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

the data, and how to publish the results, with the focus on the speakers' personal experiences.

Results The pre-series survey was completed by 36 attendees out of 51 participants. All participants were affiliated with a healthcare course. 92% (n=33) indicated their interest in QI/leadership but 83% (n=30) reported to have never participated in any QI projects before and 78% (n=28) reporting minimal or no confidence with applying QI techniques in practice. The main barriers to carrying out a project were the lack of knowledge (81%, n=29), support (50%, n=18) and time (33%, n=12).

The results from our interim survey demonstrates student's interests in QI as well as the lack of exposures to QI training and projects. Short webinars focusing on educating as well as inspiring healthcare students can help introduce QI to the future healthcare leaders.

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'MALI MATTERS' – REFLECTIONS ON A GLOBAL HEALTH LEADERSHIP AND QUALITY IMPROVEMENT PROJECT TO IMPROVE BLOOD TRANSFUSION SAFETY AT MALUTI ADVENTIST HOSPITAL, MAPOTENG, LESOTHO

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Introduction This report relates to a quality improvement (QI) project aiming to improve blood transfusion safety at Maluti Adventist Hospital (MAH), Lesotho. The project ran over 6 months, from August 2019 to January 2020.

The project team consisted of nine local staff members and two UK doctors working through the NHS 'Improving Global Health through Leadership Development' (IGH) programme.

Methods To understand existing processes and identify areas for improvement, baseline data was gathered and a 'process mapping' meeting was held.

Improvements were implemented using Plan-Do-Study-Act (PDSA) methodology.

A QI committee involving key stakeholders met fortnightly to discuss project progress.

Results Interventions were varied but included introduction of a pre-transfusion bedside safety checklist and staff transfusion training via a sustainable video.

Documentation of critical patient identifiers improved both on transfusion request forms and at transfusion initiation. Completion of the bedside safety checklist was 65.5% by three months.

Knowledge scores improved following transfusion training. 77% of staff strongly agreed and 21% agreed that the training was useful.

Importantly, team members from both organisations reflected on their personal learning and development through the experience.

Discussion Initial progress was promising. Further work is needed to improve allocation of unique patient identification numbers and the safety of laboratory blood grouping and cross-match procedures.

Challenges included short-staffing and government hospital strikes; subsequently the Covid-19 pandemic has limited ongoing QI work since February 2020.

This collaborative system-strengthening project provided varied, reciprocal learning experiences for individuals from both organisations, including skills in leadership, teamwork, teaching, QI methodology, communication and IT. We believe that active reflection is a vital tool in the evaluation of QI work carried out in resource-limited settings in partnership with overseas organisations. Our experiences will help to inform ongoing work at MAH and may be of interest to others conducting QI work in similar settings.