/dL) LDH is greater than 600 IU/L (AST or ALT is greater than 200 U/L) C Yes C No C Yes C No Albumin is less than 32g/L (3.2g/dL) Glucose is greater than 10mmol/L	WBC is greater than 15 x 10 ³ /µL (10^9/L)	Calcium is less than 2mmol/L (8mg/dL)		
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C Yes C Yes C No Albumin is less than 32g/L (3.2g/dL) Glucose is greater than 10mmol/L	Serum urea is greater than 16mmol/L (BUN is greater than 44.8mg/dL) LDH is greater than 600 IU/L (AST or ALT is greater than 200 U			
Albumin is less than 32g/L (3.2g/dL) Glucose is greater than 10mmol/L	⊂ Yes ⊂ No	⊂ Yes ⊂ No		
	Albumin is less than 32g/L (3.2g/dL)	Glucose is greater than 10mmol/L		
C Yes C No	⊂ Yes ⊂ No	C Yes C No		
Glasgow-Imrie Score		Glasgow-Imrie Score		

Figure 1: Online scoring proforma implemented on trust e-notes





- % of patients scored using the Glasgow-Imrie criteria
- % of complete documentation
- % of scores \geq 3 escalated

Maidstone and Tunbridge Wells

Results:

- Prior to this audit, only **44% (22/50)** of patients with AP had been scored using the Glasgow-Imrie criteria. Post first intervention, **66% (21/32)** of patients had been scored. Post second intervention the use of the Glasgow-Imrie score was up to **77% (10/13)**.
- Accurate and complete documentation of the Glasgow-Imrie criteria improved from 78% prior to any interventions up to 100% by the end of our second cycle.
- Over the entire audit cycle there were a total of ten Glasgow-Imrie scores ≥ 3 and 4/10 scores ≥ 3 (40%) correctly predicted SAP.
- Only 17% of scores ≥ 3 were acted on or escalated prior to our audit. By the end our second cycle 100% of patients with scores ≥3 were reviewed by a senior and/or ITU/HDU. There were no deaths in our study.

Conclusion:

- The Glasgow-Imrie criteria is a reliable and straightforward way of predicting disease severity in patients admitted with AP
- Early recognition leads to earlier review and optimisation of management which improves patient outcomes.
- We aim to recommend other general surgical units to use this scoring system and a similar online template to ensure accurate and complete documentation of the Glasgow-Imrie score, and therefore severity of AP.
- Future work Using the same cohort of patients we aim to:
 - Compare the Glasgow-Imrie criteria with CRP>150 (up to 48 hours) to determine which is a more accurate predictor of SAP

Adherence to oxygen saturation models during COPD exacerbations and associated morbidity and mortality

Dr Philip Jones, Dr Ahmed Banat, Dr Elizabeth Anderson, Dr Ben Willis

Background

There can be a significant variation in both the prescription and administration of supplemental oxygen during COPD (chronic obstructive pulmonary disease) exacerbations. We aimed to assess current practices at Darlington Memorial Hospital compared to local guidance alongside morbidity and mortality data before making several interventions and re-assessing practice.

Methods

After local approval we used the electronic patient record to recruit all adult patients admitted with COPD exacerbations to the acute medical ward in October 2022. Interventions were made including nurse/HCA teaching, doctor teaching and by disseminating trust protocol in the emailed newsletter. Patients were then identified for July 2023 using the ward admission log.

Findings

From the 38 patients in the October cycle there were two patients who required NIV and one patient who died during their admission – of these patients one had an initial CO2 level of 15.5 and did not have their oxygen prescription adjusted to 88-92% for the first 26 hours of their admission. This compares to 17 patients being included in the second cycle with one death and one person requiring NIV - both of whom had a normal initial CO2 and were prescribed 88-92%. Over oxygenation was a significant issue identified in the first cycle with one patient with an 88-92% prescription having nine episodes of over-oxygenation, defined as consecutive sets of observations with oxygen saturations at 93% and over with supplemental oxygen unchanged, before requiring NIV. Across 252 patient days in the first cycle there were 91 episodes (1 episode per 2.8 patient days) of over-oxygenation. Moving to the second cycle there was a significant decrease in episodes of over-oxygenation with only 6 episodes across 88 patient days (1 episode per 14.7 patient days).



From the first cycle there were 21/32 patients (66%) who were prescribed oxygen as per trust guidelines compared to 8/17 patients (47%) in the second cycle. There was an overall increase in the proportion of patients with normal CO2 being prescribed 88-92% saturations from 6/32 (19%) to 10/17 (59%).



Conclusion

It was evident that there was work to be done to ensure that allied professionals recognised the need to down titrate oxygen therapy in over-oxygenated patients and given the results above it may be that the teaching methods used were successful in this regard. There was also a reduction in the adherence to trust guidelines during the QIP with a move towards prescribing normocapnic patients 88-92%. Despite this being against trust guidance there is emerging evidence that treating all patients with COPD exacerbations with target saturations of 88-92% may reduce mortality and this approach is endorsed by NICE (1,2). Moving forwards it would appear sensible to start regular teaching about over oxygenation and oxygen down titration given the seemingly beneficial effects of the intervention and it may be worth considering moving to 88-92% for all patients with COPD exacerbations given existing prescribing practices and recent evidence.

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Complications of Mechanical Thrombectomy in Ischemic Stroke: Prevalence, Types and Pattern

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¹Department of Stroke Medicine, Kent and Canterbury Hospital, East Kent Hospitals University NHS Foundation Trust

Introduction

- · Mechanical Thrombectomy (MT) is offered to patients with ischemic stroke due to large vessel occlusion.
- · Kent and Canterbury hospital works as "drip and ship" model where intravenous thrombolysis (IVT) is administered and transferred to Royal London Hospital for MT.
- · This audit was done to study the local protocol compared to national standards focussing on the numbers and pattern of complications that may arise from MT.

Aims

- To determine the number of stroke patients in Kent and Canterbury Hospital who are offered mechanical thrombectomy
- · To determine the prevalence and types of adverse events in patient who had mechanical thrombectomy
- To find out if there is aggregation of these adverse events to certain period of the day

Methods

- · Study type: Combination of Retrospective & Prospective study
- · Location: Stroke Resus, Hyperacute Stroke Unit (HASU), Acute Stroke Unit (ASU)
- Study Period: April 2021 to March 2023
- · Inclusion Criteria: All patients with confirmed stroke diagnosis who were registered in Sentinel Stroke National Audit Programme

Result

- Total No. of Stroke Patients: 1615
- Total No. of Ischemic Stroke: 1410 (87%)
- Total No. of Haemorrhagic Stroke: 179 (11%)
- Total No. Stroke type Not Listed: 26 (2%)
- Total number of Patients referred for MT: 123
- Percentage of Patients referred for MT: 123/1615 (7.6 %)
- Percentage of Patients who actually had MT: 98/1615 (6.1%)
- Percentage of Patients referred who actually had MT: 98/123 (79.7%)
- Percentage of Patient referred but did not have MT: 25/123 (20.3%)
- No. of Patients who developed complications after MT: 63
- Percentage of patients who developed complications after MT & IVT: 63/98 (64.3%)
- No. of patients who developed complications after MT: 14
- Percentage of patients who developed complications after MT: 14/29 (48.3%)
- No. of Patients referred for MT out of hour (5pm to 8am): 55/123 (44.7%)
- No. of Patients referred in-hours (8am to 5pm): 68: 68/123 (55.3%)
- No. of Patients out of hour who developed complications after MT: 25/55 (45.1%)
- No. of Patients in hour who developed complications after MT: 38/68 (55.9%)



Fig 1: Age and Gender Distribution

PATTERN OF COMPLICATIONS



Fig 3: Pattern of Complications who had MT. N=98



Mechanical Thrombectomy Numbers Refered For MT MT done TL and MT MT only MT Not done



Fig 2: Mechanical Thrombectomy Referral Data



Fig 4: Pattern of Complications who had MT only (without IVT). N=29

Discussion

- 7.6% stroke patients were referred for MT which is more than 3 times the national average of 2.01 for 2021. However only 6.1% actually had MT.
- · Main Reasons for not doing MT:
- 1. Recanalization after intravenous thrombolysis
- 2. Worsening Imaging Finding at Thrombectomy Centre
- 3. Technical Difficulties
- 64.3% of patients who had MT developed complications
- Most Common complications in patients who had both IVT and MT (Fig 3)
- 1. Haemorrhagic Transformation (HT): 38%
- 2. Intracerebral Haemorrhage: 25%
- · Most Common complications in patients who had MT only (Fig 4)
- 1. Haemorrhagic transformation (HT): 57%
- 2. Failed procedure: 15%
- Higher proportion of complications (55.9%) was noted in those who referred during normal hours (8 AM to 5 PM) compared to out-of-hours (5pm to 8 am).

Conclusion

- · There was improved Post-MT NIHSS in all 98 patients however the Post-MT MRS and Discharge MRS were consistently higher than Premorbid MRS. (Fig 5,6)
- · The types, prevalence, and pattern of complications after MT have shown a slightly higher rate of complications in those who were referred during normal hours (8 AM to 5 PM) compared to out-of-hours. The reason for this could be to more rapid patient transfer out of hours to Roval London Hospital.
- · Subsequent studies or audit can explore the correlation between imaging characteristics and complication pattern.
- Relationship between the door to needle time and complications can also be studied

References

PREMORBID mRs

Discharge mRs

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Fig 6: Pre-morbid mRS vs Discharge mRS (Functional Outcome)



EVALUATION OF INPATIENT DIABETES COMPLICATIONS.

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INTRODUCTION

Global burden of diabetes is expected to increase to 590 million by 2035 (1). Currently, in the UK 18% of all acute hospital beds are occupied by patients with diabetes (2). Direct and immediate benefits have been observed by careful management of inpatient diabetes complications that are associated with prolonged hospital stay, infections, disability after hospital discharge, and death (3). The effectiveness of multidisciplinary teams has been demonstrated in a study that showed decreased risk of diabetes complications. (4) Another systematic review showed that after the introduction of diabetes inpatient specialist nurses (DSN) there was a reduction in length of hospital stay(5)

OBJECTIVE

This was a service evaluation project to assess the standards of care being provided in hospital for patients with diabetes, looking into inpatient diabetes complications to propose recommendations for quality improvement

RESULTS

121 patients were included in the study. Mean age of the patients was 67 ± 16 years.10 (8.26%) patients had their foot examined at the time of admission, amongst those 7 (5.78%) were admitted due to diabetic foot disease. Amongst 23 patients who had an episode of hypoglycaemia, 43% (10/23) were managed as per Joint British Diabetes Society guidelines.39% (9/23) had management not in accordance with the national guideline. Furthermore, No documentation was available for 4 patients (17.39%). Average length of stay in hospital was 16 \pm 33 days with a median of 7 days.

METHOD

This was a retrospective and cross-sectional review of patients with diabetes admitted over 4 months. Data was collected from electronic records using a modified data collecting tool based on the Standard of care as depicted by the National Diabetes Inpatient Audit form. No intervention was performed at any stage. A set of recommendations based on result were put forward.



RECOMMENDATIONS

1.Educating the staff (including nurses, doctors of all grades and departments, diabetes specialist nurses) in form of face to face/online teaching sessions, setting up posters in different hospital premises specially diabetes/diabetic foot clinics, all medical and surgical wards. Aim is to empower patients with adequate knowledge for self-examination of foot after discharge.

2.There needs to be an individual trust policy with regards to involvement of DSNs in provision of care for patients admitted due to non-diabetic reasons. Amongst 121 patients admitted, only 33 were due to diabetes related cause, however Diabetes team was involved in provision of care to 50 patients emphasizing the importance of a timely involvement of speciality teams even if primary reason of admission was non-diabetic in first place.

3.Patients on insulin infusion must have an electronic record of their blood glucose for easy access to diabetes team remotely & educating the staff for proper documentation need to be emphasized.

4.Transition of care needs to be pre-determined meaning identifying risk factors for re-admission at time of admission, appropriate involvement of patient's family, carers including GP or community diabetes services once patient is ready for discharge.

Contact

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Milton Keynes University Hospital

NHS Foundation Trust

Developing a Doctor Toolkit for Essential Investigations Prior to Medical Procedures: A Quality Improvement Project

Dr. Raneem Radi (LAS ST3), Dr. Fatima Ihsan (IMT2), Dr. Jovita Amadi (Acute Medicine Consultant)

100%

80%

60%

40%

Introduction

•Medicine is an interesting field precisely because of the challenging and complex nature of the diagnostic dilemma.

 Procedures are an essential part of medical practice, and many Procedures are crucial in medical practice, and numerous medical conditions require the performance of diagnostic or therapeutic procedures.

 Some of the commonly performed diagnostic procedures in healthcare settings include Lumbar Puncture, Pleural Aspiration, Ascitic Tap, and Joint Aspiration.

Medical trainees often have a mandatory requirement to perform medical procedures in order to advance in their career

•Prior to conducting medical procedures, it is essential to conduct the required investigations to assess the suitability of the patient and determine if further assessments are necessary. Familiarizing oneself with these investigations and reviewing them before the procedure will improve patient care and reduce the potential complications associated with each particular procedure.

Aim & Objectives

The main objective of the quality improvement project (QIP) is to enhance the knowledge and implementation of necessary investigations among our Junior doctors prior to each required medical procedure. Furthermore, we aim to establish a robust framework to ensure that every patient undergoes these investigations, and the junior doctors review the results for any abnormalities, which are promptly communicated to the senior medical staff.



Junior Doctor's Toolkit QIP

The aim is to produce a premade checklist for all commonly performed procedures in Medicine to aid junior doctors to request the right investigations.

Methodology





Quantitative data collection was employed to assess the level of confidence and awareness among junior doctors regarding the mandatory investigations necessary for medical invasive procedures such as lumbar puncture and ascetic drain. The survey successfully identified the proficiency of junior doctors based on their respective levels and their understanding of the required investigations.

Suggested Doctor's Tool Kit QIP





The study included four essential medical procedures commonly performed in acute practice: lumbar puncture, pleural aspiration, ascitic tap, and joint aspiration

How confident are you when requesting specific investigations on eCare for the following procedures according to their indications? 1-Star: Not Confident 4-Star: Fully Confident



how confidient are you when requesting specific

investigation before the following procedure

Iumber puncture pleural aspiration ascetic tap knee aspiration

Results

The analysis of the results revealed that a significant number of junior doctors lack confidence and knowledge in requesting the necessary investigations for the four essential medical procedures mentioned in the graph below. Approximately 45% of junior doctors lacked the ability to identify the necessary investigation for the ascitic tap procedure, while around 41% were unable to identify the required investigation for the joint aspiration procedure.

TheMKWav



Conclusion

SCAN THIS

CODE QR TO

SEE

Various factors, including human factors and demanding shifts, contributed to the junior doctors' difficulty in consistently implementing sustainable improvement strategies aimed at enhancing their knowledge and awareness of the mandatory investigations required prior to the four medical procedures. To address this, a structured doctor toolkit was developed to assist junior doctors in confidently requesting the necessary investigations. These measures have had a significant positive impact on patient care by reducing post-procedural complications and emphasizing the importance of prior investigations.

Interventions

Communication via email, official SHO WhatsApp group
 QR codes/ Posters in medical wards
 Liaising with eCare Team, planning for Doctor's Tool Kit to be part of eCare – care set

Pyrexia thresholds in patients 65 years of age and over being treated for infection

Dr Robert Ambrogetti¹ (IMT3), Dr Parveen Doddamani¹ (IMT3), Dr Anna Evetovits¹ (FY2), Dr Dilesh Lakhani¹ (Consultant Geriatrician)

¹University Hospitals of Leicester

Background

□Infection is a leading cause of morbidity and mortality in individuals over aged 65 years.

□Physiological changes in older people confer altered responses to infection.¹

□Specifically, a blunted febrile response to infection is well recognised.¹

- Current upper-temperature cut-offs
- ➢ NEWS2: 38.1 °C
- ≻ WHO: 37.8 °C
- ➢ Geriatric literature: 37.3 °C ^{1, 2}

Objectives

To compare different upper limits of temperature cut-offs in patients \geq 65 treated for infection in a large UK teaching hospital.

Methods

□Retrospective examination of 106 electronic patient records of patients ≥65 yrs.

- Exclusion criteria: patients admitted with
- ➢ hypothermia (≤35.0°C) on arrival
- temperature >38°C on arrival
- > neutropenic sepsis, and
- those given a STAT dose of antibiotics in ED
- Novel Temp scoring applied
- ▶ 37.3 37.7 = 1
- > 37.8 38.0 = 2
- > >38.1 = 3



Figure 2: Change in Clinical Risk



References:

- High KP, Bradley SF, Gravenstein S, et al. Clinical practice guideline for evaluating fever and infection in older adult residents of long-term care facilities: 2008 Update by the Infectious Diseases Society of America. Clinical Infectious Diseases. 2009;48:149–71.
- Castle S, Yeh M, Toledo S, Yoshikawa T, Norman D. Lowering the temperature criterion improves detection of infections in nursing home residents. Aging: Immunology and Infectious Disease. 1993;4(2):67–76.

Results and Discussion



- > Gender: M:F = 1:1
- Most common co-morbidities incl. HTN (49%), T2DM (29%), CKD (24%)

□Infection & Temperatures

- ➢ 86 (81%) treated for infection
- ➤ Mean CRP 77 (95% CI 61 95)
- > 10% spiked >38.0; 90% with temperatures 37.3 38.0
- Most common source of infection LRTI (39.5%) and UTI (39.5%)

□Clinical Risk

 \succ 20 (23%) treated for infection had a change in clinical risk from low to medium or medium to high

 \succ 4 (33%) who passed away had a change in clinical risk from low to medium or medium to high

Conclusion

- \checkmark Possible need for population-specific NEWS in geriatrics
- \checkmark Need to consider novel temperature cut-offs to treat infection in the geriatric population

Limitations: Low sample size and many uncontrolled variables make it difficult to draw firm conclusions

□Further evaluation with larger sample sizes and controls can be considered

Using Artificial Intelligence To Achieve 100% Compliance With NICE Guidance: A Quality Improvement Project On Lipid Profile Assessment In ACS Patients

Sadaf Cheema, Ali Hussain, Neil Mara

Introduction :

In 2014 the National Institute for Health and Care Excellence (NICE) published guidelines on lipid modification for cardiovascular disease prevention that emphasized the importance of initiating high-intensity lipid-lowering therapy early during hospital admission for patients with acute myocardial infarction (AMI).

For every 1.0 mmol/L (40 mg/dL), a reduction in LDL-C is associated with a corresponding 22% reduction in cardiovascular disease mortality and morbidity.²

Thus their recommendation is to check lipid profiles in <u>all</u> patients admitted with acute coronary syndrome (ACS)¹. Ideally such measurement should be taken within 24 hours of an AMI, as it has been demonstrated that ACS can impact lipid profiles unpredictably.

Methods

Aims:

The aim of our Quality Improvement Project (QIP) was to achieve the NICE standard of 100% of patients having lipid profile completed prior to discharge, preferably within 24 hours of admission

Audit duration and Cycles:

4 audit cycles were completed in Pinderfields Hospital (Mid Yorkshire NHS Trust) collecting retrospective data from June 2019 to Oct 2022:

- 1st Cycle: June 2019 Aug 2019
- 2nd Cycle: Oct 2020 Dec 2020
- 3rd Cycle: March 2021 May 2021
- 4th Cycle: Sep 2022 Oct 2022

Methods:

Our <u>1st cycle</u> confirmed poor compliance. For our 2nd cycle we gave lunchtime education sessions, reminders at morning handover, and displaying posters in our Acute Medicine Unit:

NICE AND ESC GUIDELINES EMPHASIZE ON CHECKING LIPID PROFILE IN ACS BOTH AT ADMISSION AND ON 12 WEEKS HAVE YOU ORDER LIPID PROFILE OF YOUR PATIENT ADMITTED WITH ACS REMEMBER LIPID PROFILE ORDER INCLUDE : TOTAL CHOLESTEROL, HDL-C, LDL-C AND TG

<u>2nd cycle</u> showed much improvement but a long way off the standard.

 For our 3rd cycle we

 implemented an

 ACS blood panel

 Urea and Electrolytes

 on our blood

 Liver profile

 requesting

 system:

 Troponin T

However, despite measures taken after cycles 1 & 2, compliance remained about 50%. After our <u>3rd cycle</u>, we presented our findings at local Acute & Cardiology Clinical Governance Meetings. One suggestion was to ask the biochemistry labs to automate the checking of lipids for a second positive Troponin, in which software itself requested the test without any human interference. This was eventually agreed & implemented.

Final Outcome:

Data collection on the 4^{th} cycle showed **100%** compliance using such Artificial Intelligence i.e. the processing of lipid profile became automated upon getting a second positive Troponin.

CyclesFirstSecondThirdFourthLipids checked16.77 %55.69 %49 %100 %Lipids NOT checked83.23 %44.31 %51 %0 %Audit g1) Face to followin g1) Face to face teaching guidelin es1) Face to followin guidelin 2)1) Face to followin face pisplayed lllustrative PostersAutoma for second positive Troponi					
Lipids checked d16.77 %55.69 %49 %100 %Lipids NOT checked d83.23 %44.31 %51 %0 %Actions followin gAudit face teaching sessions1) Face to Face Teaching sessionsAutoma ted lipid profileNICE guidelin es2) Displayed Illustrative Posters Reminder / 3) ACS bloodTroponi	Cycles	First	Second	Third	Fourth
Lipids NOT checked83.23 %44.31 %51 %0 %Actions ActionsAudit followin g1) Face to face1) Face to Face Teaching teachingAutoma face profileNICE guidelin es2) Displayed Displayed Illustrative Reminder1) Illustrative positive Reminder /60	Lipids checke d	16.77 %	55.69 %	49 %	100 %
Actions Audit 1) Face to 1) Face to Automa followin face Face Teaching ted lipid g teaching sessions profile NICE sessions 2) Displayed testing guidelin 2) Illustrative for es Displayed Reminder second Illustrative Posters positive Reminder / 3) ACS blood Troponi	Lipids NOT checke d	83.23 %	44.31 %	51 %	0 %
Destans years n tests	Actions	Audit followin g NICE guidelin es	1) Face to face teaching sessions 2) Displayed Illustrative Reminder /	1) Face to Face Teaching sessions 2) Displayed Illustrative Reminder Posters 3) ACS blood	Automa ted lipid profile testing for second positive Troponi n tests

Discussion:

NICE guidelines recommend initiating early high-intensity lipid profile therapy in ACS for secondary prevention of cardiovascular disease, and suggest that checking a lipid profile in patients with ACS is done, ideally within the first 24hrs of their admission.

During the course of our audit we used several methods to improve compliance, including presentation at governance meetings, teaching of junior doctors, sign posting and creating a specific blood panel. However despite these efforts we failed to get the desired results.

Upon the introduction of automated software ie. artificial intelligence, we immediately achieved 100 percent compliance.

Conclusion:

This audit taught us that standard measures to educate & change practice were not enough. Using artificial intelligence that bypassed human factors allowed us to achieve 100% compliance.

References :

 Aubiniere-Robb, L., Dickerson, J. E. and Brady, A. J.B. (2019) Lipid testing and treatment after acute myocardial infarction: no flags for the flagship. British Journal of Cardiology, 26, pp. 141-144. (doi: 10.5837/bjc.2019.041)

2.Andrade JP, Andrade MD, Mattos LA. Prevention of Cardiovascular Diseases: From Current Evidence to Clinical Practice. Cham: Springer, 2015.

3.Claessen BE, Guedeney P, Gibson CM, et al. Lipid Management in Patients Presenting With Acute Coronary Syndromes: A Review. J Am Heart Assoc. 2020;9(24):e018897. doi:10.1161/JAHA.120.018897 VTE Prophylaxis In Haematology Ward At King's College Hospital; A Quality Improvement Project Su Thinzar Han¹, Jitha Vijayakumar², Ben Fidler², Austin Kulasekararaj², Lara N. Roberts² ¹Colchester general hospital, ²King's college hospital

INTRODUCTION

Venous thromboembolism (VTE) is one to the most common causes of preventable morbidity and mortality in hospitalised patients. We aimed to evaluate compliance with local and NICE guidelines on VTE prevention within the haematology ward at King's College Hospital.

METHODS

Data was collected from 50 randomly selected patients on the haematology wards before (May/June 2021) and after the intervention (Jan/Feb 2022). All patient documentation and prescriptions are in the Electronic Patients Record (Allscripts). Data collected included VTE risk assessment completion within 14 hours of admission, patient's weight and eGFR, daily platelet counts throughout admission, and enoxaparin dose prescribed and administered throughout admission.

INTERVENTION

An electronic hard stop for VTE risk assessment was introduced in December 2021. This meant no prescriptions or blood orders could be entered without completion of a VTE risk assessment for patients admitted to haematology wards. We also provided education about platelet thresholds, weight and renal function adjusted dosing of enoxaparin in junior doctor teaching sessions.

RESULTS

Following the intervention, the VTE risk assessment was compliant in 98% while the national target is 95%.^{1,2} One patient was missed as it was a short stay discharge within 16 hours. 90% of patients with adequate platelet count had appropriate thromboprophylaxis; 10% missed their enoxaparin dose despite having a platelet count >50 without any clinical indication. Around 1 to 3 doses were missed in post-transplant patient while recovering their platelet count without documented clinical reason.

KCH guidelines on VTE

 VTE risk assessment with thromboprophylaxis completed on admission or within 14 hours of admission.
 Thromboprophylaxis if platelet count >75x10^9/L, Platelet count 50-75 Prophylaxis with close monitoring, Platelet count <50 Hold and assess bleeding risk.

Enoxaparin dose as per weight (eGFR >30ml/min)	Enoxaparin dose if eGFR <30ml/min
<50Kg: 20mg OD	<40Kg/ >150Kg: contact haematology for advice
50-100Kg: 40mg OD	40-150Kg & eGFR 15-30: 20mg OD
101-150Kg: 80mg OD or 40mg BD	eGFR <15 & weight <100Kg: unfractionated heparin 5000 units BD
>150Kg: 120mg OD or 60mg BD	eGFR <15 & weight >100Kg: unfractionated heparin 5000 units TDS



Pre-intervention

CONCLUSION

Using an electronic hard stop for VTE risk assessment is highly effective in improving VTE risk assessment rates. Improvements in thromboprophylaxis dosing were also noted and are attributed to education. However, more awareness is required to restart enoxaparin dose when platelet counts recover unless there is contraindication.

REFERENCES

 Kings college hospital Risk assessment and thromboprophylaxis guidance for prevention of VTE. <u>http://kcgs/Documents/Combined_VTE risk</u> assessment.doc.

 NICE (2018) Venous thromboembolism in over 16s: reducing the risk of hospital-acquired deep vein thrombosis or pulmonary embolism. https://www.nice.org.uk/guidance/ng89.

TheMKWay

From Mediocre to Meaningful: Individualised Feedback Leading to Improvement in the Quality of Discharge Summaries



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Introduction

Discharge summaries are the only formal written communication routinely received by patients and General practitioners, regarding the care received during a hospital admission. Several incidents led us to carry out this project to improve these letters. Poor quality summaries had been found to contain multiple errors regarding diagnosis, treatment and plans regarding medications and follow up. We aimed to ensure that 90% of discharge summaries sent from the Medicine Department were adequate by the end of the project.

Methods

A scoring system was designed which was agreed between a core team of junior doctors and consultants and was based on as pre-existing guidelines including from the Royal College of Physicians and others, as well as feedback from patients, general practitioners, and pharmacists.¹⁻³

 Table 1. Discharge summary scoring system.
 *If no procedures were performed, this was scored 2.

	Score				
Scoring Domain	0	1	-	2	
Diagnosis		Partially completed		Fully completed	
Past medical history					
Initial presenting complaint					
Summary of admission					
Summary of pertinent results	Not dono or incorrect				
Hospital follow up	Not done of incorrect				
Primary care follow up					
Medication changes and plan					
Patient instruction and advice					
Procedures*					
Quality of writing	 -1 for multiple spelling and/or 		-1 for exc	 -1 for excessive jargon and/or 	
	grammar mistakes		acronyms		

A single discharge summary was randomly selected from every Junior Clinical Fellow and Internal Medicine Trainee, using the electronic health record. These were marked using the scoring system by a consultant or senior medical trainee. A score of 15 or greater was deemed to be adequate.

Feedback was given individually to each doctor and their educational supervisor, including the score and written feedback, and they were encouraged to discuss this at their educational meetings. Educational resources were developed including model examples for different durations of admission; teaching sessions; posters displayed in every ward area and doctors' office; and short YouTube videos.

References: 1. Improving discharge summaries – learning resource materials. *RCP*. 2. NICE Guideline: Transition between inpatient hospital settings and community or care home settings for adults with social care needs. *NG27*. 3. Scarfield *et al. BMJ Open Quality* 2022;11:e001780. 4. Earnshaw *et al. Future Healthc J* 2020;7:149-154.

Results

The mean score was 14.2 (n=30, 95% confidence interval [CI] 13.6 to 14.8) and improved to 16.8 (n=31, 95% CI 16.4 to 17.2, p value for difference <0.001, Figure 1). Where analysis was restricted only to paired summaries from individuals before and after intervention, the mean improved from 15.1 (95% CI 14.4 to 15.7) to 17.1 (95% CI 16.7 to 17.6, p<0.01, n=24). The proportion of summaries that were adequate improved (Figure 2) and there was improvement seen all but one scoring domain (Figure 3).



Conclusion

A comprehensive range of interventions introduced within our department significantly improved the quality of discharge summaries. Individualised feedback has been used in similar projects to drive improvement.⁴ Electronic records have the potential to greatly expand our use of personal feedback on areas such as documentation, prescribing and requesting. Our challenge is to sustain and build upon this improvement within our department. To this end, we aim to provide annual teaching on discharge summaries as well as continued sampling of summaries to monitor quality and provide feedback.

Investigating thrombocytosis to increase early detection of LEGO-C cancers at Whitehill Surgery, Aylesbury: a clinical audit

Dr Xenia Hartwig¹, Dr Nicola Draper¹

¹Whitehill Surgery

Introduction Conclusion Results Interventions Recent research indicates a strong link between thrombocytosis LEGO-C cancers were considered for 10/38 (26%) patients around LEGO-C cancers are currently not widely considered and 1. A flow chart based on published research² (Figure 3) was investigated for in patients with thrombocytosis at Whitehill (PLT>450) and malignancy. Patients with persistent high platelet the time of reported thrombocytosis. In 8/10 (80%) cases this was introduced to streamline assessment and investigation of Surgery. Instead, cancer investigations were driven by symptoms counts can have risks as high as 18.1% of being diagnosed with because of an accompanying symptom. In 2/10 (20%) cases, thrombocytosis. classically known to be associated with malignancies. cancer within one year.¹ There is a specific subgroup of cancers concerns regarding LEGO-C cancers were raised because of 2. A presentation was given to GPs and allied healthcare that shows the strongest link: lung, endometrial, gastric, thrombocytosis. professionals at the practice to raise awareness of the strong oesophageal, and colorectal¹ – commonly shortened to LEGO-C. There needs to be a clear approach to investigating link between LEGO-C cancers and thrombocytosis 38/38 (100%) patients met the criteria for a chest radiograph and thrombocytosis in order to prevent both excessive and insufficient NICE has developed guidelines to outline which patients with quantitative faecal immunochemical testing (gFIT). 2/38 (5%) investigation. This flow chart aims to provide such an approach to The practice will be re-audited 6 months following the thrombocytosis should undergo investigations for occult patients were eligible for a pelvic ultrasound and 5/38 (13%) Whitehill Surgery with a further goal to increase early cancer implementation of these interventions. malignancies: patients gualified for a non-urgent direct access upper detection. gastrointestinal endoscopy. LEGO-C Investigation Indication 20/28 (71%) of patients had their thrombocytosis detected at a Thrombocytosis It is unclear whether 13/38 (34%) patients would have met criteria routine or follow up blood test (Figure 2). As the FBC is a very for a pelvic ultrasound or upper GI endoscopy as relevant Thrombocytosis, ≥40 years Chest commonly performed blood test it can incidentally highlight radiograph symptoms were not explored. patients at increased risk of occult malignancy prior to Thrombocytosis, female, ≥55 and one of History, examination, chart Endometrial Pelvic gFITs were performed for 9/38 (24%) patients, CXRs for 2/38 (5%) presentation with symptoms. Awareness needs to be raised among unexplained vaginal discharge, review ultrasound patients, pelvic ultrasounds for 2/38 (5%) patients and a both primary and secondary care physicians to ensure that this macroscopic haematuria Yes Likely cause identified? gastroscopy for 1/38 (3%) patient. marker is used to its fullest potential. Gastric, Upper GI Thrombocytosis, ≥55 and one of: nausea, Treat likely No Oesophageal endoscopy vomiting, weight loss, reflux, dyspepsia, cause upper abdominal pain Initial investigations 30 Main Learning Points Colorectal aFIT Thrombocytosis, no other specified Peripheral blood 25 Repeat FBC after 1. Unexplained thrombocytosis can be a warning sign of criteria smear 20 treatment/resolu-**LEGO-C** malignancies Iron studies The aim of this audit is to review and improve investigation of high tion Inflammatory markers 2. Patients with unexplained thrombocytosis should be 3. 15 platelet counts at Whitehill Surgery to increase early detection of Thrombocytosis investigated for LEGO-C malignancies if meeting the Likely cause identified? 10 resolved? LEGO-C cancers. indications outlined by NICE No 5 Yes Methods No further action Does patient meet criteria 450-499 500-599 6004 PLT count (10*9/L) for investigation for occult CXR: ≥40 years Data was collected retrospectively using EmisWeb. Relevant required References Yes malignancies? Pelvic ultrasound: Figure 1: Platelet levels from initial FBC records were identified using 'patient population reporting'. female, ≥55 and No 1. Bailey SER et al. Clinical relevance of thrombocytosis in Inclusion criteria were as follows: registered at Whitehill Surgery Yes either unexplained Aylesbury, age ≥40 years, PLT count ≥450 between 09/11/2022vaginal discharge or primary care: a prospective cohort study of cancer incidence macroscopic Repeat FBC in 3 using English electronic medical records and cancer registry 09/05/2023. haematuria months data. Br J Gen Pract 2017; 67 (659): e405-e413 Upper GI endoscopy: 38 patients were identified and all were included. Resolved? ≥55 and one of: 2. Mathur A et al. Investigating thrombocytosis. BMJ 2019; No nausea, vomiting, No The following standards were set for this audit: 366:14183 weight loss, reflux, malignancy dyspepsia, upper 1. LEGO-C cancers should be considered for all patients with identified Haematology abdominal pain Acknowledgements referral unexplained thrombocytosis

Thank you to Whitehill Surgery for supporting me in performing this audit.



Figure 2: Reason for initial blood test



Figure 3: Flow chart to investigate thrombocytosis at Whitehill Surgery

2. Investigations for LEGO-C cancers should be performed as per

NICE recommendations for all patients qualifying

Lung

Quality Improvement Project: Diagnosing Postural Hypotension In Patients Admitted With Falls

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Background	Outcome and results				
Falls represent the most common reason for presentation to the emergency department for those aged over 65 ⁽¹⁾ . Postural hypotension often associated with falls in elderly patients ⁽²⁾ and hence diagnosing it becomes crucial in multifactorial fall risk assessment . Royal Colleges of Physicians (RCP) sets out a clinical guideline to standardize the correct technique of measuring lying and standing blood pressure (LSBP) ⁽³⁾ .	LSBP Requested SBP Not requested 98% 72% 72% 28% 28% 28% 28% 28% 28%		LSBP completed LSBP not completed 91.07% 51.51% 48.48% 93.81% 8.93%		
To evaluate the methods of diagnosing postural hypotension in patients admitted with falls.	Cycle 1 Cycle 2 Cycle 3 The findings show progressive improvement with the interventions carried out after each cycle Clinicians requesting	The comple	cycle 1 Cycle 2 Cycle 3		
To improve the standard of care in diagnosing postural hypotension .	LSBP improved from 72% to 98%.		nce of recording 3 readings had improved from 5% to 4		
Methods	Discussions and Recommendation		References		
Retrospective review of inpatients, aged over 65 , who had been admitted with fall to Queen Elizabeth Hospital Birmingham (QEHB) was carried out between January 2022 and July 2023. This audit assessed the measurement and accuracy of LSBP across various geriatric wards which included whether LSBP had been requested and completed as well as correctly recording the measurements according to the RCP Guideline. We used Plan-Do-Study-Act (PDSA) method . Each cycle is followed up by various interventions such as small group teachings, awareness measures and posters to improve the quality and standards of diagnosing LSBP.	Our interventions in this QIP had led to significant Improvement in que measuring and recording LSBP in accordance with RCP guideline. Diago postural hypotension and addressing the issues with appropriate clinic intervention aims to prevent further falls in elderly patients ⁽⁴⁾ on ger wards. However, this QIP excluded patients who were bedbound and end of And there were also limitations in recording of 3 readings in our trust electronic noting system which was difficult to improve in the short timpostural hypotension in patient admitted with fall and improved the negative set.	uality of nosing cal riatric life care. t's me. ing methods of	 Vanpee D, Swine C, Vandenbossche P et al Epidemiological profile of geriatric patients admitted to the emergency department of a university hospital localized in a rural area. Eur J Emerg Med. 2001;8(4):301– 304. Mol A, Bui Hoang PTS, Sharmin S, et al. Orthostatic Hypotension and Falls in Older Adults: A Systematic Review and Metaanalysis. Journal of the American Medical Directors Association. Royal College of Physicians. Measurement of Lying and Standing Blood pressure: a Brief Guide for Clinical Staff . RCP London. 2017. O'Riordan S, Vasilakis N, Hussain L, et al. Measurement 		
A total of 3 cycles including 261 patients were reviewed.	correct measurement and interpretation of LSBP.		of lying and standing blood pressure in hospital. Nursing Older People. 2017 Sep.		







