

nursing. To date, there are no studies identifying medication error rates. Patient safety is paramount and an essential component within neurosurgery, however, the complexity of processes and surgical conditions dealt with alongside intense pharmacological management pre-disposes patients to medication harm and suboptimal medication therapy. This is amplified by limited resources making it challenging for different professions to participate in collaborative meetings with support and expertise not being fully utilised and as a result increased medication errors.

**Aim** Quantify medication errors within neurosurgical-ICU

**Methods** Data from 99 patients was collected over 36 days during consultant-led ward rounds. Interventions gathered via electronic prescriptions and analysed on excel.

#### Results

- Addition of new treatment: 128 prescriptions
- Administration optimisation: 81 prescriptions
- Dose adjustment: 128 prescriptions
- Drug discontinuation: 1 prescription
- Drug monitoring: 21 prescriptions
- Drug switch: 61 prescriptions

Four medication errors per patient, prevented by specialist pharmacists working collaboratively in ward rounds.

**Conclusion** Medication errors are an understudied component of patient management in neurosurgery and are inevitable in human-driven systems. Prescribing errors are known to account for a substantial proportion of all medication errors and are an important cause of harm to patients. Multi-disciplinary ward rounds with the involvement of pharmacists should be a priority as a patient safety initiative. This intervention addresses both environmental and individual factors.

Ward rounds are an excellent opportunity to develop the core domains of leadership for junior colleagues from all specialities. This one opportunity exists in all settings, all wards, enhancing patient care and delivering excellence.

## Leading innovation and improvement

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### TAKING PRACTICE TO THE PERIPHERIES ON NEURO-ICU

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**Introduction** Vasopressors are integral for the management of shock and haemodynamic augmentation. The early initiation of vasoactive treatment is associated with improved survival; however, the placement of a central venous catheter is identified as a barrier to the implementation of early goal-directed therapy. Considerations of initiating Noradrenaline peripherally raised concerns around complications including tissue necrosis as well as the potential for prescribing and administration errors. This caused persistent resistance for the change of management on critical care.

**Aim** Introduce peripheral administration of Noradrenaline on ICU (different dose, concentration, diluent and site).

**Strategy of Improvement and Measurement:** The project took seven months with approvals from the Drugs and

Therapeutics committee. Each risk reduction strategy created had ideas incorporated from medicines safety champions within the nursing, pharmacy and medical cohort. Feedback was taken on board, and processes adapted with staff being recognised for their contribution.

**Results** Type of shock

- Hypovolaemic/haemorrhagic: 40/50
- Cardiogenic: 3/50
- Septic: 7/50

Duration of infusion of Noradrenaline, Median (IQR)

- 30 hours (14,52)

Reason for discontinuation:

- Infusion changed to a central venous catheter: 9 (18%)
- Vasopressor no longer required: 38 (76%)
- Patient deceased: 2 (4%)
- Adverse effect (extravasation): 1 (2%)

Prescribing errors (diluent, dose, rate): 0%

Administration errors (diluent, dose, site, rate): 0%

**Conclusion** The initial challenge was resolved with the outcome being the nurses feeling empowered through knowledge of evidence-based medicine. This, in turn, resulted in a working force with excellent knowledge and approach towards pharmacological management, which further developed self-confidence in their capabilities and roles. The overall safety culture surrounding peripheral inotropes on the critical care unit has been enhanced.

## Quality improvement

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### DEVELOPING FUTURE LEADERS THROUGH QUALITY IMPROVEMENT-THEMED WEBINARS

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Quality Improvement (QI) and leadership are increasingly acknowledged as basic training requirements across all healthcare professions. While UK medical schools are increasingly incorporating QI teaching into the undergraduate curricula, training opportunity is still limited for most healthcare students.

IHI St George's is an interdisciplinary student organisation that is a part of Institute for Healthcare Improvement (IHI) Open School network and is aimed at filling the gaps in the undergraduate curricula on QI.

The aim of the study was to educate and inspire healthcare students to participate in improvement projects.

Our objectives were 1) to assess students' baseline preparedness in conducting QI, 2) to design webinar series based on the feedback, and 3) to assess the effectiveness of webinars in teaching QI basics.

**Methods** Two webinar sessions were delivered live by junior doctors and recorded. Links to pre-and post-survey forms on Google Forms were sent to all attendees before and after the delivery of webinar session in September 2020. The topics covered the basic principles of QI, how to collect and analyse