

structured support, supervision and training to junior doctors.

This project has highlighted the value of a local questionnaire in seeking anonymised, honest feedback from junior doctors and encouraging engagement in the QI process. We anticipate that the frequent turnover of junior doctors in the department will pose a challenge for the project. It is therefore being linked to formal quality improvement training and a local peer support hub to ensure sustainability. Low levels of trainee satisfaction are likely to be multifactorial in nature and can be effectively investigated with a structured online questionnaire. By identifying key areas of concern at a local level, targeted QI projects can be designed and led by trainees, with an overall improvement in satisfaction, working hours and training opportunities.

### 50 AN ADVICE LEAFLET TO HELP JUNIOR DOCTORS IN ED MANAGE SHIFT-WORK ASSOCIATED FATIGUE

<sup>1</sup>Louis Fiander, <sup>2</sup>Laura Cottey. <sup>1</sup>*Intercalating Medical Student, University of Plymouth Peninsula School of Medicine and Dentistry (UK);* <sup>2</sup>*ED Academic Clinical Fellow, University Hospitals Plymouth NHS Trust (UK)*

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**Background** There are many physical, mental and social complications of fatigue associated with working shifts. Emergency Medicine is experiencing a crisis within the UK with a low recruitment rate and a high attrition rate. 24-hour Emergency Department (ED) provision requires doctors to work long, often unsociable shift patterns, at risk of becoming unsustainable. Junior doctors are vulnerable to this, and thus to suffering the aforementioned complications of fatigue. This further contributes to attrition, perpetuating the workforce problem.

#### Objectives

- Increased awareness amongst junior doctors and other important stakeholders of the effects of shift-work related fatigue.
- Junior doctors to be enabled to better manage fatigue associated with shift-work through sleep hygiene.

**Methods** Work was conducted within the ED at Derriford Hospital, University Hospitals Plymouth NHS Trust. Local wellbeing research was reviewed, establishing that ED staff had a high 'need-for-recovery' score compared to respondents in the validation study working jobs classed as 'stressful'. National Emergency Medicine Trainee Association surveys of 2015 and 2017 highlight key concerns for trainees as fatigue, workload and rota scheduling. These findings were contextualised through consultation with the Junior Doctors Representative Committee and ED Wellbeing Committee.

A printed advice leaflet was created, containing basic sleep science, highlighting potential complications of shift-work, and giving advice on how to manage shift-work associated fatigue. The leaflet was peer-reviewed, then disseminated to ED junior doctors.

**Impact** From feedback received, this leaflet has raised awareness of shift-work related fatigue. Recipients are better equipped to manage fatigue whilst working shifts and have tools to practice sleep hygiene.

Further measurement of improvement will involve an anonymised questionnaire and analysis of the Junior Doctor component of the imminent ED staff survey.

### 51 AN OBSERVATIONAL STUDY EVALUATING THE IMPROVEMENT IN PERFORMANCE OF INPATIENT GASTROENTEROLOGY SERVICES FOLLOWING THE IMPLEMENTATION OF A TRANSFORMATION PLAN

<sup>1</sup>Suraj Pathak\*, <sup>2</sup>Ajay Verma. <sup>1</sup>*Department of Cardiovascular Sciences and National Institute for Health Research Leicester Biomedical Research Unit in Cardiovascular Medicine, University of Leicester, Glenfield Hospital, UK;* <sup>2</sup>*Kettering General Hospital NHS FT, Kettering, UK*

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**Introduction** The incumbent arrangements were on Deene C Ward (DCW), 29 patients under the care of three Consultants doing twice weekly ward rounds (WR) not prospectively covered, newly admitted and unwell patients reviewed by any WR as a safety net arrangement.

This was transformed to a Digestive Diseases Unit (DDU), bed base reduced from 29 beds (3 side rooms, 3 x 6 bedded bays, a 5 bedded bay, & a 3 bedded bay), to 20 beds, by reducing 6 bedded bays to 4 beds, and converting the 3 bedded bay to a nurse-led Gastroenterology Treatment Area (GTA) for day-case ambulatory patients. This facilitated the introduction of a Consultant of the Week (CotW) model.

The CotW, for 2 weeks (prospectively covered), is responsible for daily DDU WRs of all 20 patients under their care, review of in-patient (IP) referrals, in-reach into urgent care wards, and support of GTA. There is minimal outpatient (OP) commitment. Outcomes were analysed at 12 months to assess the impact on patient care.

**Methods** A retrospective observational study was conducted to benchmark and evaluate changes in consultant led care. Statistical analysis was performed using Microsoft Excel.

**Conclusion** The reconfiguration of Gastroenterology IP services has been a great success. A reduction in bed base (which many at management level were reticent about) has facilitated a CotW model of care to be implemented. The IP service is now SAFER compliant. Length of stay has significantly reduced by 26.2%. Weekly discharges per bed, and Consultant reviews, has significantly increased by 34.2% & 84.1% respectively. In addition, GTA treats >90 patients per month, generating income, preventing admissions, facilitating earlier discharges, and freeing capacity in the main hospital ambulatory unit. This reconfiguration shows that a CotW model of care is optimal, successful, and SAFER compliant, even if a bed base reduction is required to facilitate this.

### 52 ARTIFICIAL INTELLIGENCE FOR HUMANITARIAN ACTION: AN INTERDISCIPLINARY APPROACH TO COMMUNICABLE DISEASES IN REFUGEES

<sup>1,2</sup>R Jarral\*, <sup>3</sup>T Kells, <sup>4</sup>N Yue Lin, <sup>5</sup>A Mason-Mackay, <sup>6</sup>K Sharma. <sup>1</sup>*NHS UK;* <sup>2</sup>*Tech Futures Lab, New Zealand;* <sup>3</sup>*Aderant, New Zealand;* <sup>4</sup>*University of Auckland, New Zealand;* <sup>5</sup>*Crunch and Flourish, New Zealand;* <sup>6</sup>*Mission Ready HQ, New Zealand*

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The 'Ora' platform was developed along-side clinicians in a collaborative effort, winning the Microsoft 'Artificial Intelligence (AI) for Good' challenge with an AI powered tool for humanitarian crises. Geographically-tagged social media sentiment analysis is proposed as an increasingly validated metric for rapidly modelling disease incidence – supported by

emerging literature marking a change in how the digital footprints of 'modern migrants' might be conceptualised. 'Ora' incorporates AI driven meta data with real time immigration statistics and regional infectious disease prevalence, providing an early warning system for communicable diseases in transient populations.

The UN High Commission for Refugees now estimates that 70.8 million people are forcibly displaced around the world, the highest in recorded history with nearly one person displaced every two seconds. The growing social, humanitarian and economic costs signal a pressing need for collaborative innovation.

This multi-disciplinary approach highlights the benefits of cross-agency partnership in addressing the needs of a mobile and digitally connected global population. Agile development, prototyping and the clinical training of 'Ora' algorithms, were achieved through integration of workflows across clinicians, data scientists and technologists. Diversity in training, design approaches and backgrounds of the team yielded debate on the ethical and societal consequences of scraping meta data from vulnerable populations. Anecdotal evidence of European agencies using migrant smartphone data (social media, geolocation, messages) for deportation purposes led to the formation of 'Ora' operating values, and the emphasis of embedded bio-ethical principles in its deployment.

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#### AUDITED QUALITY IMPROVEMENT PROJECT ON OXYGEN PRESCRIBING ON AN ACUTE SURGICAL WARD

Ali Shaladi, Stephen Crockett, Katharine Thomas. *East and North Hertfordshire Trust, Lister Hospital, UK*

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Oxygen is an important drug frequently used in the management of acutely unwell hospital patients. Studies have shown that deliberately increasing oxygen delivery in critically ill patients as well as high-risk surgical patients reduces organ failure, reduces length of ICU stay and, most importantly, improves mortality. British Thoracic Society Guidelines state that oxygen must be prescribed for all patients, with target saturations stipulated on the prescription for patient safety.

A quality improvement project was initiated and undertaken with the aim to improve the oxygen prescription rates across the surgical wards at Lister East and North Hertfordshire district general hospital over 2 months.

This project involved leading a team of surgical doctors to gather the relevant data on a weekly basis on compliance with oxygen prescribing looking at: COPD status, target saturations, timing, route and signature and dating of prescriptions. Teaching sessions were held based on the Results of our audit and targeted to the entire surgical department. The primary aim was to remind both junior and senior doctors and other allied healthcare prescribers alike the importance of oxygen prescribing and the lack of clear documentation on it. This presentation was accompanied by a systematic process of spearheading judicious interventions to appropriately promote the prescribing of oxygen.

On re-audit, the critical interventions stated led to an improvement in the documentation of target saturations (13.6% to 42.2%), the route of administration (15.9% to 28.9%), timing of oxygen delivery (11.4% to 24.4%), and the signature and dating of the prescription (15.9% to 40%).

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#### BALINT GROUP AS THE TOOL FOR BUILDING HORIZONTAL STRUCTURE AND FOSTERING PATIENT-CENTRED CARE: REFLECTIONS ON RUNNING BALINT GROUP ON AN ORTHOPAEDIC WARD

<sup>1</sup>Elena Nam, <sup>2</sup>Paul Culatto. <sup>1</sup>ST8, North West School of Psychiatry; <sup>2</sup>ST6, North West School of Psychiatry

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The project took place on the emergency surgical and trauma unit at the Manchester Royal Infirmary. It was noted that patients with acute trauma would frequently include people with complex psychosocial difficulties. The intervention of Balint Group appeared to be most appropriate, which is unstructured reflective practice group initially created. It is important to note, that Balint group was selected both as intervention and assessment, as further reflections by the staff group would provide more insight into the nature of their difficulties.

We ran weekly 1-hour Balint Group session for 3 months. When running Balint Group a few main themes appeared, including 1) splitting up professional-patient relationship 2) avoidance of feeling 3) reduction of impact of responsibility by relying on superiors. Balint Group is effective in flattening hierarchy and helping the team to develop 'horizontal structure' with the free flow of ideas. In 'horizontal structure' professionals are accountable to patients and focussed on their care. Focus on professional-patient relationship and openness to difficult feelings is the building block of 'horizontal structure' in the team, which fosters growth and progress and high sensitivity to changing demands of environment, which are essential for effective leadership.

Balint group intervention in multidisciplinary team if a powerful assessment tool to explore the nature of the difficulties in the team, as well as it is a useful intervention, which helps to flatten hierarchy within the team, increase the flow of ideas from bottom up, and increase the sense of individual responsibility within the team. We present the qualitative and quantitative analysis, following the pilot project to support the benefit of running the Balint group in multidisciplinary team.

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#### DEVELOPING AND IMPLEMENTING A PEER TEACHING PROGRAMME FOR JUNIOR DOCTORS IN A TERTIARY TEACHING HOSPITAL

Liam Loftus\*, Claudia Maria Snudden. *Royal Liverpool and Broadgreen University Hospitals Trust, UK*

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It is widely accepted that a more engaged workforce Results in higher quality patient care. Education, particularly at junior doctor level, is a fantastic way to increase engagement.

All foundation doctors at The Royal Liverpool Hospital receive three hours of teaching every week from senior