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Balancing measures: removing ethyl chloride spray without compromising epidural monitoring for neurological complications

The need for balancing measures, while limiting ethyl chloride spray promotes sustainability, it must not compromise epidural neurological monitoring.

Introduction

Monitoring patients with epidurals is essential to ensure optimal analgesia, while **enabling early identification of neurological complications**.

The **NICE** and **Obstetric Anaesthetists’ Association Guidelines** emphasise the importance of monitoring both **sensory levels** and **motor block** in patients with labour epidurals [1-2].

As part of the **NHS net zero** plan, our hospital limited the use of ethyl chloride spray to reduce its carbon footprint, which we believe may have led to reduced assessment of epidural sensory levels.



Objective

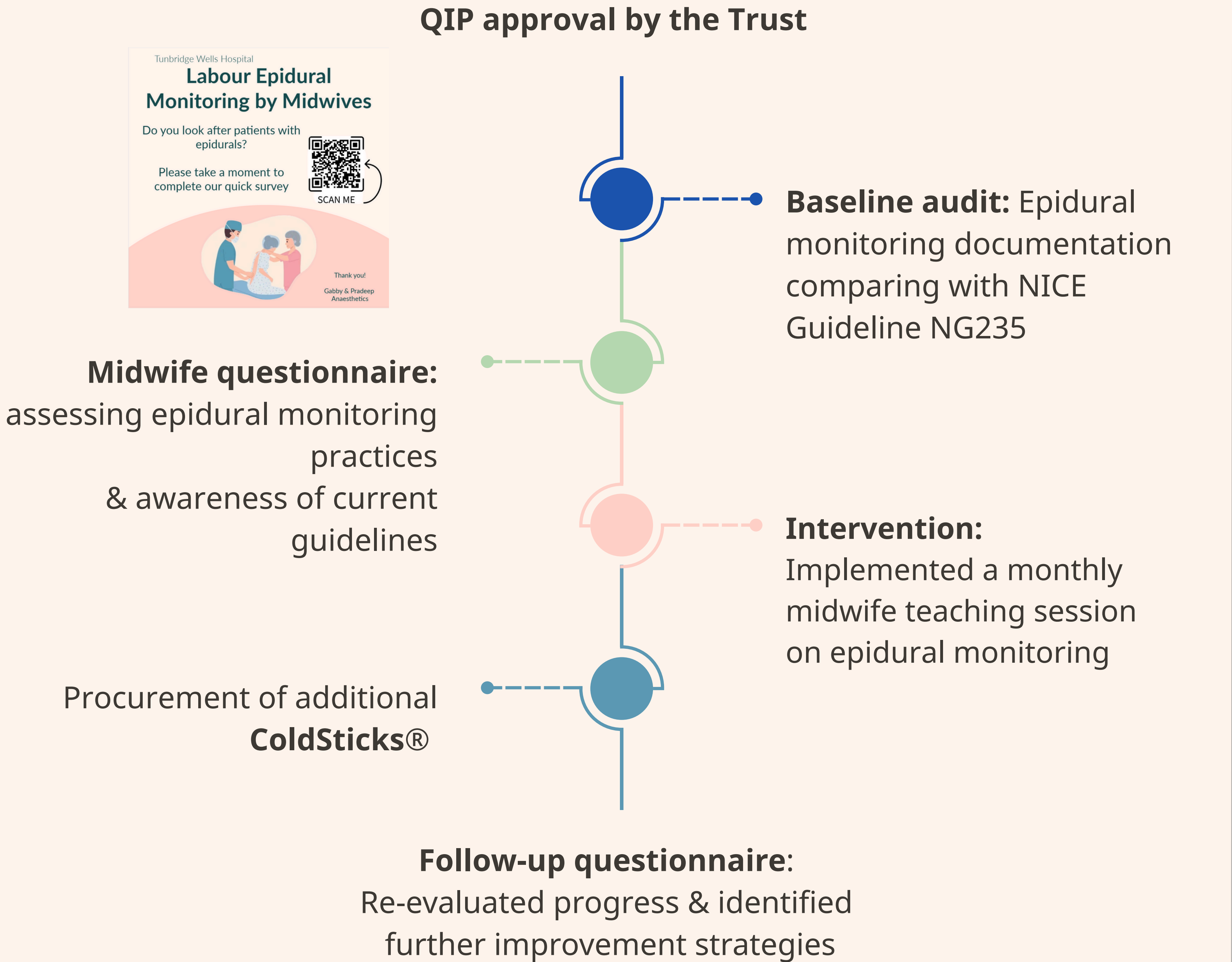
Primary aim:
Improve neurological monitoring of labour epidurals on delivery suite

Secondary aims:
Enhance **early detection** of complications
Promote **patient satisfaction**

References

1.Yentis SM, Lucas DN, Brigante L, et al. Safety guideline: neurological monitoring associated with obstetric neuraxial block 2020: A joint guideline by the Association of Anaesthetists and the Obstetric Anaesthetists' Association. Anaesthesia. 2020 Jul;75:913-919. doi: 10.1111/anae.14993.
2.National Institute for Health and Care Excellence: Intrapartum care. Pain relief during labour. NICE. 2023. [NICE Guideline NG235].[https://www.nice.org.uk/guidance/ng235]. Accessed 14 January 2024.

Methodology



Discussion

Although serious neurological complications from epidurals are rare, **early detection** is essential to prevent harm [1].

This QIP highlights the need for balancing measures when implementing change, emphasising that while limiting ethyl chloride spray promotes sustainability, it **must not compromise epidural neurological monitoring**.

Results

Baseline audit
The audit of **50 epidurals** found **96%** had **no sensory level** recorded and **98%** lacked **motor block documentation** post epidural insertion. Blood pressure (BP), cardiotocography (CTG) and patient satisfaction were well documented.

Hourly monitoring documentation was poor with **0% for sensory level** and **6% motor block**.

Midwife questionnaire
56 qualified midwives, all with >1 year experience, reported routinely monitoring CTG, BP and patient satisfaction; however, **44%** do **not** routinely **monitor sensory level** and **37% motor block** (figure 1).

52% of midwives reported they were **not confident** checking the sensory level and motor block in patients with an epidural.

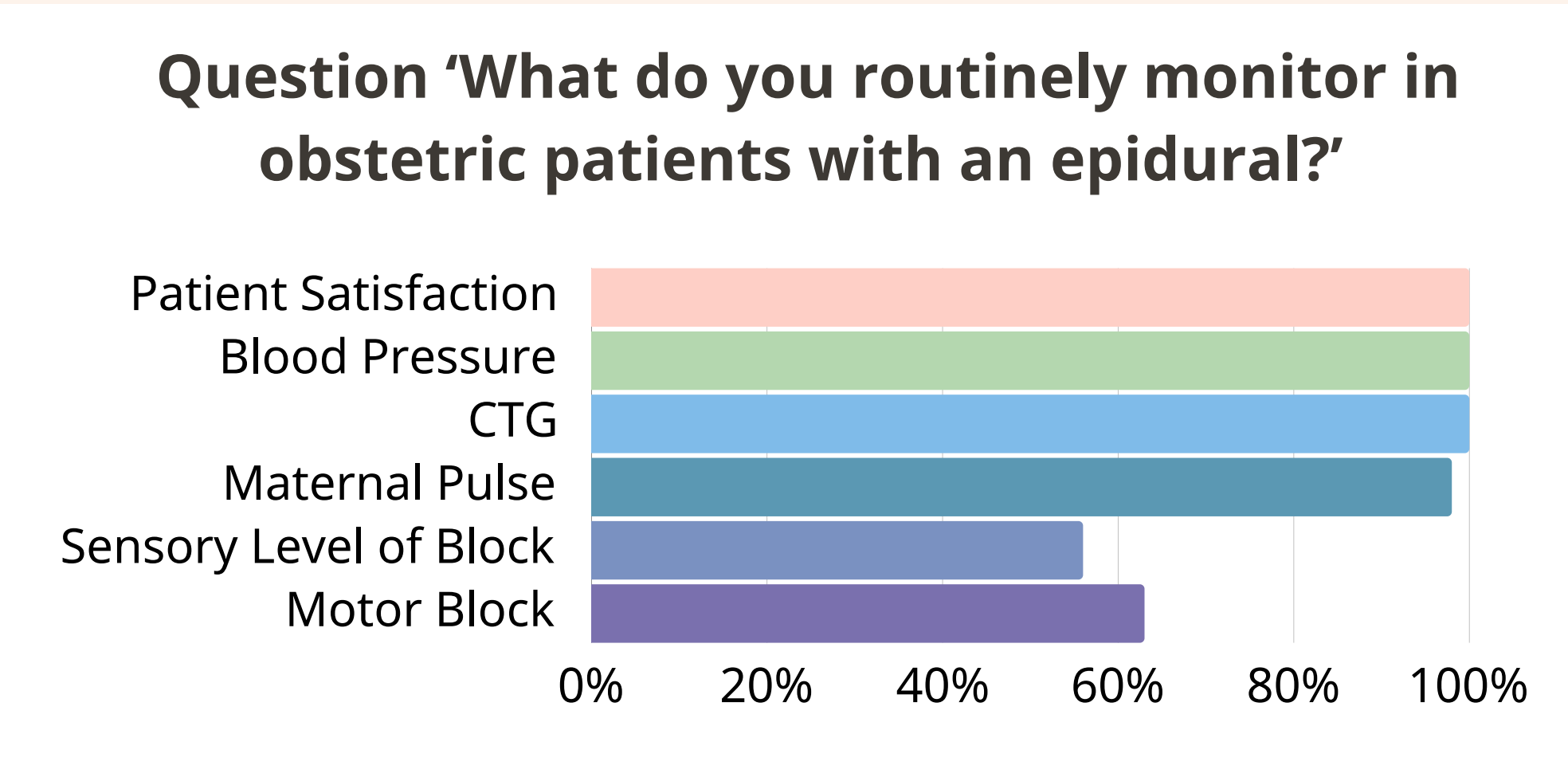


Figure1. Results from 56 midwives surveyed

Follow-up questionnaire
Identified the need for **infographics** with dermatomes displayed on delivery suite and adjustments to the **epidural documentation booklet**.