

What can anaesthetists learn from MNSI investigations?

S Quasim, Lead Anaesthetic and Critical Care Team Clinical Advisor, MNSI
K MacLennan, Anaesthetic Clinical Advisor, MNSI
L Page, Clinical Director, MNSI



INTRODUCTION

The Maternity and Newborn Safety Investigations (MNSI) programme is part of a national strategy¹ to improve maternity safety across the NHS in England. Reports are only shared with the family and involved NHS organisations. Dissemination of lessons learnt, relevant to anaesthesia, is essential to improve maternity care.

METHODS

A log of findings and recommendations from all completed reports between 1 April 2019 to 31 December 2024 was searched using predefined keywords relating to obstetric anaesthesia or analgesia. Recommendations were categorised by two independent clinical advisors to identify areas of learning, and two categories were used for coding. Permission for secondary learning from reports is granted by families during the consent process.

RESULTS

Figure 1 shows the results of the data extraction process. The number of recommendations identified for anaesthetic learning in the study period was low (139 / 7774; 2%). After excluding recommendations found not to pertain to anaesthesia care, 116 recommendations were categorised.

Figure 2 demonstrates how use of the System Engineering Initiative for Patient Safety (SEIPS) tool enables all work elements of the system to be explored to define the categorisation coding. Figure 3 illustrates the categorised themes of 116 recommendations, relevant to anaesthesia and analgesia. The top three themes identified were escalation, anaesthesia choice/technique and fetal monitoring (during or after anaesthesia techniques).

DISCUSSION

Recommendations directly applicable to anaesthesia or theatre care represent only 2% of all recommendations from April 2019 - December 2024.

The recommendations made highlight the importance of early escalation when caring for unwell women, the need for senior anaesthetic input and clear communication to facilitate a coordinated multidisciplinary response, the requirement for ongoing fetal monitoring and the importance of anaesthetic oversight to ensure timely transfer to theatre.

As key members of the perinatal team, anaesthetists should be aware of areas where recommendations have been made, to drive both local and national improvement.

References

1. Maternity and Newborn Safety Investigations. Investigation overview for NHS. Available at www.mnsi.org.uk/for-nhs/investigation-overview-for-nhs/ Accessed January 17, 2025
2. Holden RJ, Carayon P, Gurses AP, Hoonakker P, Hundt AS, Ozok AA, Rivera-Rodriguez AJ. SEIPS 2.0: a human factors framework for studying and improving the work of healthcare professionals and patients. *Ergonomics*. 2013 Nov 1;56(11):1669-86.

Figure 1: Results of data extraction process



KEY THEMES



Antenatal

- Review high risk women in the antenatal period and document plan of care
- Ensure induction of labour guidance includes information about pain relief and anaesthesia



Staffing / Capacity

- Ensure anaesthetic staffing for maternity units aligns with national guidance



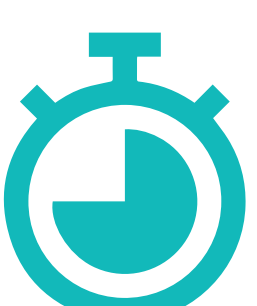
Clinical assessment of pain relief in labour

- Assess effectiveness of epidurals in labour - minimise delays if operative birth is needed
- Consider causes of 'breakthrough' pain when epidural top-up doses are not effective
- Accurate documentation of remifentanyl dose



Escalation, clinical assessment, communication and MDT working

- Include senior anaesthetists and critical care outreach teams when MEWS or sepsis tools trigger indicating a woman is critically unwell
- Reassess levels of care when women become critically unwell
- Communication between teams in theatre



Categorisation / Situational awareness

- Team brief should include anaesthetic team and degree of urgency in all births
- Category of caesarean birth should not consider type of anaesthesia
- Ensure fetal wellbeing before, during and after neuraxial anaesthesia



Anaesthetic management in theatre

- Review vasoconstrictor guidance in line with the international consensus statement
- Prevent aortocaval compression in theatre
- Consider early recourse to general anaesthesia if spinal insertion is challenging in emergency caesarean births
- Embed DAS/OAA guidance for difficult airways and difficult/failed intubation



Figure 3: Categorisation of recommendations N=464

116 recommendations, 2 categories, 2 clinical advisors

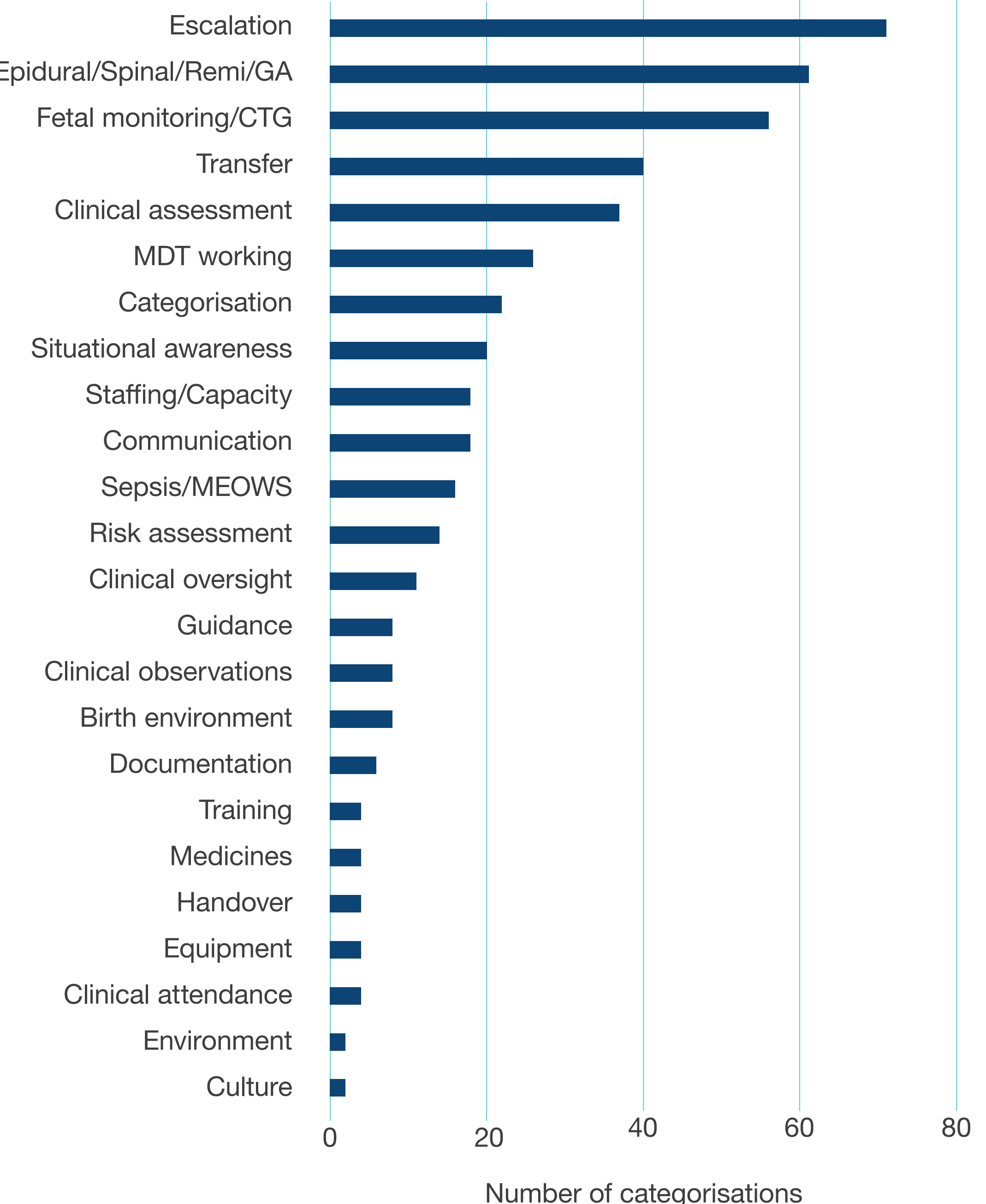


Figure 2: SEIPS² example: Delay in arriving in theatre

