frustration adversely impacted aspects of clinical reasoning. Students struggled when witnessing what they considered 'bad' behaviour as it contradicted their previously held ideals of how physicians should act.

It seems we teach students to try to internalise emotion yet that it is acceptable to let it negatively impact patient care. To combat this, students sought greater emotional transparency from physicians as well as advice on self-management strategies. Clinicians recognised the benefits of being candid but were afraid of being so. Contributing to this is the culture in medicine being one that mistrusts emotion. Further, both groups desired a formal curriculum addressing emotion in clinical reasoning thus suggesting one is needed.

93 ACUTE MAGNETIC RESONANCE IMAGING FOR MILD TRAUMATIC BRAIN INJURY

¹Sophie Richter, ²Stefan Winzeck, ¹Evgenios Kornaropoulos, ³Tilak Das, ¹Guy B Williams, ¹Marta M Correia, ¹David Menon, ¹Virginia Newcombe. ¹Cambridge University; ²Cambridge University/Imperial College London; ³Addenbrooke's Hospital, Cambridge

10.1136/emj-2020-rcemabstracts.29

Aims/Objectives/Background Mild traumatic brain injury (mTBI) accounts for one million emergency department attendances in the UK every year. Whilst 30–50% of patients suffer from persistent symptoms, unselected follow up would overwhelm the health care system. Magnetic resonance imaging (MRI), may help to stratify patients for clinical follow up and interventional trials. We therefore aimed to identify:

1. Neuroanatomical features of concussion on MRI and
2. the optimal timing for magnetic resonance imaging (<72h or 2–3 weeks after injury).

This is the largest study to date using serial scanning acutely in patients with mTBI.

Methods/Design Data originated from two prospective cohorts: the Collaborative European NeuroTrauma Effectiveness Research in Traumatic Brain Injury (CENTER-TBI) study (2014–2017) and a local cohort (2012–2013). Eligible patients presented to hospital within 24h of a mTBI (Glasgow Coma Score 13–15), satisfied local criteria for computed tomography scanning and received two MRIs: one within 72h (MR1) and one 2–3 weeks after injury (MR2). In addition, 104 controls were enrolled. Volumes and diffusion parameters for brain regions of interest were extracted via automated pipelines. Symptoms were measured using the Rivermead Post-Concussion Questionnaire acutely and the extended Glasgow Outcome Score at three months.

Results/Conclusions The study included 81 patients (73 from CENTER-TBI, 8 local) with a median age of 44 years (range 14–85) and 57 (70%) men. Within patients, cerebral white matter volume decreased (MR1/MR2 0.98, $p=0.001$) and ventricular volume increased (MR1/MR2 1.06, $p<0.001$). Compared to controls, white matter volume was normal on MR1 (patient/control 1.00, $p=0.277$) but reduced on MR2 (patient/control 0.97, $p<0.001$). Diffusion changes followed one of three trajectories: progressive injury, minimal change, or pseudonormalisation. Concussion symptoms worsened, improved and were variable in the three groups respectively (delta [IQR] + 5.00 [+2.00–+5.00], -4.5 [-9.25–+1.75], 0.00 [-6.25 to +9.00], $p=0.018$). MR1 predicted three-month outcome

better than MR2 (AUC [95% CI]: 0.93 [0.83–1.00] vs 0.72 [0.51–0.92]).

251 THE FRAILTY IN MAJOR TRAUMA STUDY (FRAIL-T): FEASIBILITY OF NURSE LEAD FRAILTY ASSESSMENT IN ELDERLY TRAUMA AND THE IMPACT ON OUTCOMES

¹Heather Jarman, ²Robert Crouch, ²Mark Baxter, ³Bebhinn Dillane, ⁴Chao Wang, ⁵Elaine Cole. ¹ED Clinical Research Unit, St George's Hospital; ²University Hospital Southampton NHS Foundation Trust; ³ED Clinical Research Unit, St George's Hospital; ⁴Faculty of Health, Social Care and Education, Kingston University and St George's; ⁵Blizard Institute, Queen Mary's, University of London

10.1136/emj-2020-rcemabstracts.30

Aims/Objectives/Background Frailty screening for major trauma patients has recently become part of the best practice commissioning tariff within NHS England, yet there is no consensus as to who should carry out this assessment or which tool best identifies frailty in the Emergency Department (ED). As the trauma population ages there is a need for accurate early identification of frailty in the ED to underpin frailty specific major trauma pathways. The primary aim of this study was to determine the feasibility and accuracy of ED nurse-led frailty assessment in patients ≥ 65 years admitted to Major Trauma Centres (MTCs).

Methods/Design A prospective observational study was conducted across five UK MTCs, enrolling 370 participants over nine months. Eligible patients were aged 65 or more requiring trauma team activation. Frailty was assessed in the ED using three different tools: Trauma Specific Frailty Index (TSFI); Clinical Frailty Scale (CFS); PRISMA-7. ED nurse frailty assessment was correlated with Geriatrician assessment within 72 hours of admission using Spearman's correlation coefficient and kappa statistic for measuring the interrater agreement.

Results/Conclusions Complete frailty assessments were calculated for CFS in 99.4% of patients, PRISMA7 in 95.9% and TSFI in 37.58%. Rates of frailty differed between tools: CFS 32%, PRISMA7 57% and TSFI 92% whilst Geriatrician determined frailty was 37%. In all tools frail patients were older ($p<0.001$) and falls <2 m were the leading mechanism of injury ($p<0.05$). CFS showed both strong correlation (r_s 0.639, $p<0.001$) and substantial agreement (kappa 0.637, $p<0.001$) with Geriatrician assessment within 72 hours of admission.

ED nurses can accurately assess older major trauma patients for frailty using the Clinical Frailty Scale. These findings support assessment of frailty in the ED in order to identify patients who would benefit from early frailty specific care.

188 SENIOR CLINICAL AND BUSINESS MANAGERS' PERSPECTIVES ON HOW DIFFERENT MECHANISMS AND MODELS OF EMPLOYING GENERAL PRACTITIONERS IN OR ALONGSIDE EMERGENCY DEPARTMENTS INFLUENCE WIDER SYSTEM OUTCOMES

¹Mazhar Choudhry, ¹Michelle Edwards, ¹Alison Cooper, ²Pippa Anderson, ³Thomas Hughes, ¹Andrew Carson-Stevens, ²Alison Porter, ¹Edwards Adrian. ¹Cardiff University; ²Swansea University; ³John Radcliffe Hospital

10.1136/emj-2020-rcemabstracts.31

Aims/Objectives/Background We aim to examine senior managers' perspectives on funding mechanisms used to implement the policy and experiences of success or challenges in introducing models of using GPs in or alongside emergency departments. Health policy in England has advocated the use of primary care clinicians at emergency departments to address pressures from rising attendances. However, implementing large systemic changes such as placing GPs in or alongside emergency departments requires significant funding, consideration of the opportunity costs of the alternative uses of such funding, an available workforce and evidence of how it should be used. Our findings will inform policy adaptation and service development to improve the healthcare provided to patients by providing new evidence of the reported experiences of adopting models of using GPs in or alongside emergency departments.

Methods/Design The perspectives of senior clinical, business and finance managers with responsibility for emergency department services and on-site primary care service implementation were investigated in semi-structured interviews with 31 managers at 12 type-1 emergency departments in England and Wales. Emergency departments operated one of three GP models or had prior experience of implementing a GP model. Interviews were thematically analysed.

Results/Conclusions Successful GPs models in emergency departments were perceived to be reliant on well-organised and unified funding mechanisms, appropriate staffing and governance, and consideration of population demands and needs. Funding mechanisms and the flow of funds were reported as complex, the most efficient mechanisms were described at departments where funding was unified, in collaboration with health and community care services. Staffing with local, experienced GPs was important. There were also cautions from experiences with private locum providers. Our findings contribute to debates about implementing policy on how primary care clinicians are effectively and safely deployed in emergency departments and how local context should be considered.

303

WHAT GOES BUMP IN THE NIGHT? A LITERATURE REVIEW AND NOISE EXPOSURE EXPERIMENT IN A UK PAEDIATRIC EMERGENCY DEPARTMENT

¹Lucy Hall, ²Sophie Dando, ²Anthony Hanks. ¹Student at Cardiff University; ²University Hospital UK

10.1136/emj-2020-rcemabstracts.32

Aims/Objectives/Background In the Emergency department (ED), noise is a frequent and often unavoidable consequence of work undertaken and levels can often be raised during the day and night. Raised ambient noise levels have potential implications for the workforce, patients and relatives.

Investigation into the problem of noise levels in the ED follows feedback from a young patient who couldn't sleep during a prolonged stay. His complaint focused on loud, irregular banging noises such as those from closing bins that kept him awake.

The team felt work should be done to see if it was a wider spread problem or just isolated to his case. A simple sound recording experiment and literature search was conducted.

Methods/Design The literature search was conducted using electronic/online databases (Medline; Cochrane library) with a fixed date range and specific inclusion criteria.

The noise exposure experiment was conducted using a verified phone app to record the sound levels. They were measured at 3 times, during a night shift, in the paediatric emergency department of UHW. All measurements were at a fixed distance and were averaged and compared with WHO recommendations.

Results/Conclusions There are many sources of noise pollution in the ED, some are unavoidable for safety and clinical reasons.

The literature review produced a small number of papers all of which found that sound levels were raised above recommended levels. Similarly, all the sounds measured in the ED also exceeded the recommendations.

The most consistent finding across the papers, matched by findings from recordings, was that human behavioural modification is an easy and effective way to reduce noise levels.

There are simple steps that can be taken to reduce and eliminate sounds

Raising awareness regarding this problem is of great importance and focussing future work on assessing the impact in younger patients within the Emergency Department is paramount.

191

A CLASSIFICATION OF PRIMARY CARE PATHWAYS IN EMERGENCY DEPARTMENTS: A MULTI-METHODS STUDY COMPRISING CROSS-SECTIONAL SURVEY; SITE VISITS WITH OBSERVATIONS; SEMI-STRUCTURED AND INFORMAL INTERVIEWS

¹Michelle Edwards, ¹Alison Cooper, ¹Davies Freya, ¹Andrew Carson-Stevens, ²Thomas Hughes, ³Niro Siriwardena, ⁴Helen Snooks, ¹Adrian Edwards. ¹Cardiff University; ²John Radcliffe Hospital; ³Lincoln University; ⁴Swansea University

10.1136/emj-2020-rcemabstracts.33

Aims/Objectives/Background We aim to describe and classify the predominant streaming pathways on arrival in Emergency Departments (EDs) in England and Wales and explain how they operate in different models of emergency department primary care services. Recent policy has encouraged a method whereby nurses stream from the emergency department front door to GPs working in a separate GP service operating within or alongside an ED. However, there is variation in methods of assessing and streaming patients on arrival at EDs. Conflated terminology causes difficulties in assessing relative performance, improving quality or gathering evidence about safety, clinical effectiveness. Our findings present a new classification of current streaming pathways from emergency departments to primary care services.

Methods/Design We used a multi-stage method approach, including an online survey completed by 77 EDs across England & Wales, interviews with 21 clinical leads, and finally, undertaking case studies of 13 EDs. Qualitative data were triangulated and analysed using a framework analysis approach.

Results/Conclusions The most common ED pathways to primary care services were: front door streaming before ED registration; streaming inside the ED; or without streaming but GPs selecting patients. Pathways were often adapted, to