Quality Improvement in Anaesthesia & Critical Care through the Chief Registrar Programme

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Introduction

The Chief Registrar (CR) Programme, run by the Royal College of Physicians, offers a one-year leadership development opportunity for senior resident doctors in all specialities. With a focus on quality improvement (QI), the role provides trainees with protected time to lead initiatives addressing local healthcare challenges. At Bradford Royal Infirmary (BRI), the CR role has been pivotal in advancing QI within Anaesthesia and Critical Care. Over twelve months, projects included the establishment of a nightly Safety Huddle, the implementation of a "Sip Until We Send" (SUWS) policy, and optimisation of preoperative transfusion pathways, leading to improved patient safety and experience, clinical outcomes, and operational efficiency. Sharing of ideas and resources is encouraged with a summary yearbook of projects published [1].

The Safety Huddle: Proactive Patient Management

The Safety Huddle, a nightly multidisciplinary team (MDT) meeting, aimed to address challenges faced by overnight teams, such as delayed recognition of deteriorating patients and capacity issues. The Huddle facilitated early identification of at-risk patients, enhanced communication, clarified roles during critical events and is part of the evolving development of the Hospital at Night service at BRI.

Implemented in November 2023 as a brief, 20-minute meeting aiming to minimise disruption to clinical work, the huddle follows a formal structure to ensure effective communication. It identifies and prompts discussion of patients with high warning scores, existing patients at risk of deterioration, role allocation for cardiac arrests and patients on site with altered airways. Pre- and post-implementation surveys showed significant improvements in staff knowing who other crash team members are (from 33% to 85%), understanding of roles during cardiac arrests (80% to 94%) and confidence in escalating unwell patients to seniors or the Intensive Care Unit (ICU) (75% to 100%).

Clinical outcomes also improved, with Intensive Care National Audit & Research Centre data collected demonstrating decreased mean and median length of stay on ICU (LOS) for unplanned admissions from 7 to 5 days. Additionally, resuscitation data showing a sustained reduction in the median number of adult inpatient cardiac arrests per month. These results suggest that better communication and early intervention may have improved patient management with reduction in deterioration and appropriate escalation decisions.

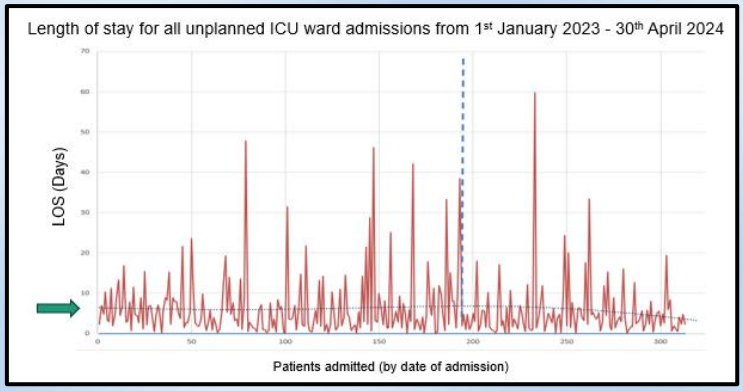

Fig 1: LOS for unplanned admissions to ICU from the ward arranged chronologically. The green arrow highlights the trendline demonstrating reduction in LOS. The vertical dashed line indicates implementation of the Safety Huddle

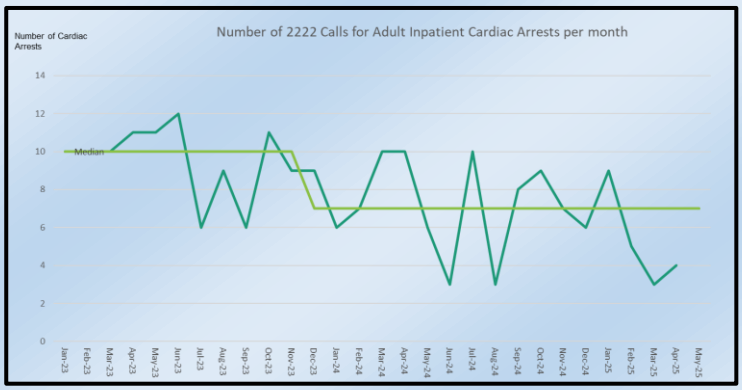

Fig 2: Run chart of number of adult, inpatient cardiac arrests per month with median trendline adjusted at implementation of the Safety Huddle

"Sip Until We Send": Addressing Preoperative Hydration & Patient Comfort

The SUWS protocol was implemented to reduce the number of patients subjected to periods of prolonged preoperative fasting from clear fluids.

Revised guidelines allowed patients to drink clear fluids up until transfer to theatre and led to a reduction in mean fluid fasting time from 7 to 2 hours, improved thirst scores, fewer complaints about fluid restriction, and a decrease in postoperative nausea and vomiting. The protocol was integrated into the trust's preoperative guidelines.

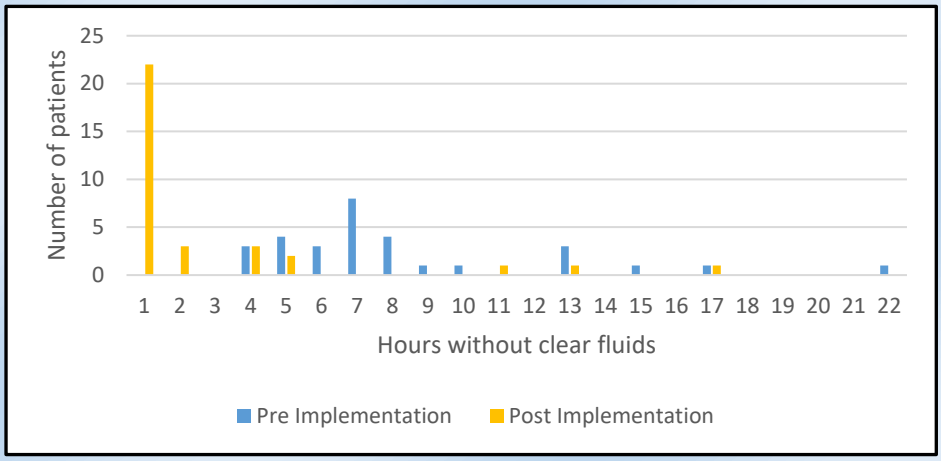

Fig 3: Comparison of patients' fluid fasting time pre- and post-implementation of SUWS protocol

Optimising the Transfusion Pathway: Improving Theatre Efficiency

Optimising theatre time is critical for resource management. The existing preoperative Group and Save (G&S) process often caused delays due to lack of valid samples on the morning of surgery, leading to delays awaiting repeated blood samples and avoidable theatre time losses.

Addressing this, we redesigned the G&S process to ensure valid blood samples were taken before the surgery date by implementing a new drop-in phlebotomy service. This increased the percentage of patients with valid G&S samples from 67% to 81%, reducing the need for repeated samples. This improved operational efficiency in theatres and on-the-day lab processing burden.

Conclusion: Integrating Leadership & Quality Improvement

The CR role provides invaluable leadership experience in managing complex projects, engaging stakeholders, implementing sustainable change and bridging the gap between clinical training and operational leadership. It has proven to be an excellent pathway for delivering quality improvement within Anaesthesia and Critical Care and has directly contributed to improved patient care, more efficient use of resources, and enhanced team collaboration. These outcomes demonstrate the potential of the Chief Registrar role to support both the clinical and non-clinical curriculum domains, implement meaningful change and prepare trainees for future leadership in the NHS.

References

1. RCP Chief Registrar Yearbook 2024/25 [Internet] cited 2025 Apr 06. Available from https://www.rcp.ac.uk/media/o2xbpk1m/chief_registrar_yearbook_2024-25_final_sb.pdf