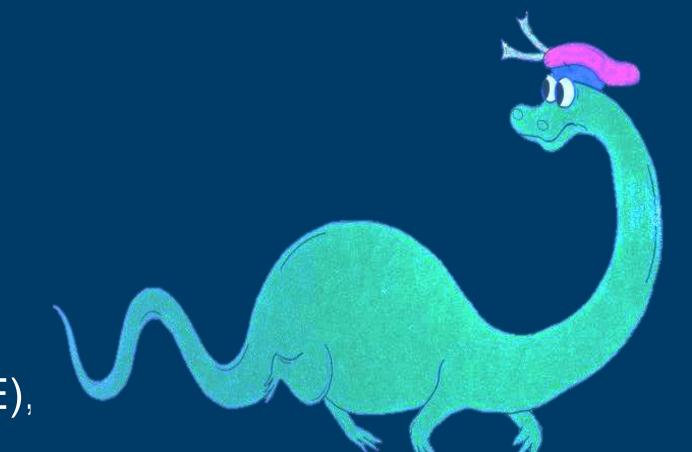


# Do Education and Visual Prompts Change Clinical Practice?

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INTRODUCTION

#### Aims of Research:

This study was carried out to investigate if visual prompts and staff eductaion could positively influence clinical practice surrounding glucose monitoring in acute paediatric cases seen in hospital.

### Background:

- Blood glucose is an important investigation in several presentations and luckily, monitoring this is simple, inexpensive, and generally accessible. There are several cases where glucose samples should be taken in order to assure adequate assessment and to allow for appropriate treatment.
- There can be increase in patient anxiety towards investigations in the paediatric setting, and exposing patients to unnecessary testing could cause negative healthcare experiences. Therefore, it is necessary to ensure that tesiting only happens when it is clinically indicated to do so.
- The need for testing should not be overshadowed by the desire to reduce patient anxieties. Thereofre, staff education and visual aids can be used to increase the number of appropriate tests carried out in clinic.
- Visual prompts: inespensive tools that have been shown to improve clinical practice [1]
- Staff education is vital, as medical staffing change-overs occur every 3-6 months.

## RESULTS

- Post-intervention analysis showed an increase in the number of blood glucose checks with a decrease in missed investigations. However, there was an increase in the number of inappropriate tests being conducted (Figure 3 and 4).
- Abdominal pain, poor oral intake, vomiting, poisoning and overdoses were the most common conditions where there was an inappropriate omission of BM check (Figure 5). Inappropriate BM checks were more common in head injuries (+/- infrequent vomiting) and children presenting with a mild viral illness (i.e., croup).
- Clinical judgement for omission of blood sugar was deemed reasonable in 35% of presentations, while blood sugar checks done when criteria was not met was deemed appropriate in 17% of presentations (Figure 6 & 7).

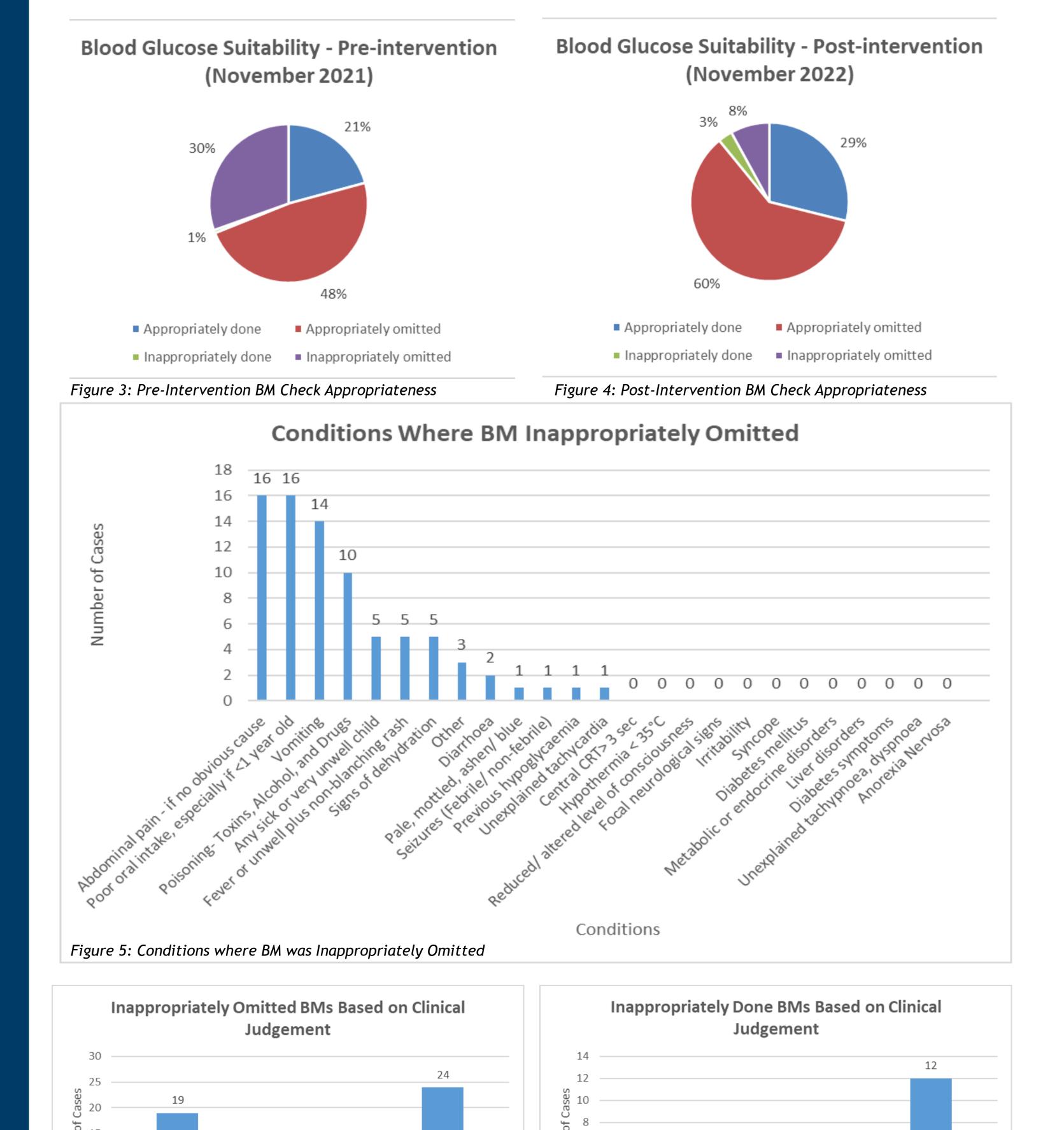


Figure 7: Clinical Judgement and Inappropriate Check of BM Figure 6: Clinical Judgement and Inappropriate BM Omission

Reasonable

11

Split

Judgement

Unreasonable

Reasonable

## METHODS

Indications for blood glucose monitoring were adapted from NICE criteria (NG51) and by consultant-led panel discussion [2].

These can be seen in the ABCDEFG poster (Figure 1).

Identified all presentations of patients <16 years old to either Raigmore Hospital A&E or Paediatric Assessment Unit (PAU) in November 2021.

Medical records were analysed for reason of presentation, specific risk factors, and any documented blood glucose results (including prehospital results).

Blood glucose results or omissions were categorised as appropriate vs. inappropriate based on pre-defined criteria and clinical discretion.

Emergency and Paediatric staff education with educational sessions and introduction of poster (Figure 1)

Analysis repeated for all acute paediatric presentations in November

Figure 2: Methodology

## CONCLUSION

- Significant progress in identifying high-risk groups for abnormal blood glucose levels in acute paediatric presentations.
- The significant reduction in missed blood glucose checks reflects the positive impact of staff education and visual prompts.
- The simultaneous rise in inappropriate blood glucose checks indicates a tendency to exercise greater caution. However, some of these cases were deemed appropriate based on clinical judgement. It is important to note that clinical judgement is always vital alongside the use of any guideline.
- This project has provided further opportunities for implementing staff education and visual aids to improve clinical practice.



### **References:**

Unreasonable

Judgement

[1] Using Visual Prompts to Aid Analgesia Prescribing. Ryland, K. Accessed 20/09/23. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4752706/

[2] NICE, 2017. Sepsis: recognition, diagnosis and early management. Accessed 16/09/23, https://www.nice.org.uk/guidance/ng51/resources.