## **Strategy** 432448/8

| # | Database | Search term | Results |
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| 8 | EMBASE | (((audit* OR "quality improvement").ti,ab OR exp "CLINICAL AUDIT"/) AND ((NHS OR england OR UK OR "united kingdom" OR "national health service").ti,ab OR exp "UNITED KINGDOM"/ OR exp "NATIONAL HEALTH SERVICE"/)) [Since 29-Apr-2020] | 348 |

## **Contents** 100 of 348 results on EMBASE - (((audit* OR "quality improvement").ti,ab OR exp "CLINICAL AUDIT"/) AND ((NHS OR england OR UK OR "united kingdom" OR "national health service").ti,ab OR exp "UNITED KINGDOM"/ OR exp "NATIONAL HEALTH SERVICE"/)) [Since 29-Apr-2020]

**Results** 100 of 348 results on EMBASE - (((audit* OR "quality improvement").ti,ab OR exp "CLINICAL AUDIT"/) AND ((NHS OR england OR UK OR "united kingdom" OR "national health service").ti,ab OR exp "UNITED KINGDOM"/ OR exp "NATIONAL HEALTH SERVICE"/)) [Since 29-Apr-2020]

**1. To assess the interval between PET CT requisition and completion in the galway university hospital rapid access lung cancer service**

**Authors** Cullivan S.; Breen D.; Bruzzi J.
**Source** Irish Journal of Medical Science; 2019; vol. 188
**Publication Date** 2019
**Publication Type(s)** Conference Abstract
**Database** EMBASE
Available at Irish Journal of Medical Science (1971 -) from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).
Available at Irish Journal of Medical Science (1971 -) from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.
Available at Irish Journal of Medical Science (1971 -) from Unpaywall
**Abstract** PET CT is currently recommended for staging in potentially resectable lung cancer. The aim of this audit was to assess the interval between PET CT requisition and completion in the Galway University Hospital rapid access lung cancer service (RALC) and compliance with the UK benchmark of 5-7 days. All PET CTs ordered by the RALC service between the 01/01/18 and 31/ 12/18 were included for analysis. In each case, patient details, private health insurance status, date of PET CTrequisition and performance were recorded and compared to the UK standard of a maximum 7-day turnaround time. 158 PET CTs were ordered by the RALC service in 2018. 19 were excluded from the analysis due to inadequate data. 139 patients were included in the final analysis. 19% (n=27) had private health insurance and 81% (n=112) were public patients. For all patients, PET CTwaiting time ranged from 2 to 48 days, with amean of 11 days and a median of 10 days. For public patients, this mean waiting time was 11 days versus 15 days for private patients. At present, PET CTwaiting times are not compliant with UK standards and worse for those with private health insurance. Potential explanations include complex requisition process and external referral for examinations.

**2. An audit of emergency tuberculosis admissions to a tertiary referral hospital in Ireland**

**Authors** Cleary A.; O'Connelll J.; De Barra E.; McConkey S.; McNally C.
**Source** Irish Journal of Medical Science; 2019; vol. 188
**Publication Date** 2019
**Publication Type(s)** Conference Abstract
**Database** EMBASE
Available at Irish Journal of Medical Science (1971 -) from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).
Available at Irish Journal of Medical Science (1971 -) from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.
Available at Irish Journal of Medical Science (1971 -) from Unpaywall
**Abstract** Background: Ireland is a low-incidence Tuberculosis (TB) country, with an incidence of 6.6 cases/100,000 in 2018.1 Objectives: The objectives were to determine the reasons for emergency admission for TB patients in Beaumont, and to identify any opportunities to prevent admissions by characterizing the patient population. We audited practice against national TB guidelines in Ireland and the UK.
Method(s): Patients with TB emergency admissions to Beaumont between January 2015-June 2019 were identified. A retrospective review of each patient's chart and electronic record was performed.
Result(s): 37 patients with TB emergency admissions were identified; 65% were male, 38% were non-Irish, 16% were immunosuppressed and 8% were HIV-positive. Non-Irish patients were significantly younger (33 years, p=0.00326). 62% attended their GP in the 3 months prior to admission, 74% of whom had a cough. 31/37 of patients had their diagnosis of TB made via emergency hospital admission. 19% had multiple emergency admissions. 59% met criteria for latent TB screening, but only 23% had a record of being screened. 59% met criteria for directly observed therapy (DOT), however only 27% received it.
Conclusion(s): Increasing awareness of TB, focusing on deprived areas, improved liaison with GPs, enhanced implementation of DOT and latent TB screening could help reduce the number of emergency admissions.

**3. Acute asthma admissions are characterised by excessive intravenous steroid prescribing with little use of peak flow**

**Authors** Long D.; O'Carroll O.; Kerr P.; Ryan H.; Ottewill C.; Ryan D.M.
**Source** Irish Journal of Medical Science; 2019; vol. 188
**Publication Date** 2019
**Publication Type(s)** Conference Abstract
**Database** EMBASE
Available at Irish Journal of Medical Science (1971 -) from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).
Available at Irish Journal of Medical Science (1971 -) from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.
Available at Irish Journal of Medical Science (1971 -) from Unpaywall

**Abstract** Acute asthma (AA) requiring hospitalisation is associated with increased risk for death (UK National Review Asthma Deaths 2014).
Aim(s): to determine quality of care in AA admissions to Beaumont Hospital (BH). HIPE data determined length of stay (LOS), discharging specialty and mortality 2017-2018. An audit proforma evaluated quality of care across 32 parameters; best practice determined using national and local asthma care pathways. 122 patients were admitted with AA, average LOS 5.5 days, 53% under a Respiratory Consultant. There was 1 asthma death. 23 random AA episodes were audited. PEFR, n=15 (65%) and PEFR flow sheet, n= 3 (13%) recording was poor. All had steroids prescribed, n=18 (78%) intravenous for median (range) of 2 (0.5-3) days. Antibiotics prescribed in n=18 (78%), only n=8/18 (44%) indicated. While n=15 (65%) had respiratory evaluation only n=4 (17%) were admitted to the respiratory ward.
Conclusion(s): Acute asthma management failed to meet multiple best practice guidelines. We propose the introduction of an advanced nurse practitioner-led service to improve acute asthma care.

**4. Global Tracheostomy Collaborative: data-driven improvements in patient safety through multidisciplinary teamwork, standardisation, education, and patient partnership**

**Authors** Brenner M.J.; Pandian V.; Graham D.A.; Milliren C.E.; Lee Y. Allen J.; Chin K.; Ward E.; Zaga C.; Das P.; Sweeney J.M.; Warrillow S.J.; Cameron T.S.; Morris L.L.; Bedwell J.R.; Zhu H.; Arora A.; Peltz A.; Schiff B.A.; Randall D.M.; Swords C.; French D.; Narula A.; McGrath B.A.; Roberson D.W.
**Source** British Journal of Anaesthesia; 2020
**Publication Date** 2020
**Publication Type(s)** Review
**Database** EMBASE
Available at British Journal of Anaesthesia from Leicester General Hospital Library Local Print Collection [location] : Leicester General Library. [title_notes] : Issues before 2000 held in Archive.
Available at British Journal of Anaesthesia from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).
Available at British Journal of Anaesthesia from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** There is growing recognition of the need for a coordinated, systematic approach to caring for patients with a tracheostomy. Tracheostomy-related adverse events remain a pervasive global problem, accounting for half of all airway-related deaths and hypoxic brain damage in critical care units. The Global Tracheostomy Collaborative (GTC) was formed in 2012 to improve patient safety and quality of care, emphasising knowledge, skills, teamwork, and patient-centred approaches. Inspired by quality improvement leads in Australia, the UK, and the USA, the GTC implements and disseminates best practices across hospitals and healthcare trusts. Its database collects patient-level information on quality, safety, and organisational efficiencies. The GTC provides an organising structure for quality improvement efforts, promoting safety of paediatric and adult patients. Successful implementation requires instituting key drivers for change that include effective training for health professionals; multidisciplinary team collaboration; engagement and involvement of patients, their families, and carers; and data collection that allows tracking of outcomes. We report the history of the collaborative, its database infrastructure and analytics, and patient outcomes from more than 6500 patients globally. We characterise this patient population for the first time at such scale, reporting predictors of adverse events, mortality, and length of stay indexed to patient characteristics, co-morbidities, risk factors, and context. In one example, the database allowed identification of a previously unrecognised association between bleeding and mortality, reflecting ability to uncover latent risks and promote safety. The GTC provides the foundation for future risk-adjusted benchmarking and a learning community that drives ongoing quality improvement efforts worldwide.

**5. The optimal time to test for sero-reversion in HIV-exposed uninfected infants: the later the better?**

**Authors** Hindocha A.; Randell P.; Seery P.; Kirkhope N.; Raghunanan S.; Foster C.; Tudor-Wiliiams G.; Lyall H.; Rahimi T.
**Source** HIV Medicine; 2020
**Publication Date** 2020
**Publication Type(s)** Article
**PubMedID** 32441839
**Database** EMBASE
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Available at HIV Medicine from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Objectives: HIV-exposed uninfected (HEU) infants are tested for loss of maternal antibody (sero-reversion) at 18 months of age. Highly sensitive fourth-generation antigen/antibody assays can detect very low levels of antibody, leading to retesting. We audited serological screening outcomes in HEU infants at two National Health Service (NHS) Trusts.
Method(s): HEU infants born between January 2013 and August 2016 were identified via case records. Data collected included gestation; age at testing; test results and assay type.
Result(s): One hundred and forty-two infants were identified, of whom 21 were excluded from analysis. One hundred and one (83%) were born at term and 20 (17%) preterm (< 37/40 weeks of gestation), and the median age at first serology was 19.1 [interquartile range (IQR) 18.1; 21.4] months. Initial serology was positive in 10 of 121 infants (8.3%), and the median age of these 10 infants was 18.3 (IQR 18.1; 18.8) months, whereas those with negative serology (n = 111) had a median age of 19.2 (IQR 18.1; 21.5) months (P = 0.12). All infants with positive HIV serology were born at term. Seven of 10 infants had reactive serology on two fourth-generation assays. Subsequent serology was available for eight of 10 infants, with a median age of 21.3 months. Five of the eight (63%) were negative. One was reactive but HIV RNA polymerase chain reaction (PCR) was negative, and one was reactive on screening but negative on confirmatory testing. The remaining child was still seropositive at 24.7 months but had a non-reactive result at 29.4 months.
Conclusion(s): Overall, 8.3% of HEU infants required repeat testing to confirm loss of antibody. Delaying testing until 22 months of age reduces retesting to < 2%, with associated resource and emotional implications. Positive serology at 22 months should prompt an HIV RNA PCR to exclude infection.


**6. Reducing variation in hospital mortality for alcohol-related liver disease in North West England**

**Authors** Kallis C.; Dixon P.; Silberberg B.; Shawihdi M.; Pearson M.; Bodger K.; Affarah L.; Richardson P.; Hood S.; Grainger R.; Prospero N.; Marson A.; Ramakrishnan S.
**Source** Alimentary Pharmacology and Therapeutics; 2020
**Publication Date** 2020
**Publication Type(s)** Article
**PubMedID** 32441393
**Database** EMBASE
Available at Alimentary Pharmacology and Therapeutics from Wiley Online Library
Available at Alimentary Pharmacology and Therapeutics from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).
Available at Alimentary Pharmacology and Therapeutics from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Background: Variations in emergency care quality for alcohol-related liver disease (ARLD) have been highlighted.
Aim(s): To determine whether introduction of a regional quality improvement (QI) programme was associated with a reduction in potentially avoidable inpatient mortality.
Method(s): Retrospective observational cohort study using hospital administrative data spanning a 1-year period before (2014/2015) and 3 years after a QI initiative at seven acute hospitals in North West England. The intervention included serial audit of a bundle of process metrics. An algorithm was developed to identify index ("first") emergency admissions for ARLD (n = 3887). We created a standardised mortality ratio (SMR) to compare relative mortality and regression models to examine risk-adjusted odds of death.
Result(s): In 2014/2015, three of seven hospitals had an SMR above the upper control limit ("outliers"). Adjusted odds of death for patients admitted to outlier hospitals was higher than non-outliers (OR 2.13, 95% CI 1.32-3.44, P = 0.002). Following the QI programme there was a step-wise reduction in outliers (none in 2017/2018). Odds of death was 67% lower in 2017/2018 compared to 2014/2015 at original outlier hospitals, but unchanged at other hospitals. Process audit performance of outliers was worse than non-outliers at baseline, but improved after intervention.
Conclusion(s): There was a reduction in unexplained variation in hospital mortality following the QI intervention. This challenges the pessimism that is prevalent for achieving better outcomes for patients with ARLD. Notwithstanding the limitations of an uncontrolled observational study, these data provide hope that co-ordinated efforts to drive adoption of evidence-based practice can save lives.


**7. Rapid implementation of virtual clinics due to COVID-19: report and early evaluation of a quality improvement initiative**

**Authors** Gilbert A.W.; Billany J.C.T.; Martin L.; Tobin R.; Bagdai S.; Allain A.; Davies L.; Adam R.; Galvin N.; Farr I.; Bateson J.
**Source** BMJ open quality; May 2020; vol. 9 (no. 2)
**Publication Date** May 2020
**Publication Type(s)** Article
**PubMedID** 32439740
**Database** EMBASE
**Abstract** BACKGROUND: The COVID-19 outbreak has placed the National Health Service under significant strain. Social distancing measures were introduced in the UK in March 2020 and virtual consultations (via telephone or video call) were identified as a potential alternative to face-to-face consultations at this time. LOCAL PROBLEM: The Royal National Orthopaedic Hospital (RNOH) sees on average 11200 face-to-face consultations a month. On average 7% of these are delivered virtually via telephone. In response to the COVID-19 crisis, the RNOH set a target of reducing face-to-face consultations to 20% of all outpatient attendances. This report outlines a quality improvement initiative to rapidly implement virtual consultations at the RNOH.
METHOD(S): The COVID-19 Action Team, a multidisciplinary group of healthcare professionals, was assembled to support the implementation of virtual clinics. The Institute for Healthcare Improvement approach to quality improvement was followed using the Plan-Do-Study-Act (PDSA) cycle. A process of enablement, process redesign, delivery support and evaluation were carried out, underpinned by Improvement principles.
RESULT(S): Following the target of 80% virtual consultations being set, 87% of consultations were delivered virtually during the first 6weeks. Satisfaction scores were high for virtual consultations (90/100 for patients and 78/100 for clinicians); however, outside of the COVID-19 pandemic, video consultations would be preferred less than 50% of the time. Information to support the future redesign of outpatient services was collected.
CONCLUSION(S): This report demonstrates that virtual consultations can be rapidly implemented in response to COVID-19 and that they are largely acceptable. Further initiatives are required to support clinically appropriate and acceptable virtual consultations beyond COVID-19. REGISTRATION: This project was submitted to the RNOH's Project Evaluation Panel and was classified as a service evaluation on 12 March 2020 (ref: SE20.09).


**8. Characterising the evidence base for advanced clinical practice in the UK: a scoping review protocol**

**Authors** Evans C.; Poku B.; Pearce R.; Eldridge J.; Hendrick P.; McLuskey J.; Knaggs R.; Tomczak P.; Thow R.; Harris P.; Conway J.; Collier R.
**Source** BMJ open; May 2020; vol. 10 (no. 5)
**Publication Date** May 2020
**Publication Type(s)** Article
**PubMedID** 32439696
**Database** EMBASE
Available at BMJ open from Europe PubMed Central - Open Access
Available at BMJ open from HighWire - Free Full Text

**Abstract** INTRODUCTION: A global health workforce crisis, coupled with ageing populations, wars and the rise of non-communicable diseases is prompting all countries to consider the optimal skill mix within their health workforce. The development of advanced clinical practice (ACP) roles for existing non-medical cadres is one potential strategy that is being pursued. In the UK, National Health Service (NHS) workforce transformation programmes are actively promoting the development of ACP roles across a wide range of non-medical professions. These efforts are currently hampered by a high level of variation in ACP role development, deployment, nomenclature, definition, governance and educational preparation across the professions and across different settings. This scoping review aims to support a more consistent approach to workforce development in the UK, by identifying and mapping the current evidence base underpinning multiprofessional advanced level practice in the UK from a workforce, clinical, service and patient perspective. METHODS AND ANALYSIS: This scoping review is registered with the Open Science Framework (https://osf.io/tzpe5). The review will follow Joanna Briggs Institute guidance and involves a multidisciplinary and multiprofessional team, including a public representative. A wide range of electronic databases and grey literature sources will be searched from 2005 to the present. The review will include primary data from any relevant research, audit or evaluation studies. All review steps will involve two or more reviewers. Data extraction, charting and summary will be guided by a template derived from an established framework used internationally to evaluate ACP (the Participatory Evidence-Informed Patient-Centred Process-Plus framework). DISSEMINATION: The review will produce important new information on existing activity, outcomes, implementation challenges and key areas for future research around ACP in the UK, which, in the context of global workforce transformations, will be of international, as well as local, significance. The findings will be disseminated through professional and NHS bodies, employer organisations, conferences and research papers.


**9. National survey of enhanced recovery after thoracic surgery practice in the United Kingdom and Ireland**

**Authors** Budacan A.-M.; Mehdi R.; Kerr A.P.; Kadiri S.B.; Naidu B.; Batchelor T.J.P.
**Source** Journal of cardiothoracic surgery; May 2020; vol. 15 (no. 1); p. 95
**Publication Date** May 2020
**Publication Type(s)** Article
**PubMedID** 32410658
**Database** EMBASE
Available at Journal of cardiothoracic surgery from BioMed Central
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Available at Journal of cardiothoracic surgery from ProQuest (Health Research Premium) - NHS Version
Available at Journal of cardiothoracic surgery from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.
Available at Journal of cardiothoracic surgery from Unpaywall
**Abstract** BACKGROUND: Evidence that Enhanced Recovery After Thoracic Surgery (ERAS) improves clinical outcomes is growing. Following the recent publications of the international ERAS guidelines in Thoracic surgery, the aim of this audit was to capture variation and perceived difficulties to ERAS implementation, thus helping its development at a national level.
METHOD(S): We designed an anonymous online survey and distributed it via email to all 36 centres that perform lung lobectomy surgery in the UK and Ireland. It included 38 closed, open and multiple-choice questions on the core elements of ERAS and took an average of 10min to complete.
RESULT(S): Eighty-two healthcare professionals from 34 out of 36 centres completed the survey; majority were completed by consultant thoracic surgeons (57%). Smoking cessation support varied and only 37% of individuals implemented the recommended period for fluid fasting; 59% screen patients for malnutrition and 60% do not give preoperative carbohydrate loading. The compliance with nerve sparing techniques when a thoracotomy is performed was poor (22%). 66% of respondents apply suction on intercostal drains and although 91% refer all lobectomies for physiotherapeutic assessment, the physiotherapy adjuncts varied across centres. Perceived barriers to implementation were staffing levels, lack of teamwork/consistency, limited resources over weekend and the reduced access to smoking cessation services.
CONCLUSION(S): Centres across the UK are working to develop the ERAS pathway. This survey aids this process by providing insight into "real life" ERAS, increasing exposure of staff to the ESTS- ERAS recommendations and identifying barriers to implementation.

**10. Auditory rhythmical cueing to improve gait and physical activity in community-dwelling stroke survivors (ACTIVATE): Study protocol for a pilot randomised controlled trial**

**Authors** McCue P.; Price C.I.M.; Shaw L.; Rodgers H.; Moore S.A.; Del Din S.; Hunter H.; Rochester L.; Lord S.
**Source** Pilot and Feasibility Studies; May 2020; vol. 6 (no. 1)
**Publication Date** May 2020

**Publication Type(s)** Article
**Database** EMBASE
Available at Pilot and Feasibility Studies from BioMed Central
Available at Pilot and Feasibility Studies from Europe PubMed Central - Open Access
Available at Pilot and Feasibility Studies from Unpaywall

**Abstract** Background: Mobility problems are present in 70-80% of stroke survivors and can result in impaired gait and reduced physical activity limiting independent living. Auditory rhythmic cueing (ARC) has been used to provide auditory feedback and shows promise in improving a variety of walking parameters following stroke. The aim of this pilot study is to assess the feasibility of conducting a multi-centre, observer blind, randomised controlled trial of auditory rhythmical cueing (ARC) intervention in home and community settings in North East England.
Method(s): This pilot observer blind randomised controlled feasibility trial aims to recruit 60 participants over 15 months from community stroke services in the North East of England. Participants will be within 24 months of stroke onset causing new problems with mobility. Each participant will be randomised to the study intervention or control group. Intervention treatment participants will undertake 18 auditory rhythmical cueing (ARC) treatment sessions over 6 weeks (3 x 30 min per week, 6 supervised (physiotherapist/research associate)/12 self-managed) in a home/community setting. A metronome will be used to provide ARC during a series of balance and gait exercises, which will be gradually progressed. The control treatment participants will undertake the same duration balance and gait exercise training programme as the intervention group but without the ARC. Feasibility will be determined in terms of recruitment, retention, adverse events, adherence, collection of descriptive clinical and accelerometer motor performance data at baseline, 6 weeks and 10 weeks and description of participant, provider and clinical therapists' experiences. As well as using questionnaires to collate participant views, qualitative interviews will be undertaken to further understand how the intervention is delivered in practice in a community setting and to identify aspects perceived important by participants.
Discussion(s): The ACTIVATE study will address an important gap in the evidence base by reporting whether it is feasible to deliver auditory rhythmical cueing in the home and community to improve gait and balance parameters following stroke. The feasibility of the study protocol will be established and results will inform the design of a future multi-centre randomised controlled trial. Trial registration: Trial register: ISRCTN, Trial identifier: ISRCTN10874601: Date of registration: 12/03/2018.


**11. Differences in management of isolated spinal fractures between neurosurgery and orthopaedics: a 6-year retrospective study**

**Authors** Myers M.; Hall S.; Sadek A.-R.; Griffith C.; Shenouda E.; Nader-Sepahi A.; Dare C.
**Source** British journal of neurosurgery; May 2020 ; p. 1-5
**Publication Date** May 2020
**Publication Type(s)** Article
**PubMedID** 32441143
**Database** EMBASE
Available at British journal of neurosurgery from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Introduction: The acute management of spinal fractures is traditionally split between neurosurgeons and orthopaedic surgeons and the specialities have varying approaches to management. This study investigates differences between neurosurgeons and spinal orthopaedic surgeons in the management of spinal fractures at a single trauma centre in the United Kingdom.
Method(s): A retrospective study at a single trauma centre of patients identified using the Trauma Audit and Research Network (TARN). Case notes and radiological investigations were reviewed for demographics, fracture classification, clinical management and outcomes. Polytrauma cases and patients managed by non-neurosurgical/orthopaedic specialties were excluded.
Result(s): A total of 465 patients were included in this study (neurosurgery n=266, orthopaedics n=199). There were no significant differences between groups for age, gender, Charlson co-morbidity score or distribution of fractures using the AO spine classification. Patients admitted and managed under the orthopaedic surgeons were more likely to undergo a surgical procedure when compared to those admitted under the neurosurgeons (n=71; 35.7% vs n=71; 26.8%, p=0.042, OR 1.56 95%CI 1.056 to 2.31). The median overall length of stay was 8 days and there was no significant difference between teams; however, the neurosurgical cohort were more likely to be admitted to an intensive care unit (24.3% vs 16.2%, p=0.04).
Conclusion(s): This study is the first in the United Kingdom to compare neurosurgical and orthopaedic teams in their management of spinal fractures. It demonstrates that differences may exist both in operating rates and outcomes.

**12. The landscape of psoriasis provision in the UK**

**Authors** Smith S.P.; Mohd Mustapa M.F.; de Berker D.
**Source** Clinical and experimental dermatology; May 2020

**Publication Date** May 2020
**Publication Type(s)** Article
**PubMedID** 32407594
**Database** EMBASE
Available at Clinical and experimental dermatology from Wiley Online Library Medicine and Nursing Collection 2019 - NHS
Available at Clinical and experimental dermatology from Available to NHS staff on request from UHL Libraries & Information Services (from NULJ library) - click this link for more information Local Print Collection [location] : UHL Libraries On Request (Free).
Available at Clinical and experimental dermatology from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Psoriasis remains one of the commonest conditions seen in dermatological practice, and its treatment is one of the greatest cost burdens for the UK NHS. Treatment of psoriasis is complex with numerous overlapping lines and modalities of therapy employed in combination. This complexity reflects the underlying pathophysiology of the disease as well as the heterogenous population which it affects. NICE guidance for the treatment of psoriasis has been available since 2013 and has been the subject of 3 national audits conducted by the British Association of Dermatologists (BAD). This report synthesises the results of the most recent of those exercises and places it in the context of NICE guidance and previous audits. It clearly shows the significant burden of disease, issues with provision of services and long waiting times as well as the marked shift in therapeutic modalities towards targeted biologic therapies.


**13. Enhancer Locus in ch14q23.1 Modulates Brain Asymmetric Temporal Regions Involved in Language Processing**

**Authors** Le Guen Y.; Philippe C.; Mangin J.-F.; Frouin V.; Leroy F.; Dehaene-Lambertz G.
**Source** Cerebral cortex (New York, N.Y. : 1991); May 2020
**Publication Date** May 2020
**Publication Type(s)** Article
**PubMedID** 32432689
**Database** EMBASE
Available at Cerebral cortex (New York, N.Y. : 1991) from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Identifying the genes that contribute to the variability in brain regions involved in language processing may shed light on the evolution of brain structures essential to the emergence of language in Homo sapiens. The superior temporal asymmetrical pit (STAP), which is not observed in chimpanzees, represents an ideal phenotype to investigate the genetic variations that support human communication. The left STAP depth was significantly associated with a predicted enhancer annotation located in the 14q23.1 locus, between DACT1 and KIAA0586, in the UK Biobank British discovery sample (N=16515). This association was replicated in the IMAGEN cohort (N=1726) and the UK Biobank non-British validation sample (N=2161). This genomic region was also associated to a lesser extent with the right STAP depth and the formation of sulcal interruptions, "plis de passage," in the bilateral STAP but not with other structural brain MRI phenotypes, highlighting its notable association with the superior temporal regions. Diffusion MRI emphasized an association with the fractional anisotropy of the left auditory fibers of the corpus callosum and with networks involved in linguistic processing in resting-state functional MRI. Overall, this evidence demonstrates a specific relationship between this locus and the establishment of the superior temporal regions that support human communication.


**14. Radiology reporting of osteoporotic vertebral fragility fractures on computed tomography studies: results of a UK national audit**

**Authors** Howlett D.C.; Mahmood N.; Drinkwater K.J.; Illes J.; Griffin J.; Javaid K.
**Source** European radiology; May 2020
**Publication Date** May 2020
**Publication Type(s)** Article
**PubMedID** 32435926
**Database** EMBASE
Available at European radiology from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** OBJECTIVES: To evaluate organisational reporting infrastructure and patient-related reporting data in the diagnosis of vertebral fragility fractures (VFFs) as demonstrated on computed tomography (CT).
METHOD(S): Organisational and patient-specific questionnaires were developed by consensus between The Royal College of Radiologists, the Royal College of Physicians, and the Royal Osteoporosis Society. The patient-specific component of the audit involved analysis of CT reporting data acquired from 50 consecutive non-traumatic studies including the thoracolumbar spine. Ethical approval for this type of study is not required in the UK. All UK radiology departments with an audit lead (auditor) registered with The Royal College of Radiologists (RCR) were invited to participate in this retrospective audit.
RESULT(S): In total, 127 out of 202 departments (63%) supplied data to the study, with inclusion of 6357 patients. Overall, 1362/6357 patients (21.4%) had a fracture present on auditor review of the CT imaging. There was a lack of compliance with all audit standards: 79% of reports commented on the vertebrae (target 100%), fracture severity was mentioned in 26.2% (target 100%), the recommended terminology 'vertebral fracture' was used in 60.1% (target 100%), and appropriate onward referral was recommended in 2.6% (target 100%).
CONCLUSION(S): The findings from this study should be used to provide impetus to improve the diagnosis and care for patients with osteoporotic VFFs. Solutions are multifactorial, but radiologist and local osteoporosis/fracture liaison service engagement is fundamental, combined with necessary development of electronic report notification systems and expansion of supporting fracture services. KEY POINTS: * Early detection and diagnosis of vertebral fragility fractures (VFFs) significantly reduce patient morbidity and mortality. This study describes the results of a retrospective UK-wide audit evaluating current radiology reporting practice in the opportunistic diagnosis of VFFs as demonstrated on computed tomography (CT) studies including the spine. * Key audit standards included comment made on bone integrity in primary report (target 100%), comment made on severity of fractures (90%), report used recommended terminology 'fracture' (100%), and report made appropriate recommendations for referral/further assessment (100%). The audit results demonstrated a lack of compliance with all audit standards; lack of compliance was most marked in the use of recommended terminology (achieved 60.3%), in relation to comment on fracture severity (achieved 26.2%) and for recommendation for referral/further assessment (achieved 2.6%). * Solutions are challenging and multifactorial but the opportunity exists for all radiologists to examine their practice and directly improve patient care.

**15. Alcohol use and misuse show a distinct genetic architecture: A genome-wide and polygenic risk scoring approach**

**Authors** Sanchez-Roige S.; Johnson E.; Palmer A.; Agrawal A.; Clarke T.; Edwards A.
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Available at Neuropsychopharmacology from Unpaywall

**Abstract** Background: Alcohol use disorders (AUD) can be dissected into two core components-the extent to which an individual consumes alcohol and the potential problems that they experience related to their intake.
Method(s): We obtained measures from the Alcohol Use Disorder Identification Test (AUDIT), which is a 10-item screening questionnaire that measures both aspects of alcohol consumption (items 1-3, AUDIT-C) and problematic use (items 4-10, AUDIT-C), from a population-based cohort, UK Biobank (UKB, N = 121,630), and performed two genome-wide association (GWAS) analyses. Next, we calculated polygenic risk scores (PRS) of AUDIT-C and AUDIT-P and we estimated their correlations with various alcoholrelated outcomes in four independent samples with differing age and ascertainment characteristics. Data on alcohol-related phenotypes were drawn from a cohort ascertained for family history of alcoholism, the Collaborative Study on the Genetics of Alcoholism (COGA; N = 6,850); and three population-based cohorts, the Avon Longitudinal Study of Parents and Children (ALSPAC; N = 5,911), Generation Scotland (GS; N = 17,461), and a subset of the UKB (N = 245,947).
Result(s): We identified that genetic liability to AUDIT-C was positively correlated with educational achievement and unrelated to psychopathology, whereas liability to AUDIT-P was negatively correlated with educational achievement and positively correlated with psychopathology. In general, AUDIT-P PRS was associated with a range of alcohol-related phenotypes, including DSM-IV alcohol dependence (COGA, R2 = 0.70%, p=1.9e-9; ALSPAC, R2 = 0.50%, p=5.75e-4) and ICD AUD-related disorders (UKB, R2 = 0.20%, p=2e-16), DSM-5 symptom count (COGA, R2 = 0.70%, p=9.76e-11), maximum drinks (COGA, R2 = 0.50%, p=2.53e-8, ALSPAC, R2 = 3.3%, p=1.59e-3), CAGE (a screener for problem drinking) scores (GS, R2 = 0.40%, p=9e-7), and increased risk of onset of alcohol dependence (COGA, HR = 1.15, p = 1.64e-08), in both population-based and high-risk clinically ascertained cohorts, while AUDIT-C PRS showed less utility in the ascertained cohort.
Conclusion(s): These findings suggest that alcohol consumption and AUD have an overlapping yet distinct genetic architecture, as well as demonstrate the influence of ascertainment schemes on polygenic analyses.

**16. Determining Unmet Need for Critical Care as Part of a Business Case for Expansion of Capacity in a Mid-Sized Acute UK Hospital**

**Authors** Sharifi L.; Ackerman A.; Brinsley J.; Maeda R.; Boira B.; Higgins D.
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**Abstract** INTRODUCTION. * Our medium sized 544 bed acute hospital lacked a dedicated HDU for many years. Accordingly patients were admitted to ITU with higher APACHE scores, and the hospital had an outlying mortality rate. This data led to the construction of a new 8 bedded HDU facility, opened at 50% capacity in May 2018. * Six months after opening, and encouraged by a fall in admission APACHE to ITU, we audited the degree of unmet need throughout acute and elective care. We present this audit so others can use our methodology to assist in their cases for expansion of Critical Care (CC) capacity within their institutions. OBJECTIVES. * To identify: Adult patients who would benefit from admission to Critical Care (HDU and ITU) but are not actually admitted, where CC beds are occupied by patients who have recovered but cannot leave due to a shortage of hospital beds * To determine if additional HDU capacity would help mitigate this problem METHODS. * 14 day 24 hour data collection of CC bed state, record of all referrals / escalations to CC, record of all theatre / recovery patients potentially requiring CC RESULTS. * CC services were in high demand, ITU being at 100% capacity for 43% time * HDU capacity was the biggest cause of delayed discharge from ITU * 25% of all HDU bed hours were filled with patients fit for step down to the ward * Elective surgery was cancelled more often than usual due to CC capacity constraints * Surgical patients were less likely to get a bed on CC than medical patients, with patients being nursed in areas lacking CC resources and training CONCLUSION. * Surgical patients are being cancelled or nursed in innapropriate areas. Seperately, national data shows below average admission of high risk emergency laparotomies to CC. Thus both elective and emergency patients are experiencing suboptimal care. * Capacity pressures on wards block HDU discharges, in turn blocking ITU * This audit informed the business case for additional HDU capacity, and our materials made it repeatable for the audit cycle. We hope this model may be of use to others.

**17. Use of parenteral iron in the perioperative resuscitation of hip fracture patients-a quality improvement project**

**Authors** Dudziak J.M.; Ahsan A.; Factor D.
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**Abstract** INTRODUCTION. Blood loss in hip fracture patients is common, resulting both from initial trauma and subsequent operative intervention. As UK national standards mandate operative fixation within 36h of presentation to hospital, rapid correction of anaemia is paramount to optimise postoperative mobility (Lawrence 2003). However, multi-centre trials have found no benefit from using a liberal (transfusion if Hb <100 g/L) over a restrictive strategy (Hb <80 g/ L or patient symptomatic) (Carson 2011), indicating that adverse effects of red cell transfusion could offset the potential benefits of higher Hb levels. Parenteral iron replacement promises to increase Hb without transfusion-related morbidity (Bernabeu-Wittel 2016). OBJECTIVES. To assess and optimise our use of parenteral iron to treat iron deficiency in anaemic hip fracture patients. METHODS. Initial cohort of 43 consecutive hip fracture patients, median age 81, 63% female, admitted to our UK district general hospital over six weeks from November 2018 to January 2019. Forty patients survived to operative fixation and were included in the primary analysis. We deployed a care bundle to improve testing for and correction of perioperative iron deficiency in April 2019, will assess its impact in June and present our findings at the congress. RESULTS. All but one (97%) patient were anaemic (Hb <130 g/L, from Munoz 2017) during their inpatient episode. Thirty-seven (93%) patients had their serum iron levels measured, which was low in 29 (78%) cases. Only four patients (10%) had transferrin saturation (TSAT) measured, which were low in all cases (100%). Ferritin was measured in 21 (53%) patients, but only in three (13%) cases was less than 100 mcg/L (threshold in presence of inflammation, from Munoz 2017). Twelve patients (30%) received ferric carboxymaltose (FCM), all with low serum iron levels. However, only two (50%) of the patients with low TSAT, and only one (33%) of the patients with low ferritin received FCM. Seventeen patients (59%) with low serum iron did not receive FCM, although four of those patients additionally had either low TSAT or low ferritin, see above. CONCLUSION. Both anaemia and iron deficiency were extremely common. Serum iron was the most commonly used biomarker of iron deficiency and showed overwhelmingly low iron stores in our cohort. TSAT was underused, despite being the most sensitive marker for insufficient iron supply in the presence of trauma. Ferritin, despite still being the diagnostic mainstay (Munoz 2017) was poorly sensitive in our cohort, likely due to false elevation as part of the acute phase response. Although most patients would likely have benefited from parenteral iron replacement, only a minority received it. We will intensify staff education, deploy a care bundle containing prompts for blood sampling as well as indications for parenteral iron replacement and will report the result of this intervention at the congress.

**18. The use of airway pressure release ventilation for severe respiratory failure; a retrospective review of the clinical effectiveness and patient safety in an adult critical care unit in the south east of England**

**Authors** Bahlool S.; Millen G.
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**Abstract** INTRODUCTION. Airway pressure release ventilation (APRV) has been recently gaining more popularity in many adult critical care units in the south east of England. Although it is now widely used in the region as part of the management of severe respiratory failure, it failed to find its way into the national guidelines for the management of ARDS (1). I guess the paucity of clinical trials plus some conflicting results from already published studies could be the reason (2, 3). Since the publication of Guidelines for the Provision of Intensive Care Services (GPICS) by the Faculty of Intensive Care Medicine and the Intensive Care Society in April 2015(4), all critical care units were encouraged to develop a pathway for refractory hypoxaemia. At the William Harvey Hospital in south east of England, we introduced our local pathway for severe respiratory failure that includes APRV as one option. OBJECTIVES. One year following the introduction of the APRV into the local practice, we decided to retrospectively review all the patient who had received APRV from two points of view; clinical effectiveness and safety profile. Effectiveness was measured by the improvement in oxygenation whilst safety was judged by the incidence of serious adverse events like barotrauma. METHODS. We retrospectively reviewed all patients admitted to our critical care unit over a period of a year and had received APRV for at least six hours or more. Data collection was anonymous and only non-identifiable information was used. There were no patients with head injury in our audit. Data collected for each patient included: age, sex, ventilation days and total Intensive care days. Physiological data collected for each patient were the worst daily value for PO2, PCO2, peak airway pressure and the P/ F ratio. We also recorded the incidence of barotrauma and patients' final outcome. RESULTS. Seventy six patients received APRV over the period of the review. The average patients' age was 55 (16 - 85) years with male to female ratio of 1.5. The average length for mechanical ventilation was 6 (2 - 38) days and the length of total ITU stay before final destination was 8 (2- 28) days. The average P/F ratio significantly improved over the first three days following the application of APRV. This coincided well with a reduction in the peak airway pressure and no significant hypercapnoea. Pneumothorax occurred in only three patients (incidence of 4%); all those patients had a chest drain sited promptly and two of them were eventually transferred to a tertiary centre. One patient developed Pneumo-mediastinum and was managed conservatively. Regarding the final outcome, 59 (77%) patients were weaned successfully from mechanical ventilation, 14 (18%) patients died and 4 (5%) patients retrieved by a tertiary centre (three of which received ECMO). CONCLUSION. The results showed that application of APRV was associated with dramatic improvement in oxygenation over a very short period of time. There was no significant hypercapnoea associated with the application of APRV and the incidence of barotrauma was 4% which is less than described in the literature for such cohort of patients(5). Although our patients sample is small, this review showed that APRV is very effective tool in the management of severe respiratory failure with no evidence of increased harm to our local patients.

**19. One-year single-centre experience of emergency department endotracheal intubations: A retrospective observational study**

**Authors** Fadhlillah F.; Bury S.; Grocholski E.; Dean M.; Refson A.
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**Abstract** INTRODUCTION. Endotracheal intubation in the critically unwell patient is a life saving procedure, which is frequently performed in the Emergency Department (1). A high level of skill and training is needed to facilitate a controlled, safe environment in which this can be performed. The 4th National Audit Project (NAP4) of the Royal College of Anaesthetists (RCoA) and Difficult Airway Society (DAS) was designed, in part, to look at airway management in the Emergency Department and highlight any deficiencies that could lead to serious harm (2). In direct response to NAP4, the published 2018 guideline on the management of tracheal intubation in critically ill adults recommends the use of a checklist to facilitate intubations (3). Checklists have been shown to significantly reduce mortality globally in surgery and have been adopted in high-pressure environments including in pre-hospital medicine (4,5). This study describes the current practice of endotracheal intubation in a single centre emergency department in a district general hospital in Greater London. METHODS. The study was a retrospective observational study. Using the emergency department's electronic system a search was carried out over a one-year period. Cases were identified if they had been coded as: transferred to another hospital; died in the emergency department; referred to Intensive Care Unit (ICU); admitted to ICU. A total of 1553 notes were reviewed and 94 intubations were identified. Factors studied included: age and sex; indication for intubation; checklist used; if no checklist, were any pre-defined safety measures documented; drugs used; arrival time and complications. No ethical approval was sought, as per institutional guidelines. RESULTS. 94 intubations were identified in the one-year time period, averaging 1.8 intubations in the department per week. The most common indication for intubation was for airway protection (n=35) and 42% of the cases were due to cardiac/respiratory arrest. Only 16% of cases showed evidence of use of a checklist; in the remaining 79 patients, no patients had all the pre-defined safety measures documented. The most commonly used neuromuscular relaxant was found to be rocuronium in 45% of cases. The mean response rate time of a clinician was 10 minutes 16 seconds. There was no significant difference between the response rate times of Emergency Doctors and external physicians (p=0.0477). All intubations were successful, however, 8 complications were reported of which 100% of these were in patients without a checklist. CONCLUSION. This study provides an overview of the intubation practices in a single-centre Emergency Department after the NAP4 recommendations. It has identified poor compliance (16%) to the use of a checklist in endotracheal intubations, despite current guidelines( 2). Whilst checklists have been shown to cognitively off load the medical practitioner, there may be many barriers limiting its implementation( 6). It adds to the growing call for better provision of care to patients with a deteriorating airway and for the continued auditing of practice. In response to these findings, our institution has introduced a structured teaching programme for staff and will aim to re-study and audit after one year.

**20. Multimorbidity in Intensive Care: Prevalence and its effects on Mortality prediction modelling**

**Authors** Blayney M.; Donaldson L.; Smith P.; Cole S.; Mcallister D.; Lone N.
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**Abstract** INTRODUCTION. ICU populations have increasing levels of multimorbidity. The APACHE-II model is currently used in Scotland to publicly report risk-adjusted mortality in ICUs and benchmark care quality(1,2). However, the model only accounts for severe comorbidity. In Scotland, two national population-wide datasets exist from which milder comorbidities can be derived. These are the Scottish Morbidity Record (SMR01) comprising hospital discharge records for all Scottish hospitals(3), and the Prescribing Information System (PIS), a dataset comprising all community dispensed medical prescriptions(4). OBJECTIVES. * To derive comorbidity measures from SMR01 and PIS, report prevalence of comorbidities and their association with mortality in a Scottish ICU population * To ascertain whether adding comorbidities derived from the two data sources to the APACHE-II-derived risk prediction model improves mortality prediction METHODS. Cohort study of all patients admitted to Scottish ICUs from 2010-2017 (excluding readmissions) derived from the Scottish Intensive Care Society Audit Group (SICSAG) database, comprising all admissions to Scottish ICUs(5). Comorbidities were derived from two datasets: SMR01-derived comorbidities defined by Charlson(6); PISderived comorbidities using British National Formulary codes, adapted from a study using Anatomical Therapeutic Chemical codes(7). Prevalence of derived comorbidities was reported. Logistic regression was used to report the univariable association of each comorbidity with ultimate hospital mortality. After excluding patients ineligible for APACHE-II risk scoring, three risk prediction models for ultimate hospital mortality were developed using multivariable logistic regression: current APACHE-II model, APACHE-II plus PIS comorbidities, and APACHE-II plus SMR01 comorbidities. ROC graphs, area under the receiver operating characteristic curve (AUROC), AIC, BIC and Brier's score were compared. RESULTS. 99773 patients were included during the study period. 19108 (19.2%) died before ultimate hospital discharge. 17 comorbidity categories were derived from SMR01, and 20 from PIS. The most prevalent SMR01 comorbidity was cancer (15521 (15.6%)), the least was HIV (162 (0.2%)). The most prevalent PIS comorbidity was pain (42354 (42.5%)), the least was dementia (266 (0.3%)). The median number of comorbidities by SMR01 was 1 (IQR 0,1); PIS was 2 (IQR 0,4). On univariable analysis of SMR01, ?moderate-severe liver disease? held the highest OR for mortality (OR 3.76 (CI 3.46,4.08), p<0.001); from PIS, the highest was dementia (OR 1.68 (CI 1.44,2.49), p<0.001). Adding comorbidity increased the predictive ability of both models compared to the APACHE-II model, as measured by AUROC, AIC, BIC and Brier's score. The best model measured by AUROC was ?APACHE plus SMR01 comorbidities? (AUROC=0.871 vs 0.865, p<0.001). CONCLUSION. Prescribing data yielded greater prevalence of comorbidities than hospital discharge records. Adding comorbidities to risk prediction models for patients admitted to ICU leads to a small improvement in prediction of mortality compared with the current APACHE II model. Current ICU risk prediction models may need to be revised to include wider comorbidity measures as increasingly multimorbid patients are admitted to ICUs.

**21. Electronic Observation Chart and Education improved accuracy of Cerebral Perfusion Pressure measurement in patients with Severe Traumatic Brain Injury**

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**Abstract** INTRODUCTION. Monitoring and management of intracranial pressure (ICP) and cerebral perfusion pressure (CPP) based on brain trauma foundation guidelines(1)is the standard of care in the management of patients with traumatic brain injury (TBI). However, there is a wide variation in the way CPP is measured. Councils of Neuroanaesthesia and Critical Care Society of Great Britain and Ireland (NACCS) and the Society of British Neurological Surgeons (SBNS) recommend that in the management of TBI, when calculating CPP, the arterial transducer used to estimate mean arterial pressure (MAP) for the calculation CPP =MAP-ICP should be positioned at the level of the tragus (which is an approximation for middle cranial fossa level)(2). In a person with 30 degrees head elevation and 30 cm distance between heart(Phlebostatic Axis)and the head, the difference in measured MAP/CPP levels will be 11 mmHg depending on the calibration level. METHODS. We conducted a retrospective audit of the position of arterial transducer in patients with TBI who had continuous ICP and CPP monitoring with an aim to ensure correct positioning of transducer at tragus level, as per national recommendations (2). We implemented continuous teaching sessions for nursing staff and introduced a mandatory drop-down list for arterial transducer position(Figure 1)on our electronic patient observation chart. We re-audited the position of transducer after implementation of above changes. Audits were conducted for a period of 1 month where patients with TBI were observed over a period of 3 days with twice daily recording of the position of the transducer. We excluded patients with non-traumatic brain injury and patients with significant extracranial polytrauma even if they had continuous ICP monitoring. Figure 1 showing the ''drop-down list? of arterial transducer position in our electronic patient observation chart. RESULTS. A total of 24 observations were recorded from 4 patients with TBI and continuous ICP and CPP monitoring over their first 3 days of admission, checking the position of transducer twice daily, corresponding to nursing shift changes. Only on 1(4%)occasion was the transducer positioned correctly (tragus) in the 1st audit. After the implementation of nursing education and change in electronic patient observation chart, on 18(75%) occasions, positioning of transducer was at correct level. CONCLUSION. We demonstrated significant improvements in adherence to national recommendations on arterial transducer position in patients with isolated TBI requiring continuous ICP and CPP monitoring, after implementation of changes to our patient observation chart as well as improved nursing education on this topic. We recognise that there is scarcity of evidence of benefit for this practice, in terms of outcomes for this cohort of patients. It is perhaps time to design high quality studies to see if there are benefits, in terms of neurological outcomes, of measuring cerebral perfusion pressure at midbrain level. (Figure Presented) .

**22. Severity scoring systems as predictors of acute inpatient mortality; a multicentre comparison of NEWS, SOFA and ICNARC**

**Authors** Hughes A.; Harris S.; Palmer E.
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**Abstract** INTRODUCTION. Early identification of the deteriorating patient is a priority for healthcare professionals. Previous studies have examined the prognostic accuracy of early warning and critical care scoring systems, however comparative data is rare(1,2). OBJECTIVES. Compare the prognostic accuracy of the Intensive Care National Audit & Research Centre (ICNARC) physiology score, the NHS National Early Warning Score (NEWS) and the Sequential Organ Failure Assessment (SOFA) score for predicting acute (7-day) mortality in the deteriorating ward patient. METHODS. Data for this abstract were taken from the (SPOT)light study; a multicentre prospective observational cohort study of the deteriorating ward patient referred for assessment by critical care. From the physiology measurements at ward assessment, the ICNARC physiology, NEWS and SOFA scores were calculated with missing values given zero weights as previously recommended(3-5). Survival status was obtained from the NHS Information Service with acute mortality defined as death within 7 days of the first ward assessment by critical care. Statistical analysis was undertaken using R. Unadjusted logistic regression was used to test for the association between each score as a continuous variable and acute mortality, with odds ratios calculated. Performance of scoring systems was assessed by discrimination using receiver operating characteristic (ROC) curve analysis. ROC curves were plotted and the area under the curve (AUC) calculated using the PRROC package(6). RESULTS. 48 hospitals reported 15,158 visits for ward assessment over 369 study months (mean age 67 years, 51.9% male). 2708 (18%) patients died during the 7-days following ward assessment, 1539 (57%) of these deaths occurred within the first 48 hours. There was a clear correlation between physiological severity and acute mortality using either ward based (NEWS) or critical care scoring systems (SOFA, ICNARC). For predicting acute mortality, the AUC-ROC values (95% CI) were similar between the scoring systems with NEWS 0.67 (0.66-0.68), SOFA 0.65 (0.64-0.67) and ICNARC 0.68 (0.67-0.69). CONCLUSION. The results demonstrate that NEWS, ICNARC and SOFA have equivalent accuracy for predicting acute mortality in the deteriorating ward patient. This result is of important practical value as using simpler scores such as NEWS or SOFA could facilitate greater efficiency when assessing patients in the ward setting.

**23. Incidence of delirium amongst neurosurgical and non-neurosurgical patients in a tertiary trauma centre**

**Authors** Flesher W.; Akbar A.; Kulkarni S.
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**Abstract** INTRODUCTION. Delirium is a major cause of morbidity within the ICU environment1 and is associated with prolonged stay, longer time on mechanical ventilation2 and all-cause mortality3. In Royal Preston Hospital (RPH), a tertiary centre for neurosurgery in the Northwest of England, it has been anecdotally identified that neurosurgical patients represent a degree of delirium-related morbidity on the ICU disproportionate to the size of the group. OBJECTIVES. 1. To quantify the incidence of delirium in the neurosurgical and non-neurosurgical ICU populations and 2. To audit compliance with existing Trust pathway for management of delirium. METHODS. This was a retrospective audit of all admissions to ICU in RPH between 01/09/2018 and 30/11/2018. Patient notes were analysed to determine the primary reason for admission (whether neurosurgical or not), the number of days spent delirious based off the CAM-ICU assessment, the Richmond Agitation and Sedation Score (RASS), the type of delirium (hypoactive, hyperactive or mixed) and the treatment given (pharmacological or non-pharmacological). RESULTS. 397 patients were included, comprising 346 nonneurosurgical and 51 neurosurgical patients. 100 (28.9%) nonneurosurgical patients and 29 (57%) neurosurgical patients had at least 1 delirious day on the ICU. Neurosurgical patients represented 37.2% of all delirium days despite their small group size. Further results of audit will be presented in the poster. CONCLUSION. Neurosurgical patients have a disproportionately higher rate of delirium in this centre. We should consider neurosurgical patients to be an at-risk group for developing acute delirium and have a documented pharmacological and non-pharmacological plan as an anticipatory measure. Our current statistics use delirium days as an outcome. This is a flawed statistic which is heavily skewed by neurosurgical long-stay patients. A different reporting measure is therefore required for ongoing audit purposes.

**24. Towards better governance in Focused Intensive Care Echocardiography (FICE)**

**Authors** Chong M.S.F.; Aron J.
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**Abstract** INTRODUCTION. With the introduction of Focused Intensive Care Echocardiography (FICE) training programmes in the UK, it is essential that each FICE training unit should have a local echo governance structure. OBJECTIVES. Our quality improvement project involved auditing the process for local image storage and review and quality assurance of echo reporting and referral pathways before and after introduction of a formal echo reporting form. METHODS. A prospective observational study was performed to examine all transthoracic echos performed in our tertiary referral general intensive care unit over a two week period in November 2018 for: (i) local image storage, (ii) network archiving, (iii) echo reporting documentation and (iv) referral for formal echo. After a teaching session and introduction of an echo reporting form on the electronic health record system (Cerner), the data was reaudited two months later in January 2019. RESULTS. 20 scans were performed by FICE trainees on ICU in November 2018 and 22 scans in January 2019 over the two week periods. Image storage on the local ultrasound hard drive occurred 100% in both periods and network archiving increased from 45% to 50%. Echo reporting documentation improved from 30% to 68% after introduction of the echo reporting form. Formal echo referral increased from 20% to 45% with performance of formal echo on ICU occurring 75% and 80% respectively prior to ward discharge. CONCLUSION. Introduction of a formal echo reporting form has led to improved quality assurance of reporting and referral pathways.

**25. Improving information-giving to critical care patients to guide post discharge rehabilitation: A quality improvement project**

**Authors** Fardanesh A.; Stavropoulou-Tatla S.; Grassby O.; Elliott S.
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**Abstract** INTRODUCTION. ICU survivors have a 1-year mortality rate of 30% (1), and a reduced quality of life associated with post-ICU syndrome (2); a triad of cognitive decline, physical weakness and psychiatric disorders. Early rehabilitation improves outcomes, leading to greater independence. The NICE CG83 guidelines instruct the provision of rehabilitation information to critical care patients on discharge. Currently, only a third of UK trusts meet these guidelines (3). OBJECTIVES. Within 20 weeks, we aimed to achieve 100% patient and therapist satisfaction with the rehabilitation information given to patients at risk of physical morbidity on discharge from critical care at Medway Maritime hospital. METHODS. Critical care patient and therapist satisfaction was assessed using questionnaires at baseline and after each PDSA cycle. In PDSA1, a generalised rehabilitation information booklet was introduced. In PDSA2, a personalised rehabilitation plan for pre-discharge completion by the therapists was added. RESULTS. A shift was observed in critical care patient satisfaction scores, indicating a significant change in the median from 20% at baseline to 70% after PDSA2. This was also reflected in the therapist satisfaction scores which increased significantly from 60% at baseline to 80% after PDSA2. CONCLUSION. The introduction of a generalised information booklet, supplemented with a personalised recovery plan, is an effective way of increasing critical care patient and therapist satisfaction with postdischarge rehabilitation information provision. This should translate to greater critical care patient engagement with rehabilitation and improved long-term outcomes. To further increase satisfaction, the addition of psychiatric input to the booklet is currently underway.

**26. Improving non-invasive ventilation practice in St John's Hospital**

**Authors** Elawad S.; Fiona O.
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Available at Intensive care medicine experimental from Europe PubMed Central - Open Access
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**Abstract** INTRODUCTION. Acute exacerbation of chronic obstructive pulmonary disease (COPD) is one of the most common reasons for hospital admissions in the UK. Non-invasive ventilation (NIV) has revolutionised the management of acute hypercapnic respiratory failure and has become one of the major advances in medicine for the last decades given that it is used correctly with effective settings. Recently released BTS and NCEPOD guidelines showed the delivery of NIV in the acute setting is frequently sub-optimal [1,2]. This was also the case in St John's Hospital. In St John's Hospital NIV is managed by medical staff in high dependency area which is part of the medical admission unit. Our aim was to audit the current practice in comparison with the British Thoracic Society (BTS) quality standards [2] focusing on and aiming to improve ventilator's settings. Also, we aimed to formalise a hospital protocol for NIV. We have also looked at our escalation plan in treatment failure. METHODS. For each round, non-identifiable patient data was collected prospectively aiming for at least 20 patients. We obtained verbal consent to look in to patient's notes. We used quality improvement methodology and created an audit tool using the BTS template example. The first round was carried out between November 2017 and February 2018 where we collected the data for 20 patients and analysed the results. We presented the findings in our local hospital medical teaching day and introduced the hospital protocol. We collected the data in the second round between February and July 2018 for 18 patients and analysed the results. RESULTS. The total number of patient's data collected in both rounds 38. In both rounds patient mix was similar. We have been consistently managing to obtain CXRs and initial blood gases before starting non-invasive ventilation 38 (100%). In the first round 13 (65%) reached recommended setting of IPAP 16-22 compared to 14 (78%) in the second round. On the other hand escalation decisions were better in the first rounds were 18 (90%) of patients had a resuscitation decisions made and 14 (80%) had clear escalation plans before starting NIV compared to 15 (83%) in the second rounds. CONCLUSION. Having a protocol to guide the use and modification of NIV settings along with ensuring the medical and nursing staffs' familiarity with the protocol helps in providing effective care. There is still scope for improvement in escalation decisions. Also, one of the issues we encountered was effective documentation which would be a further project to undertake.

**27. Age and Outcome: ICU Admissions in the Elderly post Emergency Laparotomy**

**Authors** De Bono M.; Singh N.
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**Abstract** INTRODUCTION. More elderly patients are receiving emergency treatment and undergoing unplanned surgical procedures with increasing comorbidities and infirmity. Risk stratification tools are utilized to predict outcomes. P-Possum is used by the National Emergency Laparotomy Audit (NELA) database in the UK. However, these measures have been criticized for not adequately quantifying frailty and morbidity burden of an elderly population. It remains unclear if surgical and ICU management are beneficial in consideration of long-term outcomes in this population. OBJECTIVES. This evaluation of service aims to view 6 and 12 month mortality for our elderly patients and assess predictive scores currently used. Secondary objectives include the age stratification of post-operative recovery in terms of length of stay on the ICU, duration of ventilation and necessity for organ support. METHODS. All patients older than 70 admitted to ICU after an emergency laparotomy at a British district general Hospital between August 2015 and November 2017 were included. Data was collected from the NELA Database, ICU charts and electronic patient records. Survivorship was measured at 6 and 12 months. T-Test analysis was performed between surviving and non-surviving groups, then stratified into decades (patients 70, 80, and 90) and ANOVA analysis was performed. RESULTS. 98 patients were identified, of which 18 were excluded due to incomplete documentation. Of the 80 remaining 63 (79%) survived to both 6 and 12 months. The average age of the surviving group was older than the non-surviving group and lacked significance (81.8.4+/-6.2 yrs vs. 80.5+/-5.5 yrs; p=0.43). All patients, (n=8) older than 90 were alive at 12 months. NELA's measure of Operative Severity did not yield a significance in mortality (p=0.16). Other measures employed by NELA were found to be more predictive. Physiology Severity Score (P<0.005) and PPossum Mortality (18.0+/-20.6% vs. 34.0+/-27.4%; p<0.01, 95% CI 3.9 to 28.1%) were good markers of outcome irrespective of age. Length of time mechanically ventilated was associated with poor outcome (1.4+/-2.3 days vs. 5.1+/-8.0 days; p<0.01, 95% CI 1.4 to 5.9 days) but not duration of ICU stay (P=0.13). ANOVA stratification between decades saw a reduced length of stay on ICU (F=4.77; P<0.05) and number of days ventilated (F=3.60; P<0.05) as age increased. CONCLUSION. Our results reveal that for patients over the age of 70 admitted to the ICU, age itself is not predictive of outcome. This group demonstrated a 12 month survival of almost 80%. Therefore, in our institution very elderly patients who have been selected for emergency operations can expect to do well after surgery and ICU admission. Future work should be carried out to describe the features of patients declined for surgery.

**28. Use of a digital checklist and database to improve patient safety in critical care**

**Authors** Turner J.; Kuravi A.
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**Abstract** INTRODUCTION. Safety huddles and checklists are recognised methods to improve patient safety, and computer-based tools such as automatic early warning score systems and electronic patient records can be used to further augment patient care. In a 13-bed critical care unit within a 550-bed UK district general hospital, a delay in identification and treatment of critically ill patients, and identification of potential patient safety issues was noted. A structured electronic communication tool was developed with the aim of providing accurate, real-time data on patient safety issues, allowing rapid multidisciplinary response. METHODS. A digital checklist was designed using Microsoft Access, and a morning multi-disciplinary safety huddle was instituted. Data on the number and location of patients at risk of deterioration as well as other safety critical issues were systematically highlighted, recorded electronically, and automatically audited by the software. RESULTS. In two months, 202 patients were identified as requiring urgent review, of whom 68 were outside the critical care unit. Nurse staffing matched patient acuity only 61% of the time, with equipment issues present on 40% of days. Airway equipment had been checked 91% of the time, and high flow nasal oxygen or noninvasive ventilation machines were available to outreach on 73% of days. There were infection control issues on 52% of occasions. When surveyed, staff reported more rapid resolution of patient safety issues, and feeling more engaged with the process of task prioritisation following the introduction of the safety huddle. CONCLUSION. Use of an automatically audited digital checklist to facilitate a daily safety huddle has allowed recognition of potentially significant patient safety issues, and ensured that these are highlighted to everyone including the most senior members of staff, allowing corrective action to be undertaken promptly. The data has led to the ward round being redesigned to facilitate rapid senior review of the most unwell patients. The digital format obviates the need for laborious data collection, in addition to allowing remote monitoring by senior management. Following the success of this, we have increased the huddle to twice daily.

**29. Understanding deterioration in hospitalised patients: Application of a failure to rescue score**

**Authors** Hadfield S.; Loveridge R.; Helme E.; Hadfield D.; Madine E.; Wendon J.; Mcphail M.; Metaxa V.
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**Abstract** INTRODUCTION. Mismanagement of deterioration is the most common area of systemic failure in avoidable patient death across the NHS.[1] To address this issue, national guidelines recommend routine analysis of patient safety data to identify areas of service failure and to highlight opportunities for corrective action.[2] We previously described a novel 'failure to rescue' (FR) scoring system that can be applied to unplanned ICU admissions (UPAs) from ward areas, to identify any aspects of care that may have contributed to patient deterioration.[3] Using data collected over a 4-year period, here we validate this score and explore the association between the FR score, illness severity and patient outcome. METHODS. All adult UPAs in a single university foundation trust between January 2014 and December 2018 were reviewed. As previously described, the FR score consists of 18 questions that objectively appraise four categories of care failure in the pre-ICU admission period. 1. Failure to record: Were frequency of vital signs increased? Were vital signs complete? 2. Failure to recognise: Was deterioration recognised? 3. Failure to escalate: Was the patient escalated, was there evidence of an escalation block? 4. Failure to manage: Where appropriate diagnostic tests performed? Was there timely review? Scores range 0 to 18.5; higher scores indicate greater failures in care. Additional data collected included: patient demographics, APACHE II score, ICU admission, ICU and hospital mortality. RESULTS. 3112 patients were included; median age 63(IQR 51-73), 59% male, median admission APACHE II scores 19(14-23) with a 66% survival rate to hospital discharge. Median total UPA score was 2(1-4) which was higher in patients who did not survive (p<0.001). Patients who suffered cardiac arrest prior to ICU admission also had higher UPA scores (p<0.001). The majority of patients scored between 0-3; and the most commonly occurring category of care failure was Failure to manage in 20% of cases. In a multivariate logistic regression model controlling for age, sex and APACHE II score total UPA score retained significance for prediction of hospital mortality (OR 1.040, 95% CI 1.007-1.040, p=0.017, overall p value <0.001). The area under the receiver operating curve for this model was 0.735 (0.718-0.753), p<0.001. CONCLUSION. In this large observational cohort, we have demonstrated the ability of the FR scoring system to identify categories of care failure. We have demonstrated an association between higher scores (greater failures in care) and worse patient outcomes. This system provides critical information about patient deterioration, allowing focused quality improvement projects that may be tracked via FR scores over time.

**30. Fluid Management: Still a cause for concern but possible 'greenshoots' of improvement**

**Authors** Leach R.; Ostermann M.; Morton N.; Leach M.
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**Abstract** INTRODUCTION. Daily fluid assessment, prescription and administration are essential daily tasks on intensive care, medical and surgical units. Published data suggests that intravenous (IV) fluid management is poor and patient outcomes are adversely impacted by both under and over hydration. Surgical audit data suggests that fluid related complications occurs in 17-54% of post-operative patients contributing to mortality and increased length of hospital stay. OBJECTIVES. As clinician knowledge has been identified as a major factor in previous reviews of poor fluid management we examined current knowledge in 348 junior and middle-grade medical doctors in Greater London and compared this to that in consultant intensivists to determine if progress had been made to address this issue in recent years. METHODS. Pre-registration (PRD; n=146) and junior medical doctors (JMD; n=70), specialty medical trainees (SpR; n=133) from 'acute' (e.g. ICU) and non-acute (e.g. rheumatology) medical specialties and consultant intensivists (CIs; n=18) were asked to complete a structured questionnaire which included: 1. Assessment of their previous training in fluid management; 2. How often they had managed fluid related complications (and whether these were reported as significant incidents); 3. Twenty 'best of 5' multiple choice knowledge questions (10 of these questions were similar to those used in previous fluid knowledge assessments (2001-2018) to enable change over time to be assessed) 4. Self-reported confidence in relation to fluid prescription. For comparison 18 CIs completed the questionnaire. Aspects of knowledge addressed included electrolyte composition of commonly administered IV fluids, normal daily fluid and electrolyte requirements and excretory mechanisms, fluid distribution, fluid and electrolyte physiology in health and disease and 4 clinical scenarios relating to the UK NICE guideline (CG 174) 'IV fluid therapy in adults in hospital'. RESULTS. As in previous reports, PRD and JMD responsible for most IV fluid prescriptions, reported limited training (<10hrs) during medical school and early clinical training. Fluid related complication were common and had been managed by 25% PRD (mainly <5 episodes) and 90% of JMD and SpR (<5 to >20 episodes). The majority of these were 'never' or 'rarely' reported. On the multichoice questions CIs correctly answered 15.1+/-2.1 (mean+/-SD) questions. PRD achieved 6.66+/-2.4; JMD 8.37+/-2.6 and SpR 8.14+/-2.84 correct answers (with 'acute' specialty SpRs performing significantly better than nonacute specialities). Compared to previous knowledge assessments there were improvements in knowledge related to several areas including sodium content of commonly prescribed fluids, daily water and electrolyte requirements and NICE guidelines. Self reported confidence in fluid management was higher than might be expected based on multiple choice question results in all groups except CIs. CONCLUSION. This study suggests that although fluid management remains a cause for concern in junior clinicians, with evidence of relatively poor training, failure to report complications, poor overall knowledge scores and over-confidence, there is evidence of improvement in a number of key areas previously highlighted in the UK NICE guideline CG174.

### 31. Hyperoxia in a General UK Intensive Care Unit (ICU)

**Authors** Charlton R.; Carpenter M.
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**Abstract** INTRODUCTION. Whilst the dangers of hypoxia are well documented, it has recently been proposed that too much oxygen, hyperoxia, may also be harmful to patients. There is a greater risk of mortality associated with hyperoxia, due in part to increased production of reactive oxidative species and vasoconstriction. Due to the widespread use of supplemental oxygen in ICU patients, this group is at a high risk of hyperoxia. OBJECTIVES. * To determine the prevalence of hyperoxia in patients receiving supplemental oxygen in ICU. * To determine whether action is taken to reduce the amount of oxygen delivered to patients based on hyperoxic capillary oxygen saturation ($SpO_2$) and arterial partial pressure of oxygen ($PaO_2$). METHODS. As part of a medical school project, a prospective audit was undertaken in a UK general mixed ICU/HDU of $SpO_2$ and $PaO_2$ of 53 consecutive patients receiving oxygen therapy, over 255 patient bed days, between 19/1/2019 and 6/2/2019. Data was obtained from patient observation charts, and $SpO_2$>96% (or >92% in the case of carbon dioxide retention), and $PaO_2$>14kPa were considered 'hyperoxic'. Any action taken to reduce the fraction of inspired oxygen ($FiO_2$) as a result of hyperoxia was documented. RESULTS. Over 255 bed days on ICU 4338 $SpO_2$ and 609 $PaO_2$ of 53 consecutive patients receiving supplemental oxygen were analysed to identify the prevalence of hyperoxia and the likelihood of action being taken to reduce the $FiO_2$ as a result. 2364 $SpO_2$ (54%) and 135 $PaO_2$ (22%) were found to be 'hyperoxic'. Action was taken to reduce $FiO_2$ in a total 372 instances of recorded hyperoxia (15%). A $PaO_2$ above target was more likely to prompt action ($FiO_2$ reduced in 33% hyperoxic recordings) than an $SpO_2$ above target ($FiO_2$ reduced in 16%) as illustrated in Figure 1. CONCLUSION. A significant proportion of recorded $SpO_2$/$PaO_2$ in 53 consecutive ICU patients were above target showing that there is a high prevalence of hyperoxia in ICU patients receiving supplemental oxygen. The $FiO_2$ delivered to patients was reduced in a small fraction of those found to be hyperoxic. A $PaO_2$ above target was more likely to prompt action to reduce $FiO_2$ than an $SpO_2$ above target. Staff education with regards to the importance of recognition and management of hyperoxia and conservative oxygenation targets for patients may reduce the risks associated with hyperoxia. (Figure Presented) .

**32. Organ donation trends in the UK: A cardio-thoracic intensive care unit perspective**

**Authors** Della Torre V.; Rubino A.; Walford D.
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**Abstract** INTRODUCTION. The last decade has seen a remarkable change in the landscape of organ donation after brain death (DBD) and circulatory death (DCD) in the UK1. The Organ Donation Taskforce highlighted the urgent need to address the lack of a clear ethical, legal and professional practice framework2, and it has been established that higher referral rates and the presence of a specialist nurse for organ donation (SNOD) lead to higher successful donors3,4.We publish the trends in organ donation of Cardiothoracic (CT) and non-CT Intensive Care Units (ICUs) in the UK, from 1st April 2014 to 31stDecember 2018. OBJECTIVES. We conducted a retrospective analysis to demonstrate the reasons behind these sustained improvements in number of referrals and organ donations. We identified the differences between CT-transplant and non CT-transplant ICUs. METHODS. Data analysed were extracted from the NHSBlood&Transplant (NHSBT) potential donor audit, the organ donor register and renal registry. Data collection included all patients deceased at Royal Papworth CT-ICU from April 2014 to December 2018 and we compared these with other CTICUs. Variables analysed (Key metrics): * Referral- If suitable patients are not referred, the patient's decision to be an organ donor is not honored. * SNOD- The consent rate in the UK is higher when a SNOD is present. * Waiting lists - The number of patients receiving a life-saving or life-changing organ transplant in the UK is increasing, but patients are still dying while waiting. RESULTS. In 2007/08 there were 13.4 deceased donors pmp, in total 809 donors. By 2017/18 this has risen to 24.9 pmp (1574 donors). However during 2017/18 there were still 426 deaths waiting for transplant. Transplant CT-ICUs had lower referral rates that nontransplant CT-ICUs. CONCLUSION. The reasons why transplant CT-ICUs have lower referral rates have raised questions, as it would seem these units should have a vested interest in the benefits of transplant. Some have postulated that transplant CT-ICUs are more likely to make local decisions that certain patients may not be candidates. Furthermore, transplant centres offers invasive organ support, including extracorporeal life support (ECMO) and mechanical circulatory assist device; therefore withdrawal of patients happens in a later stage. In addition, the issue of confirming death on such devices is contentious5,6,7. Clear definition of key metrics (referral, SNOD and waiting list), that demonstrably change outcome, contributes to improvement in outcome towards the target donor numbers, advocated in the latest NHS Blood & Transplants document "Taking Organ Transplantation to 2020"4. Royal Papworth Hospital has tackled this by empowering the "embedded SNODs" in promoting teaching within the staff, and supporting a multidisciplinary team-based approach. This has contributed to increase our referral rates and SNOD involvement from 79.5% and 76% respectively, in 2017, to a 100% in both metrics in 2018. Donation is now considered to be a component of good end of life care. Furthermore, the UK is moving towards deemed consent for organ donation8. An implementing strategy has been used at Royal Papworth in the last year: referrals of all deteriorating patients, at the very early stage of the withdrawal process, identification of potential donors, embedded SNODs, incorporation of organ donation audit into the monthly Morbidity&Mortality Meetings. The results of this strategy have been: increased number of referral to the success of 100% referrals, earlier referrals, and a more efficient multidisciplinary work with Transplant Surgeons.

**33. Secular trends in the initiation of therapy in secondary fracture prevention: Widening treatment gaps in Denmark and Spain**

**Authors** Prieto-Alhambra D.; Javaid M.K.; Ernst M.; Rubin K.H.; Martinez-Laguna D.; Cooper C.; Libanati C.; Toth E.; Abrahamsen B.
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Available at Journal of Bone and Mineral Research from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Purpose: There is a recognised gap in the initiation of anti-osteoporosis therapy for secondary fracture prevention. We used population-based databases in Spain and Denmark to quantify the treatment gap amongst fractured patients in 2005-2015.
Method(s): Data were extracted from primary care records in Catalonia (SIDIAP) and the national hospital database from Denmark, linked to pharmacy dispensation/s from 2005 (2007 for SIDIAP) to 2016. Patients with an incident fracture (any but skull/face/digits) in 2005-2015 and aged over 50 years were eligible. Those with prostate, breast, or bone cancer were excluded, as were users of anti-osteoporosis therapy in the year before fracturing. Numbers and % with at least one prescription of anti-osteoporosis treatment in the year following fracture were reported, and treatment gap (those not starting any such therapy) over calendar years depicted. Analyses were stratified by country and fracture site.
Result(s): A total of 131,959 (31,908 wrist, 9,773 hip, 7,664 spine, and 13,230 proximal humerus) and 284,375 (74,911 wrist, 46,171 hip, 8,331 spine, and 29,367 proximal humerus) fracture participants were included from Spain and Denmark respectively. Overall, secondary fracture prevention was more often started FRI-0746 ASBMR 2018 Annual Meeting after clinical spine (S 18.3%, DK 15.7%), followed by hip (S 11.5%, DK 10.1%), wrist (S 8.1%, DK 4.4%) and proximal humerus (S 6.9%, DK 3.5%) fractures. Hence treatment coverage was similar for clinical spine and hip, but halved for wrist and proximal humerus in Denmark compared to Spain.Already large treatment gaps increased further in the study period in Spain, from 89.6% for all fractures (80.5% for spine, 89.6% for proximal humerus) in 2007 to 94.7% (86.0% for spine, 94.9% for proximal humerus) in 2015. In Denmark, treatment gaps widened for spine (81.1% in 2005 to 87.6% in 2015), and remained stable for other fractures [Figure 1].
Conclusion(s): Despite the known imminent fracture risk following a first fracture, unacceptable treatment gaps remain, and have widened in Spain, from 80% to 86% for clinical spine and from 90% to 95% for proximal humerus between 2007 and 2015 respectively. Data from DK suggest a similar trend in treatment gap for clinical spine, but not for other fracture/s. This compares to a 76% treatment gap overall in the 2017 UK Fracture Liaison Service audit. Effective secondary fracture prevention services that can demonstrate closing the treatment gap are urgently required in Europe.

**34. Service level predictors of bone treatment recommendations after a fragility fracture: Baseline findings from the first UK patient level fracture liaison service audit**

**Authors** Javaid M.; Griffin X.; Prieto-Alhambra D.; Stephens D.; Jones T.; Stephenson S.; Stone M.; Cockill C.; Smith A.; Price I.; Gregson C.; Dockery F.; Bradley R.; Gittoes N.; Cooper C.; Gallagher C.; Vasilakis N.
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Available at Journal of Bone and Mineral Research from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Background: Fracture Liaison Services (FLSs) are recommended nationally to provide effective secondary fracture prevention after a fragility fracture. Bone therapies vary in cost, adherence and effectiveness. The United Kingdom Department of Health has produced NICE guidance to define first, second and third line treatment choices.
Objective(s): We wished to identify the proportion, type and service level determinants of bone protection therapy recommendations by FLSs.
Method(s): Each FLS in the United Kingdom was required to submit data on all patients they managed aged 50 or over and who had sustained a fragility fracture diagnosed between 1st January and 30th December 2016. Part of the audit focused on the treatments recommended by the FLS. Outcomes included treatment clinically inappropriate, patient declined, referred to primary care physician or another clinician, specific anti-osteoporotic medication, don't know and missing. We excluded FLS with less than 50 patients submitted. Where more than one drug was recommended by the FLS, the following hierarchy was used to select the one drug: oral bisphosphonate > denosumab > zoledronate, then teriparatide or raloxifene or strontium or activated vitamin D or oestrogen therapy.
Result(s): 50 FLS submitted data on 44,139 patient records. Overall, the mean age of patients was 73 years, and 78% were women. Eighteen percent had an index hip fracture, 3.8% spine fracture and 72.9% non-hip non-spine fracture. Nine FLSs had more than 50% missing treatment data. 40% of patients submitted were recommended a specific medication or referred to another clinician. However, there was considerable variation between individual FLSs: the decision to treat (10% to 94%), the proportion referred to another clinician (0.3 to 69%) and the proportion recommended a parenteral therapy (0 to 33%). Neither the volume of patients or proportion of patients recommended therapy predicted type of therapy.
Conclusion(s): This audit has demonstrated marked variation between FLSs in the decision to treat and the type of bone therapy recommended despite national recommendations. A better understanding of the contributory factors for this variation will inform quality improvement for FLSs to provide more effective and efficient secondary fracture prevention. (Figure Presented).

**35. Gastric emptying: methodology and normal ranges for two commonly used meals in the UK**

**Authors** Hansrod S.; Croasdale J.; James G.; Notghi A.; O'Brien J.; Thomson W.H.
**Source** Nuclear medicine communications; May 2020
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**Abstract** AIM: A recent audit has highlighted that there is a large variation in the way gastric emptying scintigraphy is performed, analysed and reported in the UK. In this study, we have established a comprehensive protocol on how to perform gastric emptying including normal ranges for two of the most widely used meals. A standardized scrambled egg sandwich was used as the main meal. Normal ranges were also established for oat porridge as an alternative gluten-free meal. We have calculated normal ranges for several functional parameters which may be used to assess gastric emptying. We hope that establishing a reliable normal range for these two simple and commonly used meals will encourage adoption of a universally accepted protocol for measurement of solid gastric emptying in the UK.
METHOD(S): A total of 42 volunteers (20 male, 22 female, age range 22-68) with no history of gastrointestinal symptoms or diabetes were studied. Each volunteer fasted overnight and consumed two meals with similar nutritional composition on two separate days: scrambled eggs with two slices of bread were consumed on one day and gluten-free porridge (40g in 200mL whole milk) was consumed on a different day. Each meal was radiolabelled with 10MBq of Tc-DTPA. Simultaneous anterior-posterior 2-min static images were acquired with the patient standing between the gamma camera detectors. Images were acquired every 5min over a 2 hour period, followed by a single image at 3 hour. The data were modelled using a power-exponential function that allowed measurements of gastric emptying functional parameters including lag time, half-emptying time (HET), peak emptying rate, time-to-peak emptying (TPE) and exponential half-life (EHL). Three-hour retention was also calculated. Paired t-tests were used to compare the two meals and two-sample t-tests were used to assess gender-related differences. Regression analysis was used to assess correlation of the functional parameters with age and body habitus (body surface area, BSA).
RESULT(S): All gastric emptying functional parameters were significantly different between the two meals (P<0.001). The normal range for lag time was 0-13min for porridge and 1-34min for scrambled egg. The normal range for HET was 18-73min for porridge and 44-116min for scrambled egg. The normal range for EHL was 21-57min for porridge and 20-82min for scrambled egg. The normal range for 3 hour retention was <7% for porridge and <17% for scrambled egg. Only weak significance was found for gender-related differences in gastric function for the two meals (0.05CONCLUSION(S): We have established gastric emptying normal ranges for the two most commonly used meals in the UK. The normal ranges are meal specific and not interchangeable, with porridge showing significantly faster transit than scrambled egg for all measured parameters. Scrambled egg sandwich is the recommended meal for solid gastric emptying studies as it is more reproducible and more comparable to a normally consumed solid meal for our population. Porridge would be a suitable alternative for patients who are unable to eat egg sandwiches, for example, patients with egg allergy or gluten intolerance.

**36. Standards for the provision of antenatal care for patients with inflammatory bowel disease: Guidance endorsed by the British Society of Gastroenterology and the British Maternal and Fetal Medicine Society**

**Authors** Selinger C.; Carey N.; Cassere S.; Glanville T.; Nelson-Piercy C.; Fraser A.; Hall V.; Harding K.; Limdi J.; Smith L.; Smith M.; Gunn M.C.; Mohan A.; Mulgabal K.; Kent A.; Kok K.B.
**Source** Frontline Gastroenterology; 2020
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**Abstract** Background: Pregnant women with inflammatory bowel disease (IBD) are at increased risk of adverse pregnancy outcomes. Comprehensive guidelines on medical management have been published; yet, there is limited guidance on service set-up and minimum standards of care for pregnant women with IBD.
Aim(s): To develop a position statement on service set-up and minimum standards of care in the UK.
Method(s): A working group consisting of 16 gastroenterologists, obstetricians, obstetric physician, IBD specialist nurses and midwives was assembled. Initial draft statements were produced and a modified Delphi process with two rounds of voting applied. Statements were modified according to voters' feedback after each round. Statements with >=80% agreement were accepted.
Result(s): All 15 statements met criteria for inclusion. To facilitate optimal care, regular and effective communication between IBD and obstetric teams is required. There should be nominated link clinicians for IBD in obstetric units and for pregnancy in IBD units. Preconception counselling should be available for all women with IBD. All pregnant women should be advised on the safety of IBD medication during pregnancy and breast feeding, the optimal mode of delivery, the management of biologics (where applicable) and safety of childhood vaccinations. Regular audit of pregnancy outcomes and documentation of advice given is recommended.
Conclusion(s): Position statements have been developed that advise on the importance of joined-up multidisciplinary care, proactive decision-making with clear documentation and communication to the woman and other healthcare practitioners.

**37. Reduced Fractionation in Lung Cancer Patients Treated with Curative-intent Radiotherapy during the COVID-19 Pandemic**

**Authors** Faivre-Finn C.; Fenwick J.D.; Franks K.N.; Harrow S.; Rulach R.; Hatton M.Q.F.; Hiley C.; McAleese J.J.; O'Hare J.; McDonald F.; Peedell C.; Powell C.; Pope T.; Toy E.
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**Abstract** Patients treated with curative-intent lung radiotherapy are in the group at highest risk of severe complications and death from COVID-19. There is therefore an urgent need to reduce the risks associated with multiple hospital visits and their anti-cancer treatment. One recommendation is to consider alternative dose-fractionation schedules or radiotherapy techniques. This would also increase radiotherapy service capacity for operable patients with stage I-III lung cancer, who might be unable to have surgery during the pandemic. Here we identify reduced-fractionation for curative-intent radiotherapy regimes in lung cancer, from a literature search carried out between 20/03/2020 and 30/03/2020 as well as published and unpublished audits of hypofractionated regimes from UK centres. Evidence, practical considerations and limitations are discussed for early-stage NSCLC, stage III NSCLC, early-stage and locally advanced SCLC. We recommend discussion of this guidance document with other specialist lung MDT members to disseminate the potential changes to radiotherapy practices that could be made to reduce pressure on other departments such as thoracic surgery. It is also a crucial part of the consent process to ensure that the risks and benefits of undergoing cancer treatment during the COVID-19 pandemic and the uncertainties surrounding toxicity from reduced fractionation have been adequately discussed with patients. Furthermore, centres should document all deviations from standard protocols, and we urge all colleagues, where possible, to join national/international data collection initiatives (such as COVID-RT Lung) aimed at recording the impact of the COVID-19 pandemic on lung cancer treatment and outcomes.


**38. A genome-wide association study of deafness in three canine breeds**

**Authors** Hayward J.J.; Boyko A.R.; Kelly-Smith M.; Strain G.M.; Burmeister L.; de Risio L.; Mellersh C.; Freeman J.
**Source** PLoS ONE; May 2020; vol. 15 (no. 5)
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Available at PLoS ONE from Unpaywall

**Abstract** Congenital deafness in the domestic dog is usually related to the presence of white pigmentation, which is controlled primarily by the piebald locus on chromosome 20 and also by merle on chromosome 10. Pigment-associated deafness is also seen in other species, including cats, mice, sheep, alpacas, horses, cows, pigs, and humans, but the genetic factors determining why some piebald or merle dogs develop deafness while others do not have yet to be determined. Here we perform a genome-wide association study (GWAS) to identify regions of the canine genome significantly associated with deafness in three dog breeds carrying piebald: Dalmatian, Australian cattle dog, and English setter. We include bilaterally deaf, unilaterally deaf, and matched control dogs from the same litter, phenotyped using the brainstem auditory evoked response (BAER) hearing test. Principal component analysis showed that we have different distributions of cases and controls in genetically distinct Dalmatian populations, therefore GWAS was performed separately for North American and UK samples. We identified one genome-wide significant association and 14 suggestive (chromosome-wide) associations using the GWAS design of bilaterally deaf vs. control Australian cattle dogs. However, these associations were not located on the same chromosome as the piebald locus, indicating the complexity of the genetics underlying this disease in the domestic dog. Because of this apparent complex genetic architecture, larger sample sizes may be needed to detect the genetic loci modulating risk in piebald dogs.

**39. Improving our departmental reporting of thyroid cytology specimens against national guidelines: A two-cycle retrospective audit**

**Authors** Halliday E.; Ahsan S.F.; Harrison E.; Harrison K.; Sansom H.
**Source** Cytopathology; 2020
**Publication Date** 2020
**Publication Type(s)** Article
**PubMedID** 32301536
**Database** EMBASE
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Available at Cytopathology from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Introduction: In the UK, guidelines from the Royal College of Pathologists (RCPath) facilitate consistent and reproducible reporting and classification of fine needle aspiration cytology (FNAC) thyroid specimens. The aim was to audit our department against RCPath guidelines to refine and improve our reporting process.
Method(s): Two-cycle retrospective observational audit of all patients undergoing thyroid FNAC over a 2-year period (1 year for each cycle). Final histology was correlated. The positive predictive value (PPV) for malignant neoplastic lesions was calculated; for Thy1, Thy1c, Thy2 and Thy2c all cases without final histology were assumed to be benign, while for Thy3a, Thy3f, Thy4 and Thy5 samples the PPV calculation was based only on those cytology samples with corresponding histology. False positive and false negative cases were reviewed.
Result(s): In total, 288 cytology samples were included in the first cycle; 96 (33.3%) had corresponding histology. There were 287 samples included in the second cycle; 119 (41.5%) had follow-up histology. The rate of non-diagnostic samples (Thy1/1c) decreased from 39.6% to 30.0%. The PPV for malignant neoplastic lesions was Thy1/1c 2.6%, Thy2/2c 0.0%, Thy3a 40.0%, Thy3f 19.4%, Thy4 75.0%, Thy5 100.0% (first cycle); Thy1/1c 4.7%, Thy2/2c 0.7%, Thy3a 13.3%, Thy3f, 7.7%, Thy4, 50.0%, Thy5 100.0% (second cycle).
Conclusion(s): Our department was able to reduce the rate of non-diagnostic FNAC samples and improve the diagnostic accuracy of FNAC. Auditing local outcomes helps refine and improve the reporting process. Review of false positive and false negative cases helps examine potential pitfalls of cytology.


**40. Identifying support mechanisms to overcome barriers to food safety scheme certification in the food and drink manufacturing industry in Wales, UK**

**Authors** Evans E.W.; Lacey J.; Taylor H.R.
**Source** International Journal of Environmental Health Research; 2020
**Publication Date** 2020
**Publication Type(s)** Article
**PubMedID** 32406270
**Database** EMBASE
Available at International Journal of Environmental Health Research from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Obtaining food safety certification is essential for food manufacturers. Potential barriers to obtaining certification are complex, interrelated and broadly relate to, 'knowledge and skills', 'time, cost and resources', and 'communication and access to information'. This study aimed to explore requirements for support to enable food manufacturers in Wales to overcome identified barriers. Food manufacturers (n = 37) participated in group discussions (n = 2) and completed online-questionnaires (n = 29). Support mechanisms, perceived necessary to obtain food safety certification included; funding for training and audit-fees, support for implementing food safety scheme documentation, on-site support through mentoring/coaching and pre-audits. Findings identify the need for a food safety scheme certification support package pathway incorporating online, off-site, on-site and financial support to assist food and drink manufacturers obtain third-party food safety certification. Such assistance would support three critical areas. Findings may inform development of support mechanisms to increase uptake of food safety certification and accelerate food-sector growth.


**41. Demand and capacity in an ADHD team: reducing the wait times for an ADHD assessment to 12 weeks**

**Authors** Roughan L.A.; Stafford J.
**Source** BMJ open quality; 2019; vol. 8 (no. 4)
**Publication Date** 2019
**Publication Type(s)** Article

**PubMedID** 31750403
**Database** EMBASE
Available at BMJ open quality from Unpaywall

**Abstract** Attention deficit hyperactivity disorder (ADHD) is a behavioural disorder characterised by the core symptoms of hyperactivity, impulsivity and inattention. ADHD is thought to affect about 3%-9% of school-age children and young people in the UK. With increased awareness and early identification of ADHD, and the long-term impact of the condition, there is a growing demand for ADHD services for both assessment and treatment of children and young people with the condition. Demand and capacity modelling carried out in October 2017 identified the ADHD pathway team in City and Hackney Child and Adolescent Mental Health Service (CAMHS) were working at 127% utilisation, indicating a mismatch between capacity and demand. A quality improvement (QI) project was implemented to improve efficiency and effectiveness of processes within the team and to support the increasing demand within the limited capacity and resource. The aim of the project was to reduce the average length of time from initial referral to CAMHS to 'ADHD assessment feedback' to 12 weeks by September 2018, which is in line with trust-level targets. The team followed the model for improvement and guidance from East London Foundation Trust (ELFT) QI Microsite to structure the project. They used a variety of tools to develop a theory of change, and used Plan-Do-Study-Act cycles to test change ideas. Overall wait times have reduced from 28 weeks to below our target of 12 weeks. Data examining the entry point to the ADHD pathway to completion of the ADHD assessment and feedback reduced from an average of 87 days, to an average of 18 days.The diagnostic rate has increased from 62% to 78% (due to more appropriate screening and referrals). The QI approach was systematic and supported the development of more efficient systems; reducing wait times and increasing capacity to manage the demand. Team engagement in 'change', by embedding QI into fortnightly team meetings, has resulted in collective ownership and responsibility across team members. A monitoring system is supporting the sustainability and maintenance of improvement.


**42. Incidence of postpartum haemorrhage defined by quantitative blood loss measurement: A national cohort**

**Authors** Bell S.F.; Kitchen T.L.; James K.; Collis R.E.; Watkins A.; MacGillivray E.; John M.; James D.; Scarr C.; Bailey C.M.; Kelly K.P.; Stevens J.L.; Edey T.; Collins P.W.
**Source** BMC Pregnancy and Childbirth; May 2020; vol. 20 (no. 1)
**Publication Date** May 2020
**Publication Type(s)** Article
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**Database** EMBASE
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**Abstract** Background: Visual estimation of blood loss following delivery often under-reports actual bleed volume. To improve accuracy, quantitative blood loss measurement was introduced for all births in the 12 hospitals providing maternity care in Wales. This intervention was incorporated into a quality improvement programme (Obstetric Bleeding Strategy for Wales, OBS Cymru). We report the incidence of postpartum haemorrhage in Wales over a 1-year period using quantitative measurement.
Method(s): This prospective, consecutive cohort included all 31,341 women giving birth in Wales in 2017. Standardised training was cascaded to maternity staff in all 12 hospitals in Wales. The training comprised mock-scenarios, a video and team drills. Uptake of quantitative blood loss measurement was audited at each centre. Data on postpartum haemorrhage of > 1000 mL were collected and analysed according to mode of delivery. Data on blood loss for all maternities was from the NHS Wales Informatics Service.
Result(s): Biannual audit data demonstrated an increase in quantitative measurement from 52.1 to 87.8% (P < 0.001). The incidence (95% confidence intervals, CI) of postpartum haemorrhage of > 1000 mL, > 1500 mL and > 2000 mL was 8.6% (8.3 to 8.9), 3.3% (3.1 to 3.5) and 1.3% (1.2 to 1.4), respectively compared to 5%, 2% and 0.8% in the year before OBS Cymru. The incidence (95% CI) of bleeds of > 1000 mL was similar across the 12 hospitals despite widely varied size, staffing levels and case mix, median (25th to 75th centile) 8.6% (7.8-9.6). The incidence of PPH varied with mode of delivery and was mean (95% CI) 4.9% (4.6-5.2) for unassisted vaginal deliveries, 18.4 (17.1-19.8) for instrumental vaginal deliveries, 8.5 (7.7-9.4) for elective caesarean section and 19.8 (18.6-21.0) for non-elective caesarean sections.
Conclusion(s): Quantitative measurement of blood loss is feasible in all hospitals providing maternity care and is associated with detection of higher rates of postpartum haemorrhage. These results have implications for the definition of abnormal blood loss after childbirth and for management and research of postpartum haemorrhage.


**43. Impact of co-morbid personality disorder on quality of inpatient mental health services for people with anxiety and depression**

**Authors** Williams R.; Farquharson L.; Rhodes E.; Dang M.; Fitzpatrick N.; Quirk A.; Baldwin D.S.; Crawford M.J.
**Source** Personality and mental health; May 2020
**Publication Date** May 2020
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Available at Personality and mental health from Unpaywall

**Abstract** INTRODUCTION: Concerns have been raised about the quality of inpatient care received by patients with a diagnosis of personality disorder.
OBJECTIVE(S): The aim of this study was to examine the quality of care received by inpatients with an anxiety or depressive disorder, comparing subgroups with or without a co-morbid personality disorder.
METHOD(S): We used a retrospective case-note review of 3 795 patients admitted to inpatient psychiatric wards in England, utilizing data from the National Clinical Audit of Anxiety and Depression. Data were gathered on all acute admissions with an anxiety or depressive disorder over a 6-month period, for a number of measures reflecting quality of care derived from national standards. Association of coexisting personality disorder with quality of care was investigated using multivariable regression analyses.
RESULT(S): Four hundred sixteen (11.0%) of the patients had a co-co-morbid diagnosis of personality disorder. Patients with personality disorder were less likely to have been asked about prior responses to treatment in their initial assessment (odds ratio (OR) = 0.67, 95% confidence interval (CI) 0.50 to 0.89, p = 0.007). They were less likely to receive adequate notice in advance of their discharge (OR = 0.87, 95% CI 0.65 to 0.98, p = 0.046). They were more likely to be prescribed medication at the point of discharge (OR = 1.52, 95% CI 1.02 to 2.09, p = 0.012) and less likely to have been provided with information about the medicines they were taking (OR = 0.86, 95% CI 0.69 to 0.94, p = 0.048). In addition, the carers of patients with co-morbid personality disorder were less likely to have been provided with information about available support services (OR = 0.73, 95% CI 0.51 to 0.93, p = 0.045).
CONCLUSION(S): We found evidence of poorer quality of care for patients with co-morbid personality disorder who were admitted to psychiatric hospital for treatment of anxiety or depressive disorders, highlighting the need for improved clinical care in this patient group. © 2020 John Wiley & Sons, Ltd.


**44. Patient-initiated follow-up after treatment for low risk endometrial cancer: A prospective audit of outcomes and cost benefits**

**Authors** Coleridge S.; Morrison J.
**Source** International Journal of Gynecological Cancer; 2020
**Publication Date** 2020
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**PubMedID** 32376734
**Database** EMBASE
Available at International Journal of Gynecological Cancer from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Objective: Recurrence of low-risk endometrioid endometrial cancer is rare, and traditional hospital follow-up has a cost to both the patient and the healthcare system, without evidence of benefit. We examined the uptake of patient-initiated follow-up, pattern of recurrences, and survival for women following surgical treatment of low-risk endometrial cancer and compared estimated costs with hospital follow-up.
Method(s): This study was a prospective audit of outcomes following implementation of a patient-initiated follow-up policy in a UK-based gynecological cancer center for women with low-risk endometrial cancer treated surgically (International Federation of Gynecology and Obstetrics (FIGO) stage 1A, G1-2) from January 2010 to December 2015. Women were identified following multidisciplinary team meetings and data were collected from the electronic cancer register, paper, and electronic clinical records. Health service costs were calculated based on standard tariffs for follow-up appointments; patient costs were estimated from mileage traveled from home postcode and parking charges. Progression-free survival and overall survival were assessed. Estimated financial costs to the health service and patients of hospital follow-up were compared with actual patient-initiated follow-up costs.
Result(s): A total of 129 women were offered patient-initiated follow-up (declined by four; accepted by another 11 after hospital follow-up for 6 months to 3.5 years) with median follow-up of 60.7 months (range 1.4-109.1 months). Ten women recurred: four vaginal vault recurrences (all salvaged), three pelvic recurrences (all salvaged), and three distant metastatic disease (all died). Five-year disease-specific survival was 97.3%. Ten women in the cohort died: three from endometrial cancer and seven from unrelated causes. The cost saving to the health service of patient-initiated follow-up compared with a traditional hospital follow-up regimen was 116 403 (median 988.60 per patient,range 0-1071). Patients saved an estimated 7122 in transport and parking costs (median 57.22 per patient,range 4.98-147.70).
Conclusion(s): Patient-initiated follow-up for low risk endometrial cancer has cost benefits to both health service and patients. Those with pelvic or vault recurrence had salvageable disease, despite patient-initiated follow-up.


**45. Re-audit and 5 year experience of IVC filter retrieval rates at a UK teaching hospital**

**Authors** Davies J.; Topping S.; Asquith J.
**Source** CardioVascular and Interventional Radiology; 2020; vol. 43 (no. 2)
**Publication Date** 2020
**Publication Type(s)** Conference Abstract
**Database** EMBASE
Available at CardioVascular and Interventional Radiology from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.
**Abstract** Aims: IVC filter placement is a procedure performed to reduce the risk of pulmonary thromboembolic disease in high risk patients and those in whom anticoagulation may not be possible. Following initial audit of 2010-11 data an IVC filter database was set up and filter type changed. Initial re-audit showed a significantly improved retrieval attempt and success rate. This audit was undertaken to assess our on-going performance in line using BSIR national guidelines as a standard.
Method(s): Our local, prospectively-kept, IVC filter database was interrogated to include 2013-2017, in order to establish our retrieval rates and technical success in those with retrievable filters. Data was crosschecked with our hospitalAos radiology information system. Patients with filters inserted elsewhere were excluded.
Result(s): Total number of filters inserted over 5 years was 276. Of the temporary filters (186), retrieval attempt rate was 88.5% (163), with technical success rate of 94.6%. Overall retrieval rate of temporary filters was 84.5% (157/186). 12 patients were lost to follow up, mostly from out of area.
Conclusion(s): Our data compare favourably with BSIR retrieval attempt and success rates of 77.8% and 82.3% respectively. We demonstrate the importance of a comprehensive system to encourage timely removal and mitigate the potential risks that are associated with IVC filters. As a major trauma and tertiary referral centre loss to follow up is a risk. This raises the question of whether a national filter database would avoid this.

**46. An evaluation of the care given to older women attending an HIV clinic in London**

**Authors** Williams C.; Farrugia P.
**Source** HIV Medicine; Nov 2019; vol. 20 ; p. 157
**Publication Date** Nov 2019
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Available at HIV Medicine from Unpaywall

**Abstract** Purpose: Although HIV-related outcomes are regularly assessed, the wider health needs of women living with HIV (WLHIV) are often overlooked. We evaluated the cardiovascular, renal and bone health of women living with HIV aged 40-55 in a central London HIV unit and whether their reproductive and emotional needs were being assessed in clinical care.
Method(s): An audit was conducted of a random sample of 1 in 6 WLWH under follow-up in 2018 aged 40-55. Data collected included demographics, presence of co-morbidities and adherence to British HIV Association (BHIVA) standards of care.
Result(s): 92 women (median age 48 years; 78% black African; median 14 years since diagnosis) were included. 79(86%) had VL<40 cps/mL and the median (IQR) nadir and current CD4 counts were 195 (110-256) and 589 (424-758). 42 (46%) did not attend at least one appointment during 2018. 11 (12%) had a period of non-attendance of>1 year in the past 5 years. Menstrual status was discussed in 76% women and contraception in 78%. Emotional well-being was only assessed in 56% of patients and mainly consisted of informal enquiry. 48% of the cohort had a BMI>30. HbA1C was measured in 9%. Cardiovascular assessments were performed on 35% despite 98% having necessary data for evaluation. FRAX scores were calculated on 15% despite 53% being on Truvada.
Conclusion(s): This cohort of women is very distinct as their rates of smoking, alcohol and recreational drug use are extremely low; they also had low cardiovascular risk scores when calculated. However they have a high prevalence of co-morbidities and unmet health needs and are at high risk of disengagement. Evaluation of emotional well-being was low despite evidence of higher prevalence of depression and anxiety in WLWHIV. This study highlights the need for more tailored, women-focused assessment frameworks to be incorporated into clinical care. (Table Presented) .

**47. Nurse-led annual health review-one year follow up**

**Authors** Klein M.-P.; Samuel I.; Ohene-Adomako S.
**Source** HIV Medicine; Nov 2019; vol. 20 ; p. 269-270
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**Abstract** Objectives: People living with HIV require an annual health monitoring and assessment according to BHIVA guideline, to improve the quality of care. We developed an annual health pro-forma in 2018, for nurses to assess and monitor the prevalence and outcomes of co-morbidities in patients attending the nurses-led clinic. With this audit, we evaluated the cardiovascular, renal, bone, emotional, sexual and women's health for 55 patients aged 31-87.
Method(s): We conducted an audit of 55 PLWHIV attending a large South-East London HIV clinic in the UK, all selected via our annual health Nurse-Led clinics in June 2019. A retrospective case note review was undertaken to evaluate the annual health pro-forma the nurses introduced in July 2018.
Result(s): 55 patients were identified (65% male and 35% Female; median age 50 years [IQR 44-55]; 56% Black, 38% white and 5% mixed ethnic background). * 42/47 (90%) had a 10-year Q-Risk3 assessment, 7/47 (15%) assessed scored >= 10% and 5/7 (71%) require an ART review. * 32/55 (58%) patients on TDF base regimen are currently receiving ARVs associated with nephrotoxicity (TDF, LPV, and ATV), however 5/32 (13%) did not have yearly urinalysis as per BHIVA guidelines. * of those with normal blood pressure, 11/55 (20%) are receiving antihypertensive, however 5/11 (45%) have uncontrollable blood pressure (>=140/90 mmHg). Introducing the annual health review has enabled the majority of the BHIVA target attainment except for urinalysis and recreational drugs, however overall results has improved over 30%.
Conclusion(s): One year on, the uptake of the annual health review has dramatically improved. We identified high prevalence of comorbidities and psycho-social issues using the Nurse-led annual pro-forma, and they were referred and addressed appropriately. Due to the high complexity of care, urinalysis and recreational drugs falls short of the BHIVA target which is being addressed by the multi-disciplinary team.

**48. Modeling clinical decision-making referral patterns to home-based or hospital-based stroke outpatient rehabilitation programs in London, Ontario: A prognostic prediction model development study**

**Authors** Iruthayarajah J.; Janzen S.; Teasell R.; Speechley M.; Meyer M.
**Source** International Journal of Stroke; Oct 2019; vol. 14 (no. 3); p. 39
**Publication Date** Oct 2019
**Publication Type(s)** Conference Abstract
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Available at International Journal of Stroke from Unpaywall

**Abstract** Introduction: The rehabilitation of stroke survivors is an ongoing process for months to years after the injury. Parkwood Institute in London, Ontario, is an example of a model outpatient program recommended by the Canadian Stroke Best Practice Recommendations, as patients have access to hospital-based outpatient rehabilitation (Comprehensive Outpatient Rehabilitation Program (CORP)) and home-based rehabilitation (Community Stroke Rehabilitation Teams (CSRT)). However, the decision to refer to either outpatient service is ad hoc.
Method(s): Using a retrospective cohort of 721 stroke survivors admitted to Parkwood Institute from 2009 to 2016, a prediction model was developed to model referral patterns to CORP or CSRT. The model was developed using multivariable logistic regression through backward elimination automated variable selection, and internally validated using 100 bootstrap simulation models. Model performance was assessed through calibration plots, concordance index, McFadden's Pseudo R2, and the Brier Score.
Result(s): The model found that patients who have a higher number of comorbidities, live further away from Parkwood Institute, are older, have strokes of moderate severity, lower Functional Independence Measure (FIM) scores, and have reading comprehension difficulties are referred more often to CSRT. Patients with a caregiver, higher FIM scores, and auditory communication problems are more likely to be referred to CORP.
Conclusion(s): Knowledge of this model can be valuable to clinicians and policy makers at Parkwood Institute to reflect on their own practices, and as well should be disseminated to other rehabilitation centers in the Southwest LHIN and throughout Ontario considering implementing a home-based and hospital-based outpatient program.

**49. CESN's Journey to Recovery after Stroke: Lessons learned from implementation on an Integrated Stroke Unit**

**Authors** Tee A.; Sooley D.; Debison S.
**Source** International Journal of Stroke; Oct 2019; vol. 14 (no. 3); p. 26-27
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Available at International Journal of Stroke from Unpaywall

**Abstract** Introduction: Providing individuals with stroke and their families with information and education is an essential component of best practice stroke care and an integral responsibility of the healthcare team. To support this, Central East Stroke Network (CESN) leveraged the Road to Recovery after Stroke visual map1 and collaborated with stakeholders to develop and pilot the CESN Journey to Recovery after Stroke resource (Journey Resource). Through stakeholder feedback and pilot results, a need for resources to address knowledge gaps and support implementation was identified.
Method(s): Supporting education materials for the Journey Resource were developed and disseminated throughout CESN. A quality improvement approach guided implementation on Royal Victoria Regional Health Centre's (RVH) Integrated Stroke Unit (ISU). Tactics included development of supporting processes, completion of Plan-Do-Study-Act cycles, and utilization of the Highly Adoptable Improvement and NHS Sustainability Models.
Result(s): Staff identified implementation of the Journey Resource as a highly adoptable improvement. Use of supporting processes increased to 84%. Healthcare providers rated the challenge of conversations in six areas as 6.62/10 pre-education and 2.4/10 post-education. Percentage of ISU staff trained in the use of the resource is 88%. Utilization audits, feedback gathering, and education continues.
Conclusion(s): Results at RVH suggest that the thorough implementation approach, including supporting end-user clarity regarding the purpose and utilization of the resource, helps to ensure that its full value is realized. Results suggest that the Journey Resource is helping conversations with stroke patients to be less challenging. Further evaluation of the full impact is warranted.

**50. The impact of the Tracey judgment on the rates and outcomes of in-hospital cardiac arrests in UK hospitals participating in the National Cardiac Arrest Audit**

**Authors** Zenasni Z.; Harrison D.A.; Rowan K.M.; Reynolds E.C.; Nolan J.P.; Soar J.; Smith G.B.

**Source** Clinical medicine (London, England); May 2020; vol. 20 (no. 3); p. 319-323
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**Abstract** AIMS: The aim was to determine if the 17 June 2014 Tracey judgment regarding 'do not attempt cardiopulmonary resuscitation' decisions led to increases in the rate of in-hospital cardiac arrests resulting in a resuscitation attempt (IHCA) and/or proportion of resuscitation attempts deemed futile.
METHOD(S): Using UK National Cardiac Arrest Audit data, the IHCA rate and proportion of resuscitation attempts deemed futile were compared for two periods (pre-judgment (01 July 2012 - 16 June 2014, inclusive) and post-judgment (01 July 2014 - 30 June 2016, inclusive)) using interrupted time series analyses.
RESULT(S): A total of 43,109 IHCAs (115 hospitals) were analysed. There were fewer IHCAs post- than pre-judgment (21,324 vs 21,785, respectively). The IHCA rate was declining over time before the judgment but there was an abrupt and statistically significant increase in the period immediately following the judgment ($p<0.001$). This was not sustained post-judgment. The proportion of resuscitation attempts deemed futile was smaller post-judgment than pre-judgment (8.2% vs 14.9%, respectively). The rate of attempts deemed futile decreased post-judgment ($p<0.001$).
CONCLUSION(S): The IHCA rate increased immediately after the Tracey judgment while the proportion of resuscitation attempts deemed futile decreased. The precise mechanisms for these changes are unclear.


**51. Renal replacement anticoagulant management: Protocol and analysis plan for an observational comparative effectiveness study of linked data sources**

**Authors** Gould D.W.; Doidge J.; Mouncey P.R.; Harrison D.A.; Rowan K.M.; Zia Sadique M.; Borthwick M.; MacEwen C.; Caskey F.J.; Forni L.; Lawrence R.F.; Ostermann M.; Duncan Young J.; Watkinson P.J.
**Source** Journal of the Intensive Care Society; 2020
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Available at Journal of the Intensive Care Society from Unpaywall

**Abstract** Acute kidney injury is common in critical illness. In patients with severe acute kidney injury, renal replacement therapy is needed to prevent harm from metabolic and electrolyte disturbances and fluid overload. In the UK, continuous renal replacement therapy (CRRT) is the preferred modality, which requires anticoagulation. Over the last decade, conventional systemic heparin anticoagulation has started being replaced by regional citrate anticoagulation for CRRT, which is now used in approximately 50% of ICUs. This shift towards regional citrate anticoagulation for CRRT is occurring with little evidence of safety or longer term effectiveness. Renal replacement anticoagulant management (RRAM) is an observational comparative effectiveness study, utilising existing data sources to address the clinical and cost-effectiveness of the change to regional citrate anticoagulation for CRRT in UK ICUs. The study will use data from approximately 85,000 patients who were treated in adult, general ICUs participating in the case mix programme national clinical audit between 1 April 2009 and 31 March 2017. A survey of health service providers' anticoagulation practices will be combined with treatment and hospital outcome data from the case mix programme and linked with long-term outcomes from the Civil Registrations (deaths), Hospital Episodes Statistics for England, Patient Episodes Data for Wales, and the UK Renal Registry datasets. The primary clinical effectiveness outcome is all-cause mortality at 90-days. The study will incorporate an economic evaluation with micro-costing of both regional citrate anticoagulation and systemic heparin anticoagulation. Study registration: NCT03545750


**52. A building concern? The health needs of families in temporary accommodation**

**Authors** Croft L.A.; Marossy A.; Wilson T.; Atabong A.
**Source** Journal of public health (Oxford, England); May 2020

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Available at Journal of public health (Oxford, England) from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** BACKGROUND: The number of families living in temporary accommodation in the UK is increasing. International evidence suggests that family homelessness contributes to poor mental health outcomes for both child and parent/carer, yet there is no routine way of understanding these health impacts at a local area level.
METHOD(S): A homeless health needs audit was adapted to include questions about family health and completed in survey form by 33 people living in temporary accommodation in the London Borough of Bromley. Data were supplemented through an engagement event with 23 health and community care practitioners.
RESULT(S): The small population sample surveyed showed high levels of poor mental health in addition to behaviours that increase the risk of physical ill health (such as smoking) and a high use of secondary healthcare services. Engagement with practitioners showed awareness of poor health amongst this population group and challenges with regard to providing appropriate support.
CONCLUSION(S): There needs to be a sustainable and representative way of understanding the health needs of this population group including a comparison of the health needs of people placed in temporary accommodation in and out of their resident area.


**53. Surveillance of Bloodstream Infections in Intensive Care Units in England, May 2016-April 2017: Epidemiology and Ecology**

**Authors** Gerver S.M.; Mihalkova M.; Chudasama D.; Johnson A.P.; Hope R.; Bion J.F.; Wilson A.P.R.
**Source** The Journal of hospital infection; May 2020
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Available at The Journal of hospital infection from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** BACKGROUND/AIM: Bloodstream infections (BSI) in Intensive Care Unit (ICU) patients are associated with increased morbidity, mortality and economic costs. Many BSI are associated with central venous catheters (CVCs). We established the Infection in Critical Care Quality Improvement Programme (ICCQIP) to initiate surveillance of BSIs in English ICUs.
METHOD(S): A web-based data capture system was launched 01/05/2016 to collect all positive blood cultures (PBCs), patient-days and CVC-days. National Health Service (NHS) Trusts in England were invited to participate in the surveillance programme. Data were linked to the antimicrobial resistance dataset maintained by Public Health England and to mortality data. FINDINGS: Between 01/05/2016 and 30/04/2017, 84 ICUs (72 adult, seven paediatric, five neonatal) based in 57/147 NHS Trusts provided data. A total of 1,474 PBCs were reported, with coagulase-negative staphylococci, Escherichia coli, Staphylococcus aureus and Enterococcus faecium being the most commonly reported organisms. The rates of BSI and ICU-associated CVC-BSI were 5.7, 1.5 and 1.3/1,000 bed-days and 2.3, 1.0 and 1.5/1,000 ICU-CVC-days in adult, paediatric and neonatal ICUs, respectively. There was wide variation in BSI and CVC-BSI rates within ICU types, particularly in adult ICUs (0-44.0/1,000 bed-days and 0-18.3/1,000 ICU-CVC-days).
CONCLUSION(S): While the overall rates of ICU-associated CVC-BSIs were lower than 2.5/1,000 ICU-CVC-days across all age-ranges, large differences were observed between units, highlighting the importance of a national standardised surveillance system to identify opportunities for improvement. Data linkage provided clinically important information on resistance patterns and patient outcomes at no extra cost to participating Trusts.


**54. Costs of postoperative morbidity following paediatric cardiac surgery: Observational study**

**Authors** Hudson E.; Morris S.; Brown K.; Wray J.; Tsang V.; Pagel C.; Barron D.; Rodrigues W.; Stoica S.; Tibby S.M.; Ridout D.

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Available at Archives of Disease in Childhood from Unpaywall

**Abstract** Objective: Early mortality rates for paediatric cardiac surgery have fallen due to advancements in care. Alternative indicators of care quality are needed. Postoperative morbidities are of particular interest. However, while health impacts have been reported, associated costs are unknown. Our objective was to calculate the costs of postoperative morbidities following paediatric cardiac surgery.
Design(s): Two methods of data collection were integrated into the main study: (1) case-matched cohort study of children with and without predetermined morbidities; (2) incidence rates of morbidity, measured prospectively.
Setting(s): Five specialist paediatric cardiac surgery centres, accounting for half of UK patients.
Patient(s): Cohort study included 666 children (340 with morbidities). Incidence rates were measured in 3090 consecutive procedures.
Method(s): Risk-adjusted regression modelling to determine marginal effects of morbidities on per-patient costs. Calculation of costs for hospital providers according to incidence rates. Extrapolation using mandatory audit data to report annual financial burden for the health service. Outcome measures: Impact of postoperative morbidities on per-patient costs, hospital costs and UK health service costs.
Result(s): Seven of the 10 morbidity categories resulted in significant costs, with mean (95% CI) additional costs ranging from 7483 (3-17 289) to 66 784 (40 609-103 539) per patient. On average all morbidities combined increased hospital costs by 22.3%. Total burden to the UK health service exceeded 21 million each year.
Conclusion(s): Postoperative morbidities are associated with a significant financial burden. Our findings could aid clinical teams and hospital providers to account for costs and contextualise quality improvement initiatives.


**55. Positive predictive value of stroke identification by ambulance clinicians in North East England: A service evaluation**

**Authors** McClelland G.; Rodgers H.; Price C.; Flynn D.
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Available at Emergency Medicine Journal from Available to NHS staff on request from UHL Libraries & Information Services (from non-NHS library) - click this link for more information Local Print Collection [location] : British Library via UHL Libraries - please click link to request article.

**Abstract** Introduction/background: Accurate prehospital identification of patients who had an acute stroke enables rapid conveyance to specialist units for time-dependent treatments such as thrombolysis and thrombectomy. Misidentification leads to patients who had a stroke mimic' (SM) being inappropriately triaged to specialist units. We evaluated the positive predictive value (PPV) of prehospital stroke identification by ambulance clinicians in the North East of England.
Method(s): This service evaluation linked routinely collected records from a UK regional ambulance service identifying adults with any clinical impression of suspected stroke to diagnostic data from four National Health Service hospital trusts between 1 June 2013 and 31 May 2016. The reference standard for a confirmed stroke diagnosis was inclusion in Sentinel Stroke National Audit Programme data or a hospital diagnosis of stroke or transient ischaemic attack in Hospital Episode Statistics. PPV was calculated as a measure of diagnostic accuracy.
Result(s): Ambulance clinicians in North East England identified 5645 patients who had a suspected stroke (mean age 73.2 years, 48% male). At least one Face Arm Speech Test (FAST) symptom was documented for 93% of patients who had a suspected stroke but a positive FAST was only documented for 51%. Stroke, or transient ischaemic attack, was the final diagnosis for 3483 (62%) patients. SM (false positives) accounted for 38% of suspected strokes identified by ambulance clinicians and included a wide range of non-stroke diagnoses including infections, seizures and migraine.
Discussion(s): In this large multisite data set, identification of patients who had a stroke by ambulance clinicians had a PPV rate of 62% (95% CI 61 to 63). Most patients who had a suspected stroke had at least one FAST symptom, but failure to document a complete test was common. Training for stroke identification and SM rates need to be considered when planning service provision and capacity.


**56. Use of a digital delirium pathway and quality improvement to improve delirium detection in the emergency department and outcomes in an acute hospital**

**Authors** Vardy E.; Collins N.; Grover U.; Thompson R.; Bagnall A.; Clarke G.; Heywood S.; Thompson B.; Wintle L.; Nutt L.; Hulme S.
**Source** Age and ageing; May 2020
**Publication Date** May 2020
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**Abstract** BACKGROUND: delirium is a common condition associated with hospital admission. Detection and diagnosis is important to identify the underlying precipitating cause and implement effective management and treatment. Quality improvement (QI) methodology has been applied in limited publications. There are even fewer publications of the role of development of the electronic health record (EHR) to enhance implementation.
METHOD(S): we used QI methodology to improve delirium detection in the emergency department (ED). Plan Do Study Act (PDSA) cycles could be broadly categorised into technology, training and education and leadership. As part of the technology PDSA an electronic delirium pathway was developed as part of an NHS England digital systems improvement initiative (NHS England Global Digital Exemplar). The electronic pathway incorporated the 4AT screening tool, the Confusion Assessment Method, the TIME delirium management bundle, investigation order sets and automated coding of delirium as a health issue.
RESULT(S): development of the EHR combined with education initiatives had benefit in terms of the number of people assessed for delirium on admission to the ED and the total number of people diagnosed with delirium across the organisation. The implementation of a delirium pathway as part of the EHR improved the use of 4AT in those 65 years and over from baseline of 3% completion in October 2017 to 43% in January 2018.
CONCLUSION(S): we showed that enhancement of the digital record can improve delirium assessment and diagnosis. Furthermore, the implementation of a delirium pathway is enhanced by staff education.


**57. Development and cohort study of an audit approach to evaluate patient management in family practice in the UK: The 7S tool**

**Authors** Fisher S.J.; Margerison L.N.; Jonker L.
**Source** Family Practice; Feb 2020; vol. 37 (no. 1); p. 98-102
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**Abstract** Background: In the UK, there is increased pressure on general practitioners' time due to an increase in (elderly) population and a shortage of general practitioners. This means that time has to be used efficiently, whilst optimizing adherence to consistent, appropriate and timely provision of care. Objective(s): Create an audit tool that assists general practitioners and family practice staff to evaluate if patients are managed as effectively as possible, and to test the usefulness of this tool in a family practice.
Method(s): The '7S' audit tool has seven outcome elements; these broadly stand for what the actual and desired patient contact outcome was, or should have been. Terms include 'surgery', 'speak' and 'specific other' for an appointment at the practice, by telephone or with a dedicated specialist such as a practice nurse or phlebotomist, respectively.
Result(s): A very small, rural, general practice in the UK was audited using the 7S tool. Five hundred patient contacts were reviewed by an independent general practitioner and the decision made if the mode of contact was appropriate or not for each case; in one of the three cases, the choice of care provision was inappropriate and chronic disease cases contributed most to this. General practitioners instigated the majority of poor patient management choices, and chronic disease patients were frequently seen in suboptimal settings.
Conclusion(s): Inefficiencies in the management of patients in family practice can be identified with the 7S audit tool, thereby producing evidence for staff education and service reconfiguration.


### 58. Ultrasound Surveillance of Common Iliac Artery Aneurysms

**Authors** Dhanji A.; Murray H.E.; Downing R.
**Source** Annals of Vascular Surgery; May 2020; vol. 65 ; p. 166-173
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**Abstract** Background: The surveillance of patients with common iliac artery aneurysms (CIAA) does not follow a defined protocol such as the one adopted for the management of abdominal aortic aneurysms. This study explores CIAA growth rate, and seeks to determine correlations with related parameters which may serve to influence aneurysm expansion with the view of devising an effective local surveillance protocol.
Method(s): Vascular laboratories across the UK were invited to participate in an online survey. Questions were designed to assess current clinical practice in regards to the surveillance of patients with CIAA. Additionally, a retrospective audit was performed using the clinical reports of patients attending a regional vascular laboratory to undergo an aorto-iliac duplex scan (USS). Expansion rate of aneurysms was studied in patients who had >=2 USS scans; data was recorded at 6 and/or 12 monthly intervals up to 5 years. Kaplan Meier estimates of patient mortality (all cause) and intervention rate during the surveillance period were performed. Patient age, initial CIAA diameter, bilateral/unilateral CIAA and coinciding aortic aneurysm diameter were recorded to determine if these specific features were associated with CIAA growth rates. Pearson's correlation coefficient was used to determine the strength of association between variables.
Result(s): Nine hundred and ninety-five of one thousand and sixty patient records were suitable for review: 21.6% (215/995) of patients had a CIAA. Isolated CIAA accounted for 23% (50/215). Mean CIAA growth was 1.5 +/- 0.3 mm/year. A strong correlation was found between CIAA diameter versus time from diagnosis (r = 0.820; P = 0.004); CIAA with smaller initial diameters (15-20 mm) expanded more rapidly than those of larger diameter at diagnosis (r = 0.871; P = 0.005). CIAA measured at >30 mm demonstrated an unpredictable growth trajectory which was also evident in those CIAA coinciding with larger AAA (>50 mm; r = 0.208; P = 0.655).
Conclusion(s): The results obtained in this study may form the basis for a dedicated CIAA surveillance protocol.


### 59. Multispecialty tracheostomy experience

**Authors** Lipton G.; Stewart M.; McDermid R.; Docking R.; Urquhart C.; Morrison M.; Montgomery J.
**Source** Annals of the Royal College of Surgeons of England; May 2020; vol. 102 (no. 5); p. 343-347
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**Abstract** INTRODUCTION: Tracheostomy is a common surgical procedure used to create a secure airway in patients, now performed by a variety of specialties, with a notable rise in critical care environments. It is unclear whether this rise is seen in units with large head and neck surgery departments, and how practice in such units compares with the rest of the UK.
METHOD(S): A three-year retrospective audit was carried out between anaesthetic, surgical and critical care departments. All tracheostomy procedures were recorded anonymously.
RESULT(S): A total of 523 tracheostomies were performed, 66% of which were in men. The mean patient age was 60 years. The majority (83%) were elective, performed for various indications, while the remaining 17% were emergency tracheostomies performed for pending airway obstruction. A fifth of the tracheostomies were percutaneous procedures. Most emergency tracheostomies (78%) were performed by otolaryngology. Three cricothyroidotomies were performed within critical care and theatres. Complications related to tracheostomy occurred in 47 cases (9%), most commonly lower respiratory tract infection. The mean time to decannulation was 12.8 days.
CONCLUSION(S): This paper discusses the findings of a comprehensive, multispecialty audit of tracheostomy experience in a large health board, with over 150 tracheostomies performed annually. Elective cases form the majority although there is a significant case series of emergency tracheostomies performed for a range of pathologies. Around a quarter of those requiring tracheostomy ultimately died, mostly as a result of advanced cancer.

**60. The incidence and effect of resternotomy following cardiac surgery on morbidity and mortality: a 1-year national audit on behalf of the Association of Cardiothoracic Anaesthesia and Critical Care**

**Authors** Agarwal S.; Choi S.W.; Fletcher S.N.; Klein A.A.; Gill R.; Anderson L.; Al-Azzawi O.; Arenas E.; Bill K.M.; Burns H.; Chawla A.; Elder R.; Fogg K.; Gambino G.; Garcia C.; Giminez M.; Hayes T.; Hodek A.; Mellor A.; Mikhail C.; Morrice D.; O'Connor C.; Place D.; Riley E.; Sandys S.; Shaban I.; Shaw M.; Shepherd S.; Singh H.; Kadayam Sreenivasan R.; Subramanian R.; Walker C.; Woodward D.
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**Abstract** Over 30,000 adult cardiac operations are carried out in the UK annually. A small number of these patients need to return to theatre in the first few days after the initial surgery, but the exact proportion is unknown. The majority of these resternotomies are for bleeding or cardiac tamponade. The Association of Cardiothoracic Anaesthesia and Critical Care carried out a 1-year national audit of resternotomy in 2018. Twenty-three of the 35 centres that were eligible participated. The overall resternotomy rate (95%CI) within the period of admission for the initial operation in these centres was 3.6% (3.37-3.85). The rate varied between centres from 0.69% to 7.6%. Of the 849 patients who required resternotomy, 127 subsequently died, giving a mortality rate (95%CI) of 15.0% (12.7-17.5). In patients who underwent resternotomy, the median (IQR [range]) length of stay on ICU was 5 (2-10 [0-335]) days, and time to tracheal extubation was 20 (12-48 [0-2880]) hours. A total of 89.3% of patients who underwent resternotomy were transfused red cells, with a median (IQR [range]) of 4 (2-7 [1-1144]) units of red blood cells. The rate (95%CI) of needing renal replacement therapy was 23.4% (20.6-26.5). This UK-wide audit has demonstrated that resternotomy after cardiac surgery is associated with prolonged intensive care stay, high rates of blood transfusion, renal replacement therapy and very high mortality. Further research into this area is required to try to improve patient care and outcomes in patients who require resternotomy in the first 24 h after cardiac surgery.

**61. Identifying support mechanisms to overcome barriers to food safety scheme certification in the food and drink manufacturing industry in Wales, UK**

**Authors** Evans E.W.; Lacey J.; Taylor H.R.
**Source** International journal of environmental health research; May 2020 ; p. 1-16
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**Abstract** Obtaining food safety certification is essential for food manufacturers. Potential barriers to obtaining certification are complex, interrelated and broadly relate to, 'knowledge and skills', 'time, cost and resources', and 'communication and access to information'. This study aimed to explore requirements for support to enable food manufacturers in Wales to overcome identified barriers. Food manufacturers (n = 37) participated in group discussions (n = 2) and completed online-questionnaires (n = 29). Support mechanisms, perceived necessary to obtain food safety certification included; funding for training and audit-fees, support for implementing food safety scheme documentation, on-site support through mentoring/coaching and pre-audits. Findings identify the need for a food safety scheme certification support package pathway incorporating online, off-site, on-site and financial support to assist food and drink manufacturers obtain third-party food safety certification. Such assistance would support three critical areas. Findings may inform development of support mechanisms to increase uptake of food safety certification and accelerate food-sector growth.

**62. Community-based prehabilitation before elective major surgery: the PREP-WELL quality improvement project**

**Authors** Tew G.A.; Durrand J.W.; Bedford R.; Lloyd S.; Carr E.; Hackett R.; Peacock S.; Taylor S.; Danjoux G.; Gray J.; Yates D.
**Source** BMJ open quality; Mar 2020; vol. 9 (no. 1)
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**Abstract** Optimising health and well-being before elective major surgery via prehabilitation initiatives is important for good postoperative outcomes. In a busy tertiary centre in North East England, the lack of a formal prehabilitation service meant that opportunities were being missed to optimise patients for surgery. This quality improvement project aimed to implement and evaluate a community-based prehabilitation service for people awaiting elective major surgery: PREP-WELL. A multidisciplinary, cross-sector team introduced PREP-WELL in January 2018. PREP-WELL provided comprehensive assessment and management of perioperative risk factors in the weeks before surgery. During a 12-month pilot, patients were referred from five surgical specialties at James Cook University Hospital. Data were collected on participant characteristics, behavioural and health outcomes, intervention acceptability and costs, and process-related factors. By December 2018, 159 referrals had been received, with 75 patients (47%) agreeing to participate. Most participants opted for a supervised programme (72%) and were awaiting vascular (43%) or orthopaedic (35%) surgery. Median programme duration was 8 weeks. The service was delivered as intended with participants providing positive feedback. Health-related quality of life (HRQoL; EuroQol 5D (EQ-5D) utility) and functional capacity (6min walk distance) increased on average from service entry to exit, with mean (95% CI) changes of 0.108 (-0.023 to 0.240) and 35m (-5 to 76m), respectively. Further increases in EQ5D utility were observed at 3 months post surgery. Substantially more participants were achieving recommended physical activity levels at exit and 3 months post surgery compared with at entry. The mean cost of the intervention was 405 per patient; 52 per week. The service was successfully implemented within existing preoperative pathways. Most participants were very satisfied and improved their risk profile preoperatively. Funding has been obtained to support service development and expansion for at least 2 more years. During this period, alternative pathways will be developed to facilitate wider access and greater uptake.


**63. A london multi-centre audit: Evaluation of compliance with vte extended prophylaxis nice guidance with respect to major abdominal cancer surgery**

**Authors** Cronin A.J.; Sayers A.; Vig S.; Tan E.; Deacon M.; Greenfield S.; David Stringfellow T.
**Source** British Journal of Surgery; Sep 2019; vol. 106 ; p. 48-49
**Publication Date** Sep 2019
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**Abstract** Aims: To assesses compliance with NICE guidance (NG89) for VTE Risk Assessment and extended pharmacological prophylaxis within general surgery patients undergoing major surgery for intra-abdominal malignancy. To evaluate performance in south London hospitals with general surgery core trainees.
Method(s): The audit was carried out with analysis of general surgery operative data between March and September 2018 (individual units varied) across 6 sites. Patients on cancer pathways were identified using electronic records. Details of surgery along with evidence ofVTE risk assessment and consideration of pharmacological prophylaxis for 28 days post operatively were analysed in spreadsheets (with clinical reasons for any deviation from guidance).
Result(s): Across 6 respondent sites, 153 patients were included. VTE risk assessments were compliant in 95.4% [range 85.3-100%] of cases, whereas VTE 28 day extended prophylaxis compliance was 96.7% [range 87.5-100%] for patients audited.
Conclusion(s): High levels of compliance with VTE risk assessment and extended prophylaxis have been observed, albeit with significant variation between hospitals. Those with a robust 'Enhanced Recovery' protocol are expectedly more compliant with recommendations, perhaps due to increased awareness of management plans from early in their surgical pathways.

**64. Applying the theory-the practicalities of implementing locssips (local safety standards for invasive procedures)**

**Authors** Jawad F.; Graham A.W.; Graham T.; Grinnell-Moore L.; Rosser S.
**Source** British Journal of Surgery; Sep 2019; vol. 106 ; p. 48
**Publication Date** Sep 2019
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**Abstract** Aim: NHS England introduced National Safety Standards of Invasive procedures (NatSSIPs) to set out the minimum standards for the delivery of safe care during invasive procedures. In 2015 a national patient safety alert mandated that NatSSIPs should be used byTrust's to create their own Local Standards for Invasive Procedures (LocSSIPs) with the aim to improve patient safety by reducing never events.
Method(s): A Clinical Governance Fellow was put into post to support the development and implementations of LocSSIPs throughout the Trust. These were then audited using incident recording systems and patient records for compliance (100%) and the occurrence of never events (0). Feedback was gathered to identify the causes to non-compliance.
Result(s): Zero never events were recorded in all piloted specialties. Compliance of LocSSIPs was on average 91-97% across the piloted specialties, with 'Irrelevance' and 'lack of time' being the main reasons to non-compliance.
Conclusion(s): Evidently LocSSIPs can reduce never events. However, their success is hindered by the challenges faced in their implementation and compliance, these include; Lack of awareness, negative staff attitudes and busy work schedules. Trusts must take action to overcome these barriers, such as developing educational training for staff, allocating resources and ideally appointing a clinical fellow.

**65. Helicopter and ground emergency medical services transportation to hospital after major trauma in England, a comparative cohort study**

**Authors** Beaumont O.; Lecky F.; Bouamra O.; Surrendra Kumar D.; Coats T.; Lockey D.; Willett K.
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**Abstract** Aim: To establish the impact of Helicopter Emergency Medical Services (HEMS) in England on major trauma survival.
Method(s): A comparative cohort design using prospectively recorded data from the Trauma Audit and Research Network identified 279,107 patients between January2012-March2017 in England. The primary outcome was risk adjusted in-hospital mortality within propensity-score matched cohorts. Subset analyses were performed for subjects noted to benefit most from HEMS (GCS<8 or abnormal respiratory rate).
Result(s): The analysis was based on 61,733 eligible adult patients directly admitted to major trauma centres, with 54,185 for Ground Emergency Medical Services (GEMS) and 7,548 for HEMS. A multivariate logistic regression analysis demonstrated reduction in the odds of death in favour of HEMS, although not statistically significant (OR=0 846; 95% CI: 0 684 to 1 046, p-value 0 122). Subset analyses reduced the odds further but remained non-significant.
Conclusion(s): This study provides the most extensive evaluation for the role of HEMSin major trauma in England, demonstrating a non-statistically significant survival advantage for a comparable cohort of patients. Though a 15% risk adjusted mortality reduction is clinically significant. Despite the cohort size, due to the intrinsic mismatch in patient demographics, the ability to statistically prove a mortality benefit from HEMS in England is limited.

**66. Current practice in open fracture management across regional trauma networks in the uk**

**Authors** Beaumont O.; Claireaux H.; Griffin X.
**Source** British Journal of Surgery; Sep 2019; vol. 106 ; p. 9
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**Abstract** Aim: 1. Determine demographics and injury profile for patients with open-fractures across the UK. 2. Establish management practices and adherence to national guidelines. 3. Obtain data on key outcomes including infection, amputation and mortality.
Method(s): A multi-centre, trainee-led collaborative study, to snapshot a consecutive patient cohort, minimising changes in guidelines and capabilities during the study period. Questions were designed to audit British Orthopaedic Association Standards for Trauma and capture further information on demographics, management and outcomes.
Result(s): 239 patients were identified over 6-months from 5MTCs and 3Trauma Units(TUs) with predominantly high-energy injuries; however, 23% were fall from standing-height. Mean ISS was 15.1, with 5.7% GCS<15. Data completion was 94.6%. 29% were transfers to MTCs. Of these, 14.7% had received temporary/ definitive fixation. 41.7% received antibiotics <1hour. 86.9% received combined orthoplastics care. 79.1% received soft-tissue coverage <72hours. 16.9% developed wound infections, 14.2% returned to theatre and 7.8% received amputations. Mortality was 3.0%.
Conclusion(s): Utilising multi-centre, trainee-led collaborative methodology, we have arguably the largest UK snapshot of open-fractures, a key measurable indicator for major trauma care as a whole. We gain understanding of demographics and management practices including underperformance meeting national standards; which should guide all trusts and the evolution of trauma care going forwards.

**67. Improving national vascular registry data capture for carotid endarterectomy patients**

**Authors** Mc Kevitt G.; Empey J.A.; Kleanthous C.; Blair P.
**Source** British Journal of Surgery; Sep 2019; vol. 106 ; p. 85
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**Abstract** Aim: The UK National Vascular Registry (NVR) records and publishes outcomes for major procedures performed by vascular consultants. It aims to audit and improve vascular patient care. However, difficulty in extracting data from patient notes have led to incomplete entries and underreporting of results. We aimed to analyse current processes and improve the accuracy of NVR data capture for all patients undergoing carotid endarterectomies at a Regional Vascular Centre.
Method(s): Data was collected over a four month period from consecutive carotid endarterectomy patients. Deficiencies in data entries were analysed. At month two, a new proforma was introduced highlighting the key data required for the NVR along with sections for MDT input and inpatient note-keeping. Staff were unaware that notes were being audited. Data completion rates were then compared.
Result(s): Initial data capture identified failures to gather requisite information in all NVR sections, apart from Consenting. Statistically significant improvements ($p < 0.05$) were found in completion of Demographics, Admission Detail, Completion of History & Clinical Exam NVR sections after the introduction of the proforma
Conclusion(s): The proforma resulted in an improvement in accuracy and completion of NVR data entries for carotid endarterectomy patients allowing for outcome data to be audited to ensure high standards of patient care.

### 68. Mandibular fractures-from admission to discharge

**Authors** Khudr J.; Mc Alister K.; Palmer D.
**Source** British Journal of Surgery; Sep 2019; vol. 106 ; p. 85
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**Abstract** Introduction: A retrospective audit of 33 patients who presented with the diagnosis of a fractured mandible at East Lancashire Hospital Trust (ELHT) was held to compare the Maxillofacial surgery values as a department to the Getting It Right First Time (GIRFT) England values. The need arises after the GIRFT report identified that ELHT had longer than average values for mandibular fracture trauma surgery.
Method(s): Patients included were identified from a theatre logbook and have undergone Open Reduction and Internal Fixation (ORIF) of a fractured mandible between September 2017 to February 2018. Once identified, data was collected from the electronic record 'Theatreman' and patients' clinical notes. The data was then analysed using graphs and bar charts.
Result(s): The pre-operative period and total length of stay for a fractured mandible were assessed, and it was found that ELHT underperformed in comparison to the GIRFT pre-operative values but outperformed in the total length of stay for a fractured mandible.
Conclusion(s): Most injuries occurred between 19:00-3:00, with 16% of patients having had a delay in operation beyond next working day. Improvements could be achieved through enhanced emergency list management and allocating afternoon slots to allow assessment of night-time admissions. A need to re-audit after quality improvement is required.

### 69. The Australian Clinical Dosimetry Service development and deployment program of advanced audits

**Authors** Williams I.; Shaw M.; Kenny J.; Alves A.; Brown R.; Khan F.; Davey C.; Supple J.; Lye J.
**Source** Journal of Medical Imaging and Radiation Oncology; Oct 2019; vol. 63 ; p. 89
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Available at Journal of Medical Imaging and Radiation Oncology from Unpaywall

**Abstract** The Australian Clinical Dosimetry Service (ACDS) audits every radiotherapy provider in Australia and nearly half of New Zealand. The ACDS maintains an active development program advised via consultation with the Trans-Tasman Radiation Oncology Group (TROG) and the ACDS' Clinical Advisory Group (CAG). Over the last few years the ACDS has developed and deployed IMRT, VMAT and FFF audits. For 2019-20, the focus has moved onto small field and SABR, which are now in active field trial around the country. An increasing challenge for the ACDS is how to provide coverage for standard linacs, but also how to provide audits for nonstandard and new treatment technologies.
Purpose(s): The ACDS' three-level audit program provides a comprehensive audit service encompassing common clinical practice. A constant decision point for the ACDS is where development resources should be applied to optimally mitigate treatment risk. The ACDS and CAG constantly review audit development for both existing but less common treatment technologies, and those technologies which are expected to enter the clinical space in the near future. The audit development decisions are made on the basis of the expectation of radiation risk to the treatment population, and available resource. Methods and Materials: Tomotherapy, Halycon Cyberknife and Gammaknife, are operational in clinics across Australia. Field trials on Tomotherapy and Halcyon demonstrated the existing ACDS audits can be effectively used with minor modifications. Development of SABR capability transfers to Cyberknife and the proposed addition of an ACDS SRS cranial phantom opens the possibility of Gam-maknife measurements and clinical credentialing. It also ensures the ACDS is equivalent with equivalent international auditing bodies. MRI Linacs are expected to be in clinical use in Australia in 2019 and magnetic field dosimetry is being investigated in collaboration with ARPANSA Primary Standard Laboratory. The ACDS is collaborating with the National Physical laboratory (NPL) in the UK for traceable reference dosimetry in a magnetic field. ACDS and NPL will intercompare measurement approaches in 2019 for modulated fields with a MRI Linac. Proton auditing and a harmonised approach for clinical trial creden-tialing is a focus of international auditing and trial groups and is being investigated with ARPANSA's PSDL.
Result(s): Table of audit modality status and planning for 2018-2019 (Live, Field trial, Planned).

**70. Valproate risk form-Surveying 215 clinicians involving 4775 encounters**

**Authors** Angus-Leppan H.; Moghim M.M.; Cock H.; Kinton L.; Synnott Wells M.; Shankar R.
**Source** Acta Neurologica Scandinavica; Jun 2020; vol. 141 (no. 6); p. 483-490
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**Abstract** Objectives: Annual completion of a Valproate Risk Acknowledgement Form (RAF) is mandated in the United Kingdom due to neurodevelopmental risks of in utero valproate exposure. The number of women of childbearing potential taking valproate, the uptake of the RAF within this population and their clinical outcomes is not known or monitored. This study surveyed responses of clinicians administering the RAF to women of childbearing potential taking valproate medications.
Material(s) and Method(s): Study design-national online survey distributed to clinical specialists throughout the United Kingdom via their national organizations. Participants-clinicians qualified to counsel and administer the valproate RAF (as defined by the Medicines and Healthcare products Regulatory Agency). Main outcome measures-quantitative and qualitative responses regarding identification, uptake, effects and reactions to the RAF. Trial registration-registered at the Clinical Governance and Audit Committee at Royal Free London NHS Foundation Trust Hospital.
Result(s): 215 respondents covering more than 4775 patient encounters were captured. Most patients continued on valproate, 90% with epilepsy as the indication. Respondents reported that seizure control deteriorated when switched to levetiracetam (33%) and lamotrigine (43%), compared to 7% when continuing valproate (P <.001).
Conclusion(s): 33%-43% of clinicians reported seizure control deterioration in women changed to alternatives to valproate. Informed consent requires women considering a change are given this information. Systematic capture of data automated through online RAFs and linked to patient outcomes is needed. There remains little data on valproate given for indications other than epilepsy.


### 71. PMU96 COST-EFFECTIVENESS OF AN ELECTRONIC AUDIT AND FEEDBACK INTERVENTION TO IMPROVE MEDICATION SAFETY USING ELECTRONIC HEALTH RECORDS AND QUASI-EXPERIMENTAL METHODS

**Authors** Brinkmann L.; Gavan S.; Ashcroft D.; Peek N.; Elliott R.A.
**Source** Value in Health; May 2020; vol. 23
**Publication Date** May 2020
**Publication Type(s)** Conference Abstract
**Database** EMBASE

**Abstract** Objectives: System-level digital health interventions, such as electronic audit and feedback (e-A&F), are used increasingly in health care. Where there is limited incentive or opportunity to implement clinical trials, evidence of effectiveness often relies on quasi-experimental designs. Estimating the health and economic impact of these interventions often depends on the use of routine data and process indicators rather than patient outcomes. This study estimated the cost-effectiveness of an e-A&F intervention, the Safety MedicAtion daSHboard (SMASH), designed to reduce hazardous prescribing events (HPEs) by interrogating electronic health records with a pharmacist review of at-risk patients in general practices.
Method(s): SMASH was introduced in 43 practices in Greater Manchester, UK. A probabilistic decision-analytic model estimated the incremental cost per HPE avoided over 12 months. HPE rates before and after the intervention was introduced were compared using interrupted time series analysis (ITSA). Practice-level costs of SMASH (set-up, maintenance, staff time required to address HPEs) were constructed from a health-care provider perspective and compared with standard care before SMASH.
Result(s): At 12 months SMASH reduced the number of HPEs by 10.5 [95%CI: 10.3; 10.7] at an incremental cost of 2112 [95%CI: 2024; 2200] per practice compared with the hypothetical comparator (extrapolated pre-intervention trend). The probabilistic incremental cost-effectiveness ratio was 201 per HPE avoided. The number of HPEs avoided by SMASH was sensitive to the method of calculating the effectiveness of standard care and the cost of managing HPEs.
Conclusion(s): SMASH reduced the number of HPEs at a higher cost compared with standard care. The feasibility of using process indicators and results from ITSA within a decision-analytic model to estimate the cost-effectiveness of a system-level digital health intervention was demonstrated. Future research can use linked primary and secondary health care data to estimate the harm and cost associated with HPEs.


### 72. A comparison of decision to delivery interval in caesarean sections at UMHL with RCOG recommendations, and effects on neonatal outcomes

**Authors** Burke B.E.; Uwadiae H.; Ismail K.I.; Imcha M.
**Source** Irish Journal of Medical Science; 2019; vol. 188
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**Abstract** Background: The Lucas Classification of urgency of caesarean section (CS) is now used in obstetric care in both the UK and Ireland. The RCOG recommends a maximum Decision to Delivery Interval (DDI) for fetal compromise of 30 minutes.
Method(s): This audit was conducted on all Category 1-3 CS conducted at UMHL between December 2017 and January 2018 (n=25). Data was obtained by reviewing all relevant patients' charts. Our aims were to determine UMHL's compliance with the 30 minute DDI recommendation, and to examine any impact the Lucas Classification and DDI may have on neonatal outcomes (APGAR scores at 1 and 5 minutes, and likelihood of admission to NICU). The results of this audit were also compared to a previous similar audit from 2016.
Result(s): The DDI for Category 1 CS had decreased from a mean of 31 minutes in 2016 to 18.4 minutes in this audit (P=0.06). Category 2 and 3 CS mean DDIs were not significantly changed from between audits.
Conclusion(s): No significant relationship was found between either CS Category or prolonged DDI and neonatal outcomes (P>0.05). This has closed the audit loop for the 2016 audit, and has shown some improvement in DDI for Category 1 CS which is now below the RCOG recommended 30minutes. However, future improvement inDDI for Category 2 and 3 CS could be sought.

**73. Oxygen prescribing on the acute orthopaedic unit and orthopaedic medical ward of St. Vincent's University Hospital**

**Authors** Hannon M.; O'Hanlon S.
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**Abstract** Background: Oxygen (O2) should be regarded and prescribed as a drug (1), however the practice of oxygen prescription remains poor (2) and current data shows that only 57.5% of UK patients on O2 have a valid prescription (3).
Aim(s): The aim of this audit was to examine the practice of prescription and administration of oxygen therapy on the acute orthopaedic unit and ward of SVUH.
Method(s): A concurrent audit of documentation of smoking history was also performed to assess frequency of documentation, given the importance of a documented smoking history. Data was collected on a single day from inpatients that had been prescribed oxygen.
Result(s): The major findings of this audit included the lack of consistency in the location of written oxygen prescriptions, despite a specific oxygen prescription area in the medication chart. Only 19% of patients had a target saturation level set when admitted, contrary to best practice guidelines (3). Of the written prescriptions themselves, findings included that only 81% were signed, a rate that would not be tolerated for any other drug. Only 29% of patients had a target $SpO_2$, a rate far below that of the UK where it is 52.7% (3). Finally in regards to smoking history, only 52% of patients had a documented smoking history on this current admission.
Conclusion(s): Recommendations arising from this audit include the importance of educating doctors on the correct procedure for oxygen prescription. A tick box method of recording target $SpO_2$ and smoking history for each patient on admission is also recommended.

**74. An audit of laxative prescribing for patients charted for opioids in a university hospital limerick**

**Authors** Sureish S.; Maraj R.; Sabu C.B.
**Source** Irish Journal of Medical Science; 2019; vol. 188
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**Abstract** Background: Opioid-induced constipation is a preventable condition commonly faced by hospital in-patients. Available prescribing guidelines recommend prescribing regular laxatives on initiation of opioid therapy.
Aim(s): The aim of this audit was to assess the prescribing practices with regards to strong opioid analgesics and laxatives for in-patients.
Method(s): Over a 2-week period, 103 admission drug charts of patients were reviewed. All patients had strong opioids charted. Patients were on opioids either before or after admission. Patients taking laxatives prior to admission were not included. Type of opioid, whether it was regular or PRN (as-required) and the date started was noted.Whether a laxative was charted, and if it was, whether it was regular or PRN and the date was noted. Current prescribing practices were compared with 'All Wales Medicines Strategy Group. Polypharmacy: Guidance for Prescribing', a prescribing guideline from the UK developed with guidance from the British National Formulary.
Result(s): Only 56 of 103 patients (54%) were charted for laxatives at the time of the audit. 79 of 103 patients (76%) were not co-prescribed a laxative when prescribed an opioid. Of the 68 patients charted for regular opioids, only 17 were prescribed a laxative concurrently (25%). Of this 17, 13 were started on regular laxatives (76%). 80% of patients who were started on a laxative after initiation of the opioid, were started within 5 days of initiation of opioid therapy.
Conclusion(s): The results highlight that it is not routine that patients charted for opioids are concurrently prescribed a laxative and in fact, majority of patients do not receive laxatives concurrently with opioids. Having access to a standard prescribing guideline for the hospital, similar to ones available in the NHS, may improve and standardize prescribing for patients on strong opioids and possibly reduce the incidence of opioid-induced constipation.

### 75. Short-term and long-term effectiveness of interventions aimed at improving severity scoring in pancreatitis

**Authors** Nuredini G.; Saunders A.; Alexander-Harvey G.; Reyhani H.
**Source** British Journal of Surgery; Nov 2019; vol. 106 ; p. 36
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**Abstract** Background: Acute pancreatitis is a common presentation to emergency departments across the UK. It is therefore important to identify severe cases in order to appropriately escalate care and prevent complications. Guidelines from the National Institute for Health and Care Excellence (NICE) recommend the use of a severity tool in order to identify these individuals. This is a closing loop audit which aims to: i) Assess our compliance with NICE guidelines of severity assessment, and ii) assess whether a simple intervention improve our compliance.
Method(s): A retrospective review of all patients admitted to a tertiary care UK hospital with acute pancreatitis over 26 months was carried out. Patients with a diagnosis of acute pancreatitis on the basis of clinical presentation and biochemical or radiological findings (serum amylase >300 or computerised tomography features of pancreatitis) were included. The severity of acute pancreatitis was assessed using the modified Glasgow score. Patients whose diagnoses changed, or who were admitted after 48 hours of known pancreatitis were excluded. Emails and PowerPoint presentations were used as an intervention to increase awareness in using the modified Glasgow score at 8 months.
Result(s): Patients admitted pre-intervention (n=61) were compared to those admitted in the subsequent six-months (n=21) and eighteen months (n=47). At 6 months, our intervention increased: the recording of severity scores (+10%), the percentage of patients being scored correctly (+32%) and the proportion of patients who received an ABG (+23%). At 18 months post-intervention, there was a reduction in the recording of severity scores (-1%). However, there remained an increase in the percentage of patients being scored correctly (+12%) and in the proportion of patients who received an ABG (+14%).
Conclusion(s): This audit shows that a simple intervention is effective in improving our department's compliance with NICE guidelines. The intervention was most effective in the 6 months following its implementation. At 18 months, the rates of severity scoring were similar to those seen in the pre-intervention period. This is most likely explained by junior doctor rotations and highlights the need for bi-annual implementation of our intervention.

### 76. National pilot audit of general surgical weekday morning handover

**Authors** O'Reilly L.; Basu S.; Basnyat P.; Fernandes R.; Shrestha A.
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**Abstract** Background: Effective handover is essential to maintaining patient safety and continuity of care in order to achieve best-practice for our patients. Variation in handover is acknowledged by the Royal College of Surgeons of England guidelines (March 2007) which outlined good practice principles. The aim of this national pilot audit is to evaluate adherence to these principles in weekdaymorning handover, following a successful audit and re-audit of our own surgical department. The audit was designed to gain a greater understanding of the perception of current national handover practice with a focus on clinical effectiveness and patient safety.
Method(s): The audit was conducted over a 4 month period between February and June 2019. Standards were set in accordance with the RCSEng guidance: Safe handover: Guidance from theWorking Time Directive working party. An anonymised online questionnaire was designed on an encrypted format which addressed recommendations outlined in the guidance. Awareness of the audit was made via association websites (ASiT and AUGIS) and emails sent to trainee faculty groups. The audit was then distributed to general surgery departments on a national level targeted at doctors of all grades.
Result(s): 109 responses were received from junior surgical doctors from across 30 Trusts in England. Positive aspects included; handover always occurred at a designated space and time, diagnosis was communicated adequately in 92%, the method of contacting the responsible team was clear in 83%, and 76% of handover lasted up to 30 minutes as per the guidelines. However, only 28% felt that handover was used as a teaching opportunity and just 26% felt that questions were encouraged by senior clinicians. Interruptions during handover occur in 18%. The responses also reflected a paucity of nursing and allied-healthcare representation in handover at 35%.
Conclusion(s): The responses received highlighted practice that was being done well in certain aspects to ensure consistency and effectiveness of handover. Nevertheless, it also raised some important issues and identified areas in which significant improvements could be made to improve patient safety and promote the educational value of handover. An improvement in the representation of the multidisciplinary team would improve communication regarding patient care, but is often limited by staff and time constraints. It is hoped that gaining an awareness of these issues will lead to the widespread reflection of local practice with consequential implications at a national level.

**77. An audit of operation notes in general surgery in a District General Hospital**

**Authors** Ogundeji O.; Hamdan M.; Jaunoo S.
**Source** British Journal of Surgery; Nov 2019; vol. 106 ; p. 51-52
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**Abstract** Background: The importance of operation notes in patient care cannot be overemphasised. It is a mandatory part of a patient's record, ensures continuity of care and a crucial medico-legal document. It is essential that it is legible, accurate and complete. The aim of this audit was to assess the compliance of current operation notes documentation with the guidelines agreed by the Royal College of Surgeons (RCS) of England.
Method(s): A prospective review of forty (40) randomly selected operation notes was carried out for this audit over three weeks. Only operations conducted by General Surgery consultants and registrars were audited. Both elective and emergency operation notes were reviewed. The audit was done to compare the operation notes with the standard minimum requirements for notes as set out by the Royal College of Surgeons of England.
Result(s): Of the 40 notes reviewed, only 40% were legible, 22% did not have an operative diagnosis, only 78% had adequate and legible post operative care instructions and a signature was missing in 10% of notes. However, the type of incision was documented for all (100%) the operative notes.
Conclusion(s): The quality and compliance with standards of the operation notes are poor. Education of surgeons was carried out at a departmental meeting. Aide-memoires were put up in and around the theatres and there are ongoing plans to pilot an electronic operation note that will guarantee legibility and consistency of the notes. A re-audit will be done after this.

**78. Managing cholecystitis-are we following NICE guidelines?**

**Authors** Niaz O.; Brown D.; Patel K.; Kirmani N.
**Source** British Journal of Surgery; Nov 2019; vol. 106 ; p. 50-51
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**Abstract** Background: Approximately 15% of the UK population have gallstones and 20% of these are symptomatic due to this. Therefore, cholecystitis is one of the most common acute surgical conditions seen in the UK. NICE guidance suggests that any patient diagnosed with cholecystitis should undergo a laparoscopic cholecystectomy within 7 days of onset of symptoms. We wanted to see how patients with this condition were managed at our trust and how we could improve their management in accordance with the above guidance.
Method(s): From the months of January to April 2019, we collected data for all patients presenting with cholecystitis. We gathered the data via the 'post take lists' and used our online systems to confirm if/when the patients underwent the procedures. Using three online softwares and two investigators, we ensured that no patients were missed. We collected the following data points: * Total number of patients with cholecystitis (cholecystitis and cholecystitis with CBD pathology) * Number of patients 'eligible' for laparoscopic cholecystectomy * How many patients under went laparoscopic cholecystectomy? * How many patients underwent procedure within 7 days? * Reasons for 'no operation' and cancellations Results: A total of 62 patients were admitted with cholecystitis during the 4 month period of data collection. 38 patients had cholecystitis and the other 24 had cholecystitis with CBD stones. 53% of the patients with 'cholecystitis only' underwent a laparoscopic cholecystectomy. Out of the 47% of patients who did not have procedure, 67% had documented reasons. The average number of days from onset of symptoms to operation was 19 days. Out of the above patients only 50% of 'eligible' patients underwent a laparoscopic cholecystectomy within 7 days of onset of symptoms. There were 6 cancellations, 3 due to hospital factors.
Conclusion(s): It is evident from the results that our trust is not keeping up with the national recommendations and improvements are needed. We have recommended the following improvements. * 'Hot chole' lists * Dedicated 'cholecystitis' email address for acute referrals * Slots on 'elective lists' for emergency laparoscopic cholecystectomies. The above changes have started to show improvements in the management of patients at our trust and we are looking to re-audit this in the near future.

**79. Development of a combined Enhanced Recovery After Surgery (ERAS) pathway for oesophagogastric resections without recourse to a feeding jejunostomy using Quality Improvement techniques**

**Authors** Macdonald A.; Dunlop C.; Kennedy H.; Mackay C.; Fullarton G.; Forshaw M.; Craig C.
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**Abstract** Background: Standardised oesophagectomy clinical pathways developed in North America and implemented in a number of units in the UK often rely on a routine feeding jejunostomy as a central component of their success in reducing postoperative length of stay. Complications of a feeding jejunostomy can cause significant morbidity and mortality. This project aimed to develop an ERAS pathway that not only avoided the routine use of a feeding jejunostomy but also encompassed the perioperative management of both oesophagectomies and total gastrectomies. A reduction in length of stay (LOS) was the primary endpoint.
Method(s): A multidisciplinary team developed the pathway using Quality Improvement (QI) techniques. Repeated Plan Do Study Act (PDSA) cycles allowed testing and embedding of each change. A routine feeding jejunostomy was not required in the pathway, but could be used if deemed clinically appropriate. Patients were identified in a prospectively collected unit database. The LOS of consecutive resections in 12 months prior to implementation of the pathway were compared with six months of consecutive resections following implementation in February 2019. Patients who suffered a significant complication were excluded from both groups.
Result(s): 32 patients were identified who had uncomplicated OG resections in 2018. The mean LOS was 12.8 (range 10-18) days. Following implementation of the pathway in January 2019, 21 patients were identified who had undergone uncomplicated OG resections in the next 6 months. The LOS of the patients was reduced to a mean of 10.3 (range 8-14) days (P<0.05). None of the patients in either group had a feeding jejunostomy inserted.
Conclusion(s): QI techniques successfully delivered major change in patients undergoing both oesophagectomy and total gastrectomy without a feeding jejunostomy in a combined pathway leading to a significant reduction in length of stay. The use of PDSA cycles was particularly important to understand obstacles and embed changes for long term success. Patient feedback on the process changes was positive. Focus has now turned to the other bundles of care identified by this QI project to further improve patient care.

**80. Widespread variation in pancreatic enzyme replacement therapy for pancreatic cancer: Results from a national prospective study RICOCHET RICOCHET Study Group on behalf of the West Midlands**

**Authors** Collaborative R.; McKay S.C.; Wilkin R.; Layton G.; Halder D.; Marley A.; Patel R.; Brown Z.; Stephenson B.; Pande R.; Kalisvaart M.; Roberts K.; Farrugia A.; Harvey P.; Brom M.; Barker G.; Trudgill N.
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**Abstract** Background: NICE currently recommends patients with pancreatic cancer should be prescribed pancreatic enzyme replacement therapy (PERT) (1). PERT use has been shown to improve survival (2), improve quality of life and maintain weight.
Method(s): The Receipt of Curative Resection or Palliative Care for Hepatopancreaticobiliary Tumours (RICOCHET) study is a trainee led, multicentre audit of hepaticopancreaticobilary cancer treatment pathways. Patients were identified prospectively in UK hospitals over a 16 week period, with follow-up for 90-days. Only patients with pancreatic cancer, either histologically or radiologically diagnosed, were included in the analysis.
Result(s): 95 centres including 25 performing pancreatic resections provided data for 1,504 patients. PERTwas prescribed among 53.7% (n=808) of patients. In resectional centres PERT prescription rates were 60.3% (518/859) compared to 45% (290/645) in non-resectional centres (p<0.001).However, within resectional centres, 75% (207/276) of those with resectable disease received PERT compared to only 53.2% (310/582) of those identified as having unresectable tumours (p<0.001). In addition, rates of PERTprescription varied widely across the United Kingdom between resectional centres.
Conclusion(s): Despite knowledge that PERT use in pancreatic cancer improves multiple outcomes, the levels of PERT prescribing are disappointingly poor throughout the UK. There are disparities in PERT prescription between secondary and tertiary centres. In addition, there is a significant difference in the level of care provided to patients that are managed within resectional centres with curative intent as opposed to those that are managed palliatively. It is vital that clinician, patient and carer awareness is improved about the benefits of PERT, to ensure patients are provided the best care in pancreatic cancer.

**81. Laparoscopic versus open surgery for perforated peptic ulcer disease. A propensity matched analysis of the National Emergency Laparotomy Audit**

**Authors** Coe P.; Lee M.; Boyd-Carson H.; Lockwood S.; Saha A.
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**Abstract** Background: Perforated peptic ulcer (PPU) disease remains a relatively common surgical emergency, and is associated with a 90 day mortality of 10% in England andWales. Surgical treatment ofPPUis typically open repair (OA)with aGraham patch although a laparoscopic approach (LA) is also used. Current evidence for the use of laparoscopic surgery suggests equivalence in mortality and frequency of post-operative complications but a decrease in post-operative pain and wound infections. National Emergency Laparotomy Audit (NELA) data suggest increasing use of the laparoscopic approach but the short term outcomes have not been compared in this dataset.
Method(s): A propensity-score matched analysis was performed on patients in the NELA database who underwent PPU repair from December 2013 to December 2017. One to one matching of LA and OA was undertaken, with risk adjustment factors drawn from previous work. Patients with an initially laparoscopic approach were classed as LA even if converted to OA. The primary end-point was 90-day mortality, secondary endpoints were length of stay (LOS), re-operation, and re-admission to critical care. Multivariable logistic and linear models were created to compare the effect of operative approach on binary and continuous outcomes log-rank tests to compare time-to-event data.
Result(s): A total of 5,253 patients underwent surgery in the study period. After propensity-matching two groups of 1,158 patients were created. Overall 90-day mortality was 7.5%. There was no difference between the LA andOA for 90-day mortality (7.2% vs 8.5%, OR 0.80, 95% CI 0.56 - 1.15, p=0.23), median LOS (equivalent at 7 days, p=0.09), reoperation (3.6% vs 4.0%, p=0.74), or re-admission to critical care (2.8% vs 2.9%, p=0.92). Across the four-year study period laparoscopic surgery use increased from 20% to 26% and the conversion rate decreased from 40% to 31%.
Conclusion(s): Analysis of NELA data suggests that the short outcomes from laparoscopic perforated peptic ulcer repair are equivalent to open repair, and shows increasing adoption of laparoscopic surgery with decreasing conversion rates. This may be confounded by a learning curve effect, or by a selection bias related to unmeasured variables. LA for PPU appears to be an acceptable approach in this setting.

**82. ARROW: Audit and review of anti-reflux operations and workup**

**Authors** Walker R.
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**Abstract** Background: Work-up and surgery for the treatment of gastro-oesophageal reflux disease (GORD) represents a large proportion of the upper gastro-intestinal (UGI) surgeon's workload. We know from HES data and the SWORD database that there is significant variation in UK practice. That variation extends from use and interpretation of diagnostic tests to day-case rates and procedures employed. There is no level 1 evidence to support one fundoplication technique over another and novel techniques are being employed in increasing numbers (LINX, ESOPHYX, STRETTA, etc). We will undertake a national, collaborative, prospective audit to quantify the variation in practice and inform future studies.
Method(s): Participating centres will be identified through the national trainee research collaborative, social media and AUGIS 2019. Registration will be completed using a short, bespoke, online survey before the prospective data collection begins. Participants will be asked to prospectively record the indication, pre-operative investigations, operative technique and short-term outcomes of all patients undergoing anti-reflux surgery using an online platform. This platform can be accessed from any device connected to the internet. Individual sites will only have access to data collected via their site. Collaborators will be asked to agree to our authorship policy. Trainees are expected to take a leading role.
Result(s): Results will be prepared in accordance with the guidelines as set by the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) statement for observational studies. Given that long term data are not being collected, and the main aim of the study is to describe variations in pre, intra- and post-operative care, descriptive statistics will predominantly be used. Corporate authorship in-line with current research collaborative practice will be employed.
Conclusion(s): Results will inform the development of a national registry of patients undergoing anti-reflux surgery of any typeand the development of further research projects to resolve aspects of uncertainty. We hope that by establishing an online platform and a collaborative network quality assurance and improvement can be implemented and audited easily. Online access to the registration and survey phase is available at AUGIS 2019 and the audit phase is intended to run for nine months from November 2019 but centres will be able to upload patient details after the initial audit phase and make use of the online tool.

**83. Minimally Invasive Left-sided Oesophagectomy (MILO): A case report demonstrating the feasibility of this novel approach for oesophago-gastric junctional tumours**

**Authors** Byrne B.; Gossage J.
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**Abstract** Background: Recent national audit has shown that levels of minimally invasive oesophagectomy for cancer have increased to ~n the UK, supported by evidence from randomised trials and large case series. The hybrid approach is the most common, with laparoscopic abdominal mobilisation and open thoracic dissection. A number of centres have also adopted a thoracoscopic approach to the right chest. There have been no reports of left-sided thoracoscopic resection for cancer. Local new procedures approval was obtained and we present the first report of Minimally Invasive Left-sided Oesophagectomy (MILO).
Method(s): A 74 year old male presented with a cT3N1M0 type 1 oesophago-gastric junction adenocarcinoma. 4 cycles of neoadjuvant FLOT chemotherapy was followed by surgery. The patient was placed in a right-lateral position with the hips at 45 degrees. The table was rotated away and routine 5-port laparoscopic gastric mobilisation and lymphadenectomy was completed. The table was rotated back to 0 degrees, returning the patient to the right-lateral position. One-lung ventilation was commenced and intra-thoracic dissection including subcarinal nodes was continued using a 4-port technique. Oesophagectomy, conduit completion and anastomosis was completed via a small transverse left upper quadrant abdominal incision.
Result(s): Early postoperative recovery was uneventful, with no leak on routine water-soluble swallow study on postoperative day 3.On day 7 the left-sided chest drain slipped, causing significant surgical emphysema but no pneumothorax. On day 12, low grade sepsis and a pneumothorax were investigated with CT and endoscopy. A right sided hydropneumothorax required percutaneous drainage, but no leak was demonstrated. The patient recovered and was discharged home on oral diet on day 24. Postoperative histology showed ypT3N0 (0/30 nodes) R0 adenocarcinoma. At clinic review the patient continues to make a good recovery.
Conclusion(s): Minimally invasive left-sided oesophagectomy is a feasible approach for removing oesophago-gastric junction tumours. Potential benefits over the right-sided approach include the lack of patient repositioning, excellent visualisation of the distal oesophagus, and avoiding a painful thoracic incision. Future work will continue to establish the safety and efficacy of this new surgical approach.

**84. Gender imbalance in upper GI and general surgery**

**Authors** Dosis A.; Ninh V.; Jha A.; Husnoo N.; Grey T.; Saha A.
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**Abstract** Background: Since the 4thCentury BC, when Agnodike performed her medical duties disguised as a man in ancient Athens, women have formed an integral part of themedical and surgical workforce. Although the majority ofmedical students and junior doctors are female, there remain considerable problems with gender imbalance within senior surgical positions in today's NHS. This study aimed to analyse the current consultant surgical workforce in England andWales and quantify the proportion of consultants who are females. The study also aimed to assess the sub-specialty of female general surgeons in the UK.
Method(s): All acute hospitals in England and Wales were identified from the National Emergency Laparotomy Audit 4thReport from 2018. The consultant general surgical body, sub-specialty interests and gender were recorded for each hospital by interrogation of the NHS Choices website and common Internet search engines. For each consultant, data on university of primary qualification, date of entry onto the specialist register and further qualifications were recorded from interrogation of the GMC Medical Register.
Result(s): 190 hospitals and 3087 consultant general surgeons were identified. Of these, 468 surgeons (15.1%) were female, with the majority sub-specialising in Breast Surgery (32.3%). There were 47 female upper GI surgeons (40 OG, 7 HPB), which represented just 8.3% of all upper GI surgeons. For all surgical specialties, there was a majority male workforce. More than half of the female surgeons (239-51%) entered the specialist register within the last 10 years, 139 (29.7%) within 10-20 years and 19.3% had been consultants longer than 20 years. Amongst university teaching hospitals, there were 585 consultants of which just 75 were women (12.8%).
Conclusion(s): Despite a long-standing majority of women in medical and junior doctor positions, just 15% of consultant surgeons are women and the majority have become consultants only during the last decade. Just 8.3% of upper GI surgeons were females and these data suggest that Upper GI surgery has much to do to address the gender imbalance within the sub-specialty. Although there are pockets of gender balance, there are particular problems within university teaching hospitals and with UGI as whole departments.

**85. A retrospective audit of clinical outcomes following cholecystectomy: A single centre experience**

**Authors** Hussain S.; Ahmed A.; Farkas N.; Qureshi D.; Velani B.; Karamanakos S.; Lovett B.
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**Abstract** Background: The global incidence of gallstone disease is 10-15%with prevalence increasing with age. Laparoscopic cholecystectomy (LC) is considered the gold standard treatment for patients with symptomatic gallstone disease, offering less pain as well as earlier discharge and post-operative recovery. Indeed, LC accounts for over 90% of cholecystectomies performed annually in the UK. Although rare, complications associated with LC, notably bile duct injury, are associated with significantmorbidity.We conducted a single centre clinical audit to evaluate the intra and postoperative complications of cholecystectomy as well as frequency of conversion of LC to open cholecystectomy.
Method(s): We conducted a single centre clinical audit to evaluate the intra- and postoperative complications of cholecystectomy as well as frequency of conversion of LC to open cholecystectomy. All patients who underwent cholecystectomy between 01/01/2018 and 31/12/2018 at Basildon and Thurrock University Hospitals (BTUH) were included into this study. Data was retrospectively collected using electronic records and the histopathology database. Each case was independently reviewed by two authors and compared to national rates (NR).
Result(s): Data was available for 343 patients of which 76.2% were female. Of the 328 cases of LC, 285 (86.9%) were elective and 43 (13.1%) inpatient (IP). On-table-cholangiogram was performed in 35 (10.5%) cases. Conversion-to-open occurred in 1.19 % of cases (NR, 3.6 % - 13.9%). The main post-operative complications included bile duct injury, 0.3% (NR 0.3% - 0.6%), bile leak, 0.6% (NR, 0.3%-2.7%) and intra-abdominal collections, 1.5%. Inpatient cases had longer hospital stays (4.13 vs 0.74 days) and readmission rates (8.74% vs 5.5%) [NR <10%] compared to elective cases. The majority (88.6%) of excised gallbladders showed chronic cholecystitis.
Conclusion(s): Laparoscopic cholecystectomy is a safe procedure; however, it can be associated with serious complications, which require prompt identification and management to mitigate adverse outcomes. Our results demonstrate that BTUH, a busy district general hospital, performs competitively based on key national performance indicators for patients undergoing laparoscopic cholecystectomy. Inpatient LC was associated with longer duration of hospital stay and readmission rates and is an area for improvement. Future work involving a national multi-centre audit is warranted to further assess complications of LC.

**86. Quality of operative notes in university hospital limerick**

**Authors** Lutfi A.; Fowler A.; Kavanagh E.; Anthony M.; Yasser Abdeldaim M.
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**Abstract** Aim: Complete operative records are vital for postoperative patient safety and to convey critical details relevant to future patient care. Currently, there is no standardization of operative notes within our facility. Our aim was to assess the quality of operative records in accordance with up to date Royal College of Surgeon's, England (RCSEng) and Royal College of Surgeon's in Ireland (RCSI) guidelines.We also aimed to assess differences in adherence between electronic and paper operation notes in University Hospital Limerick.
Method(s): An audit of operative notes of surgical inpatients was conducted over a two-week period. Operative notes across five surgical disciplines were assessed. Operative notes were recorded electronically or on standard free-text paper-based forms. A checklist was used to assess 17 data points, based on RCSEng and RCSI guidelines.
Result(s): A total of 43 operative notes were identified. No operative notes met all data points. A significant difference was noted between paper-based records (61.8% complete) vs. electronic records (69.6% complete, p=0.01).
Conclusion(s): Within our institution, operative records were incomplete in 100% of cases, across all specialties. Electronic records were associated with improved record keeping, representing an opportunity to standardize operative notes using an electronic proforma.

**87. Respiratory complications after abdominal surgery (RECON)**

**Authors** anonymous
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**Abstract** Aim: Postoperative pulmonary complications (PPCs) are common in patients undergoing major abdominal surgery, accounting for 3-30% of complications. Despite the negative impact of PPCs on short and long-term outcomes being well recognised, there is a paucity of robust evidence inmajor abdominal surgery. This study aims to audit compliance to perioperative guidelines for PPC risk reduction in major abdominal surgery.
Method(s): This prospective, multi-specialty, multicentre audit will be conducted through student-led collaboratives across the UK, Ireland, and Australia. Data will be collected on consecutive patients undergoing major abdominal surgery with abdominal incision, including any intra-abdominal visceral resection (any specialty), reversal of stoma, and hernia repair. Data collection will run from 23rd January to 17th March 2019, with a 30-day follow-up on all patients. The primary outcome is adherence to selected Royal College of Anaesthetists and Enhanced Recovery After Surgery guidelines for prevention of PPCs. The secondary outcomes are 30-day rate of PPCs, overall complications (Clavien-Dindo classification) and identification of PPC risk factors.
Conclusion(s): RECON will increase understanding of variability and adherence to risk-reduction measures for PPCs following major abdominal surgery. Identification of high-risk groups allows risk modification through peri-operative pathways including prehabilitation.

**88. Online data collection tools and mixed method follow-up improves accuracy of ssi documentation following colorectal surgery**

**Authors** Clarkson M.; Reeves N.; Boyce K.; Torkington J.
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**Abstract** Introduction: Surgical site infections (SSI) are associated with increased morbidity, hospital stay and cost. Within a single centre, the SSI prevalence in elective colorectal surgery was 8.6% in a retrospective cohort study (Power, et al. 2013). 8.6% was felt to be an underestimate compared to the literature (10-20%). Public Health Wales (PHW) piloted an online data collection tool within Obstetrics to accurately record SSI prevalence reducing caesarean SSI rates, from 12% to 3.4% (2007-17). PHW's data collection tool was used in this single centre, as feasibility to a larger allWales audit.
Method(s): Using a predesigned data collection tool, data was collected from 50 consecutive patients undergoing elective colorectal procedures or emergency procedures from one ward in a single centre. Each patient underwent a mixed methods follow up for 30 days.
Result(s): Of the 50 patients, there were 7 superficial SSIs, 2 deep SSIs, and 3 organ space SSIs with overall patient prevalence of 20%.
Conclusion(s): The online data collection tool and mixed follow-up facilitated an accurate prospective audit of SSI rates and the 20% prevalence of SSIs is comparable with the literature. This study has facilitated the design and implementation of an allWales snapshot audit of SSI prevalence.

**89. A re-audit of orthognathic treatment efficiency at luton and dunstable university hospital from january 2015 to January 2017**

**Authors** Hans G.; Eaton C.; Payam-Sattarzadeh A.
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**Abstract** Aim: Investigate combined orthodontic-orthognathic treatment efficiency at Luton and Dunstable Hospital by looking at treatment times, level of occlusal change (PAR score reduction and percentage change) and PAR treatment efficiency factor.
Method(s): Analysis of patient records, study models and radiographs was performed on 52 consecutive patients that had completed combined orthodontic-orthognathic treatment for the correction of skeletal malocclusions under the National Health Service (NHS) from January 2015 to January 2017.
Result(s): Combined orthodontic-orthognathic treatment was effective and met the gold standard with 100% of patients falling into the greatly improved/improved categories. 90% of these cases showed 'great improvement' with a reduction of 22 PAR points or more. Mean PAR percentage change was 89% and PAR efficiency factor was 1.3, both of which met the standard. However, the local PAR efficiency factor standard of 1.61 from the previous audit was not met. Treatment times were longer than national/local averages.
Conclusion(s): Combined orthodontic-orthognathic treatment of patients at Luton and Dunstable Hospital was effective and met gold standards. Recommendations for reducing treatment intervals include recruiting more staff, sending suitable cases back to primary care, considering extraction of third molar teeth at time of surgery and reducing the number of missed and emergency appointments.

**90. 5-year recurrence rates of head and neck basal cell carcinomas excised with narrow or incomplete margins**

**Authors** Strain K.; Reynolds L.; Thomas M.; Crosher R.
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**Abstract** Introduction: 80% of UK skin cancers are Basal Cell Carcinoma [BCC]. Primarily found on the heads and necks of Fitzpatrick type 1&2. Incidence rates have increased markedly in recent years. Lesion location means some BCCs are excised with narrow or incomplete margins.
Method(s): This study reviewed the 5-year recurrence rates of all patients [N = 121] coded as having BCCs excised with incomplete/narrow margins in 2012 at Rotherham Hospital [RDGH]. Data was captured from clinical notes.
Result(s): 42 patients had narrow margins, 9 patients had incomplete margins, 2 patients had narrow and incomplete margins and 6 patients had neither incomplete or narrow margins. 5 patients [8.5%] had evidence of recurrence, 3 of these patients had narrow margins, 1 patient was managed with Aldara and 1 patient refused surgical excision and was treated with Efudix cream. Lesions were located in the left external auditory meatus, the left ear, the right lower eyelid, the left temple and the right temple.
Conclusion(s): Recurrence rates following narrow excision of BCC are between 4.1% and 10.1% with <2% if fully excised. Recurrence rates of BCCs excised with narrow margins at RDGH [5%] is in-line with findings from the literature.

**91. Re-audit of time to turbt and impact of one stop haematuria clinic**

**Authors** Carrington-Windo E.; De Castro F.; Serag H.; Joshi H.
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**Abstract** Aim: TURBT is the first-line treatment for bladder cancer. The NHS target wait is 62 days from referral to treatment. The aim was to re-audit practices since introducing the one stop haematuria clinic, and compare with 2016 results.
Method(s): 50 consecutive procedures before 17th June 2018 were analysed. Patients were divided into two groups: haematuria patients on the urgent suspected cancer (USC) pathway (38), and patients from a non USC pathway (12).
Result(s): Of theUSC referral group, 76.3% (29/38) were treated within 62 day target compared with 65% (19/29) in 2016. Each part of the UHW haematuria pathway was analysed. From Referral to RAHC (rapid-access haematuria clinic): mean 14.9 days compared with 16.4 in 2016. From RAHC-flexi: mean 10.3 days (2016:23.7Days). Flexi-TURBT: mean 33.3Days (2016-24.5Days). One stop patients were compared with standard pathway patients: 92% of one stop patients were treated within 62 day target versus 68% of non-one stop patients.
Conclusion(s): One stop has improved the pathway overall. Waiting time for flexi and TURBT has decreased, so one stop should be expanded to all USC referrals. However, time between flexi and TURBT has significantly increased, so issues with theatre and medical capacity should be addressed.

**92. Audit of operation notes in ENT: Improving documentation in line with 'good surgical practice 2014'**

**Authors** Donaldson G.
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**Abstract** Introduction: Clear and complete operation notes are crucial in facilitating the post-operative care of surgical patients and represent an important medico-legal document. The Royal College of Surgeons of England (RCSEng) have updated their guidance within their Good Surgical Practice (GSP) document in 2014. Compliance with these recommendations have shown considerable variation.
Method(s): A prospective review was carried out on seventy operation notes selected at random from the Regional ENT department in the Royal Victoria Hospital, Belfast, during a 4 month period between November 2018 & January 2019. Operation notes were reviewed by the author and compliance with the 18 data points recommended by RCS GSP were recorded.
Result(s): 90 operation notes included all sub-specialties of ENT. The grade of surgeon completing documentation was as follows; Consultant (53%), Registrar (43%), SHO (7%). 7 of 18 criteria showed >90% adherence. Anticipated blood loss was not documented in any case. Lowest compliance was found with DVT prophylaxis (19%), antibiotic prophylaxis (26%) and elective/emergency procedure (31%). Date and signature was completed in 99% of cases. Specific independent data was also collected regarding legibility (99%)&planned review (80%).
Conclusion(s): Significant variation was observed in operation note documentation. Staff education and improvement of the local template aims to improve compliance.

**93. Improving the quality of general surgery operation note documentation in a london district general hospital**

**Authors** Conroy S.; Lief K.; Stringfellow T.; Adebayo O.
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**Abstract** Aim: Our audit aimed to assess compliance with the Royal College of Surgeons (RCS) Good Surgical Practice guidelines after implementation of a new paper operation note proforma within the General Surgical Department at University Hospital Lewisham.
Method(s): A prospective audit of the operation notes after implementation of the new template was performed inNovember 2018 (cycle 2), this was compared with the previous baseline audit cycle during May 2016 (cycle 1). Each RCS standard was assessed and compared.
Result(s): 21 operation notes were included in cycle 2 and 48 in cycle 1. An improvement of greater than 50% was shown in some key areas including: urgency and time of operation, blood loss, antibiotic plan, venous thrombo-prophylaxis, and specimen information. However, some areas showed a decline in adequacy of documentation including incision type, diagnosis and closure technique.
Conclusion(s): We demonstrated that a template provides a timely reminder on important aspects of ongoing patient care for surgeons completing the operative note and improves quality of crucial documentation. Published work has already shown the advantage of typed and printed operation notes in terms of legibility and clearer post-operative care plans and we have already begun introducing these at our center and will re-audit these changes.

**94. Ureteric stone referrals: A review of compliance to national guidelines at a single unit in London**

**Authors** Brittain J.; Sehgal R.
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**Abstract** Background: Ureteric colic is comprises a large proportion of urology outpatient clinic load. We aim to audit ureteric stone referrals against The British Association of Urological Surgeons (BAUS) standards for management of acute ureteric colic and develop recommendations for service improvement.
Method(s): Retrospective analysis of patients attending stone clinic between 4th October and 15th November 2018 at a tertiary centre, against BAUS guidance.
Result(s): 55 new patients seen stone clinic; referral sources were the Emergency Department (n=26), General Practitioners (n=12), hospital specialties (n=15) and other hospitals (n=2). Average time to follow-up was 90 days. Patients referred directly by urology were seen sooner (54 days) compared to other specialties (99 days). 58% of patients had documented urine dip and 27% urine culture. Documented serum tests: full blood count (80%), urea/creatinine (80%), C-reactive protein (72%), urate (31%) calcium (45%).CTKUBhad been performed in most patients (71%); 11% had no imaging on referral. 4 patients underwent emergency stent insertion and 10 patients a definitive intervention (ureteroscopy/lithotripsy).
Conclusion(s): We have demonstrated substandard adherence to referral guidelines and time to outpatient review exceeding four weeks. Recommendations to improve service include implementation of a ureteric colic protocol, educational interventions and exploration of barriers to timely follow-up.

**95. Who are we seeing in haematuria clinic? A single centre review in Central London**

**Authors** Sehgal R.; Brittain J.; Attar H.
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**Abstract** Aim: The Pan-London Suspected Cancer Referral Pathway has been developed to guide general practitioners (GPs) in referrals for suspected urological cancer. We aim to audit referrals to haematuria clinic in line with NICE guidance.
Method(s): Retrospective analysis of patients attending haematuria clinic between 1st October to 12th November 2018 at a single unit in London, focusing on appropriateness of referral and outcomes.
Result(s): Total of 30 patients with a mean age of 65, all referred by GPs for suspected renal cancer and/or bladder cancer. 15 presented with visible haematuria, 14 with non-visible haematuria and 1 with recurrent UTI. 50% were referred with documented urine culture and 40% serum white cell count. Mean time-to-appointment was 15 days, 70% being seen within the two-week national target. 93% had a flexible cystoscopy and 77% imaging on the day. Outcomes were as follows: 47% underwent diagnostic intervention, 37% discharged and 16% awaiting imaging results. 60% of patients met referral criteria; of those that did not, one had a biopsy.
Conclusion(s): The proportion of referrals not meetingNICE guidance, inadequate investigations and review in excess of two weeks are areas for improvement. We have developed a feedback tool for referring clinicians with the aim of improving two-week-wait referrals.

**96. An audit to assess appropriate use of CBCT imaging for patients undergoing surgical treatment of lower third molar teeth at dudley group of hospitals, NHS foundation trust**

**Authors** Pahal S.; Bruzual L.
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**Abstract** Aim: The aim of this audit was to assess if CBCT scans were being requested appropriately following OPG assessment prior to surgical treatment of lower third molars.
Method(s): 53 cases were assessed. The OPGs and CBCT scans taken for each tooth operated on were assessed for set criteria deeming proximity to mandibular canal. A standard was set that for all teeth in which the OPG suggested a direct inter-relationship between the mandibular third molar and the mandibular canal, a CBCT scan should be requested.
Result(s): 38% of teeth were deemed as having a set radiographic sign associated with close proximity to the mandibular canal on the OPG. 21% of teeth underwent CBCT scanning in addition to an OPG. 23% of teeth that underwent OPG alone were deemed as close to the canal on the OPG. 78% of CBCT scans taken showed contact between the mandibular canal and the lower third molar.
Conclusion(s): CBCT scans were not being requested for all cases in which the OPG had indicated a direct inter-relationship between lower third molars and the mandibular canal. The results of this audit indicate that further guidance is required in when to request CBCT scans.

**97. The emergency ear, nose and throat (ENT) clinic: Audit of practice and service provision in one nhs trust**

**Authors** Waseem S.; Cook V.; Sumaira N.; Begum T.; Brown C.; Boland B.; Woodward B.; Grounds R.
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**Abstract** Aim: The emergency Ear, Nose and Throat (ENT) clinic is an urgent care pathway for patients presenting with acute ENT symptoms. However, the ENT clinic within the trust is frequently burdened with a high volume of referrals, leading to overbooking and delays in patient care. We audited the service to investigate the root cause.
Method(s): We conducted a 2 week prospective audit of the Emergency ENT clinic. Data collected included reason for referral, source and outcome of patient referral, including if the patient could be managed in another setting. We compared data against national guidelines by ENT-UK. A Plan-Do-Study-Act cycle was enacted to create a patient booking protocol.
Result(s): 138 patients attended the Emergency ENT clinic over a 2 week period. The majority of patients (38%) presented with otitis externa. After clinical review, 50% of patients were discharged, 2.9% were admitted to hospital and 4.3% were listed for theatre. Patient footfall exceeded ENT-UK guidelines in 35% of cases, and 31% of patients were double-booked. 25% of the referrals received could have been managed elsewhere.
Conclusion(s): The Emergency ENT clinic exceeds national guidance on patient footfall. We hypothesise that improvements can be made by adopting a more protocol driven approach when taking referrals.

**98. Implementation of electronic operation notes in urology department at district hospital**

**Authors** Rajput K.; Johnstone C.; Mistry R.
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**Abstract** Background: Accurate operation note making is essential to clinical practice. Dissimilarities in handwriting can make legibility poor. This may result in discrepancies in management of patient post-operation. Illegible handwriting could possibly have a significant medico-legal impact. Operation notes were optimized to standards against the guidance set up the royal college of surgeons, United Kingdom Method: Twenty consecutive hand written notes we audited retrospectively. A new electronic note making system was created on word document using 'word forms'. The generic pro-forma was available to the operating surgeon on the intranet.
Result(s): Legibility was recorded as 88% in paper notes. Typed notes were aimed to improve legibility to 100%. Automatic date/time function added to accurately date all documents. Pre-filled drop down menus for surgeon operating, grade of surgeon, antibiotics, blood loss and clinic codes to limit time spent typing.
Conclusion(s): The electronic notes prioritise clarity of note making and completing all aspects of documentation. The option of saving previous operation notes on the trust intranet will aid create personalised templates, further limiting their time spent on typing notes. Current trials are ongoing. Limitations are with availability of computers and printing facilities in theatres.

**99. Piperacillin tazobactam snapshot audit at two surgical wards in pilgrim hospital, boston, lincolnshire over june and july 2018**

**Authors** Morgan R.; Dhanoa S.K.; Leo S.W.; Rathore M.; Bolla B.
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**Abstract** Aim: Pilgrim Hospital is a rural district general hospital in Boston, Lincolnshire that is part of United Lincolnshire Hospitals NHS Trust. 2 surgical wards were identified by the pharmacy team as being exceptionally high users of piperacillin tazobactam, more than other areas within the Trust.
Method(s): 30 patients were identified by the pharmacy database as having been prescribed piperacillin tazobactam within June and July 2018. The drug charts were manually searched for each prescription and the data entered into a spreadsheet. Statistical analysis was carried out against 5 key performance indicators in line with NICE Guideline NG15 and Trust Antimicrobial Guidelines.
Result(s): None of the 5 key performance indicators (KPIs) met the 85% target during the audit period. The 5 KPIs were specific indication, stop/review date, daily review, day 3 prescribing decision and whether Trust guidelines or microbiologist approval were followed.
Conclusion(s): This was a high national priority audit to identify high usage of restricted antimicrobials which can lead to significant, achievable quality improvement. The results were forwarded to the local Antimicrobial Stewardship Strategy Group for policy changes in Trust Antimicrobial Prescribing Guidelines. A re-audit shall take place prospectively to close the audit cycle and monitor improvements.

**100. Virtual clinic and its role in the colorectal cancer referral pathway**

**Authors** Cribb E.; Sandhu B.; Smith J.; Pawa N.; Bunza R.
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**Abstract** Background: Pressure on specialist centres is high, with a national rise in two week wait referrals and targets to assess 93% of these within 14 days and commence treatment of 96% within 32 days. Additionally, the target for routine referrals is 92% within 18 weeks. NHS England has developed a handbook to help implement a 28 day timed pathway to achieve this target, and this retrospective quality improvement project was performed to optimise our virtual clinic's role within it.
Method(s): We examined 100 patient's letters, endoscopy, imaging and histology spanning one month. Three were discounted as relevant information was not available electronically.
Result(s): 44% of cases were suspected cancer referrals. Of these 81% were discharged following normal results, 14% had outpatient appointments, and 4% further investigations. This is compared with routine referral rates of 61%, 29% and 10% respectively.
Conclusion(s): Virtual clinic is a practical resource to streamline and safety net cancer referrals; negating unnecessary outpatient appointments, but providing a formal framework to ensure investigations have been actioned. As a result, we are booking all cancer referrals into virtual clinic at 28 days to synchronise with NHS England's rapid diagnostic and assessment pathways, and implement a timed colorectal cancer diagnostic pathway.