

Time to Reset the Maternity Digital Dataset

By Amber Dhoot¹, Laura Denley², Stelios Myriknas² and Sunita Sharma²

Affiliations: ¹ = Imperial College London, ² = Chelsea and Westminster Hospital NHS Foundation Trust

Background and Objective:

In England, recent reviews of NHS maternity services¹⁻² have highlighted learnings and recommendations to improve safety within the service. Themes identified included listening to patients, families, and staff; patterns of repeated poor care; failure in team working, governance and leadership; and lack of learning from safety incidents. Also highlighted is the traditional encouragement to promote normal birth and maintain the caesarean birth (CB) rate around 20%. However, in 2022, NHS England and NHS Improvement stated that hospitals should not use “total caesarean section rates as means of performance management” as these targets “may be clinically inappropriate or unsafe in individual cases”.

Our objective was to study the birth trend in Chelsea and Westminster Hospital Maternity Department and assess what digital datasets are available to inform front-line clinicians’ service improvements to respond to the review findings.

Design:

- A five-year (2017-2022) retrospective documentation audit of births recorded in the department’s digital system (Circonia Maternity Information System (CMIS)).
- Review of our NHS Trust’s data as captured by the NHS Digital National Maternity Dashboard (NDNMD)³, Perinatal Mortality Review Tool (PMRT)⁴, Care Quality Commission reports, Healthcare Safety Investigation Bureau (HSIB) and local serious untoward incidents.

References:

- 1.Independent Maternity Review. *Ockenden Report - Final*. Department of Health and Social Care. Report number: HC 1219, 2022.
- 2.Kirkup B. *Reading the signals - Maternity and neonatal services in East Kent*. Department of Health and Social Care. Report number: HC 681, 2022.
- 3.National Health Service Digital. *National Maternity Dashboard*. <https://app.powerbi.com/view?r=eyJrIjoieMzQ3YWY4MmWQzEjEwNS00OGZhLWE3NzEtNzZmM2ViN2ViNWl0IiwidCI6IjUwZjYwNzFmLWJiZmUtNDAxYS04ODAzLTlTY3Mzc0OGU2MjllMiIsImMiOiJh9&pageName=ReportSection3ed77151186ecd679338> [Accessed: 29th January 2023].
- 4.National Perinatal Epidemiology Unit. *Perinatal Mortality Review Tool*. <https://www.npeu.ox.ac.uk/pmrt> [Accessed: 3rd February 2023].

Methods:

- All births were categorised into one of the 10 mutually exclusive Robson Groups to study the local trend in CBs. In addition to age and Body mass index, the level of urgency of caesarean birth (Category 1-4) was analysed in view of higher risk of morbidity with emergency CBs. In parallel, data gathered in different maternity datasets were studied.

Results:

There was no statistically significant change (p=0.084) in annual CB rates of 39.3%, 39.0%, 40.1%, 40.2%, 44.3% between years 2017-2018 and 2021-2022.

The top 2 biggest contributors to CB were:

Robson group 2 (Nulliparous, Singleton, Cephalic, ≥ 37 weeks’ gestation, Induced labour or CS before birth- 2a Labour induced; 2b- pre-labour CS) and

Robson group 5 (Previous CS, singleton, cephalic, ≥ 37 weeks’ gestation)

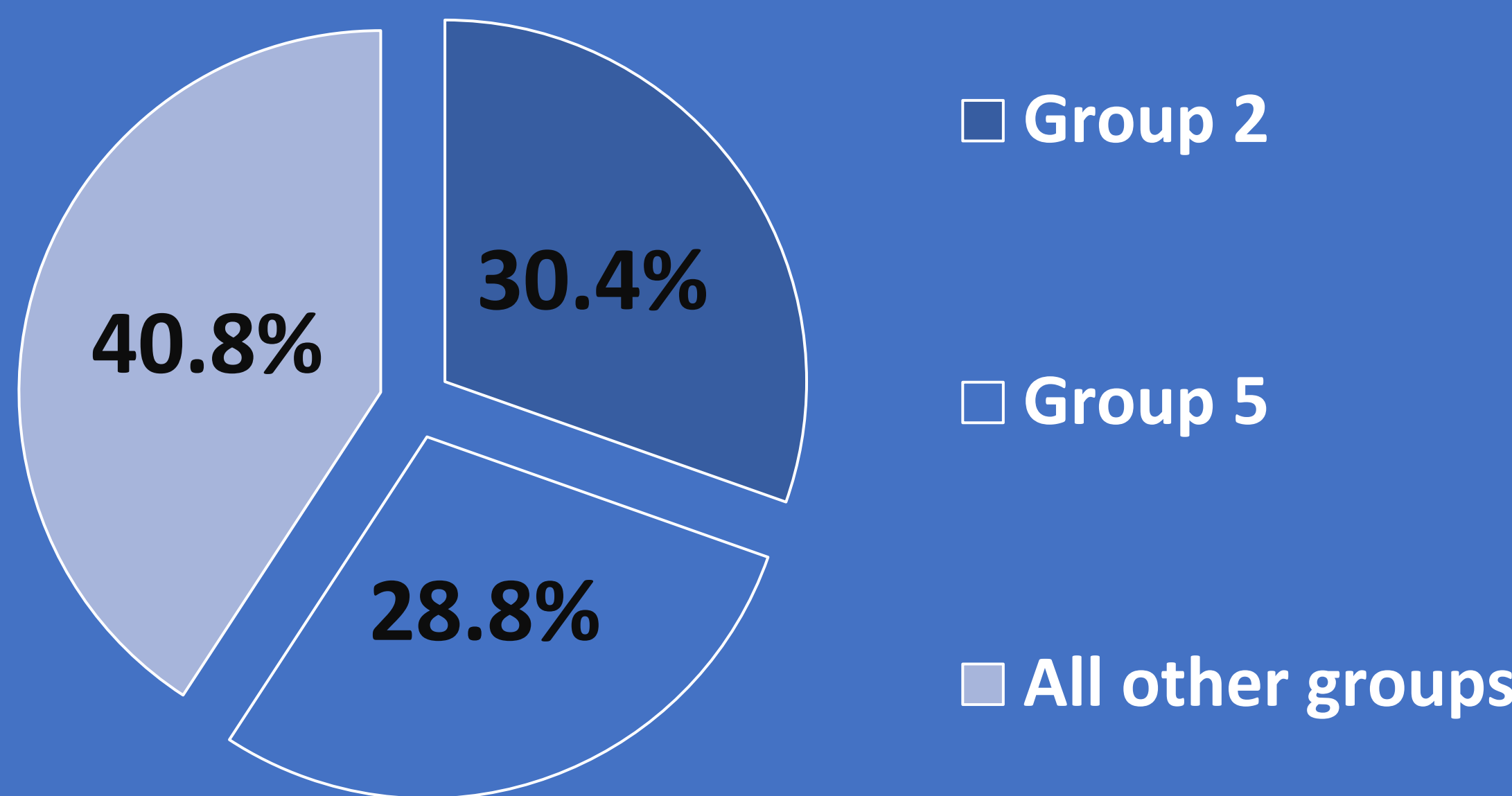


Figure 1 – Contribution to total CB rates (2017-2022).

Robson Group 2 comprised predominantly (45.0% five-year average) Urgent CB (birth is performed as soon as possible, within 75 mins of making the decision).

Robson Group 5 comprised predominantly (75.8% five-year average) Elective CB (birth timed to suit women or healthcare provider).

Characteristics within Robson Groups 2 and 5 (2021-2022)

		Robson Group 2a	Robson Group 2b	Robson Group 5
Age	35-40 years	29.6%	47.9%	57.9%
	40+ years	3.8%	18.9%	15%
Body Mass Index	>30	18.5%	8.3%	14%

Table 1 – Patient characteristics in Robson Groups 2 and 5.

NDNMD³ provides more information than available locally and captures maternity service-user metrics such as demographics, ethnicity, index of deprivation, social factors. Organisational outcomes for mother and baby are included against national policy and clinical quality improvement metrics with an ability to compare providers. Other data sources like PMRT⁴ and serious incidents provide more detail to specific adverse outcomes.

Conclusion:

The CB rate in our department, whilst higher than NHS England’s previous recommended performance target, has not changed significantly over the last 5 years. Undertaking a similar local audit for other birth modes in the context of associated risk characteristics with final outcomes proved difficult. At present, front-line clinicians only have easy access to specific service-user characteristics in the context of adverse maternal and perinatal outcomes or quality improvement metrics. As NHS England defines standards for maternity digital records and prioritises Data Saves Lives agenda, there is opportunity to refine the data captured, as part of business-as-usual.

To address the findings of NHS maternity reviews it is vital to a) capture mother and child outcomes and experience data for all birth modes to assure safe, equitable and person-centred care for all and b) improve front-line clinicians’ access to relevant data to enable co-design of locally relevant service improvements.