

Background

In the UK, 15% of all patients undergoing operative procedures are diabetic. Diabetic patients have a longer length of stay, higher rates of adverse post-operative outcomes and higher readmission rates¹. The NCEPOD "Highs and Lows" report into peri-operative diabetic care highlighted a lack of continuity across specialties² and CPOC have released guidelines which state anaesthetists should:

- Monitor and record a BSL prior to induction of anaesthesia, and at least hourly if on insulin/insulin secretagogues, or two hourly otherwise
- Ensure a safe, documented handover from theatre to the ward¹

In our Trust, a 2022 project identified that peri-operative blood sugar level (BSL) monitoring was least optimal when patients were under the care of an anaesthetist. 42% of patients had a documented handover to the ward.

This was shared with the department and a solution to improve BSL monitoring and recording was to use the EPIC™ computer system to create an intraoperative pop-up reminder to check BSL's in diabetic patients. This project aimed to assess the impact of this change.

Methodology

50 diabetic patients were identified from a report of patients operated on between February and March 2023. This cohort had the demographics seen in Table 1.

80% elective 30% daycase	Average 65Y 66% Male	84% T2DM	24% insulin 48% tablet 14% both 14% diet
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Table 1: Demographics

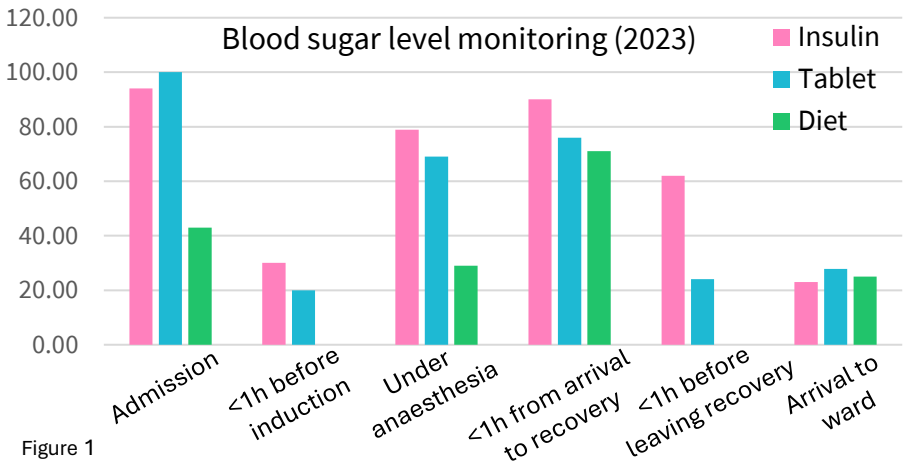


Figure 1

Results

BSL monitoring when under anaesthetic care has increased in this project, when compared to 2022, as seen in figure 1, table 2 and figure 2.

Of the 19 patients on insulin/insulin + tablet, a BSL was performed with a median and modal average of 1 hourly (range 0-5h). However, 4 patients did not have BSL performed, with operating times between 1-2h.

25 patients were on tablets alone, 13 with an operating time >2h. Of these, a BSL was performed with a median and modal average frequency of 3 hourly. 2 patients were identified as being on insulin secretagogues and had a BSL at 1h and 1.25h respectively. 4 patients did not have BSL taken.

Most patients had a BSL prior to induction of anaesthesia, although often this was >1h before induction. Post operatively, there were good levels of BSL monitoring in recovery, however only 1 patient out of 50 had a diabetic plan written in the medical notes for handover to the ward.

BSL under anaesthesia	'22	'23
Insulin	26%	78%
Tablet	48%	69%
Diet	20%	29%

Table 2: 2022 vs 2023

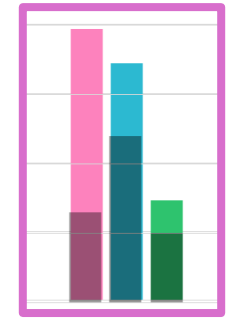


Figure 2: 2023 (coloured) vs 2022 (shadowed)

Discussion

This project has highlighted the improvement in BSL monitoring by anaesthetists, following the introduction of a pop-up on the computer system EPIC™. This shows an effective use of computer systems to improve patient care.

Unfortunately, ward- handover documentation has decreased. This was discussed locally, and the introduction of a smart text proforma has been suggested. This is currently being designed and this project will be repeated to understand the impact of this change once introduced.

References

1. Centre for Perioperative Care (2023) Guideline for Perioperative Care for People with Diabetes Mellitus Undergoing Elective and Emergency Surgery. Available online via URL: <https://cpoc.org.uk/sites/cpoc/files/documents/2023-10/CPOC-DiabetesGuideline2023.pdf>.
2. The National Confidential Enquiry into Patient Outcome and Death. *Highs and Lows*. 2018. London.