

Cross-site Perinatal Preterm Optimisation Improvement Project

Denmark Hill and Princess Royal University Hospital sites

“ Collaborative teamwork and simple interventions are transforming preterm care, improving outcomes, and enhancing family experiences. ”

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King's College Hospital (KCH) has two maternity and neonatal units within South East London. The Denmark Hill (DH) site is a Level 3 surgical neonatal intensive care unit (NICU) with a high-risk fetal medicine unit. The Princess Royal University Hospital (PRUH) site has recently become a Level 2 Local Neonatal Unit (LNU), accepting deliveries above 27 weeks of gestation. King's College Hospital supports around 9000 deliveries per year, with approximately 150 babies delivered below 34 weeks cross-site in 2024.

Aims

Implement a comprehensive 'Perinatal Preterm Optimisation Plan' across the neonatal units cross-site at King's College Hospital (KCH).

Establish a structured, multidisciplinary team (MDT) approach that delivers the highest standards of care for premature infants.

Background

Improving the care and outcomes for preterm infants has been a priority for King's College Hospital for many years.

Our current project is to develop a cohesive Preterm Perinatal multidisciplinary team (MDT) to ensure all aspects of the British Association of Perinatal Medicine (BAPM) Preterm Passport tools are integrated into care, alongside our existing projects.

This initiative aligns with broader efforts led by the London Neonatal Operational Delivery Network (ODN), the Health Innovation Network (HIN), and the Maternity and Neonatal Safety Improvement Programme (MatNeoSIP), all working collaboratively to enhance neonatal outcomes across London.

Method

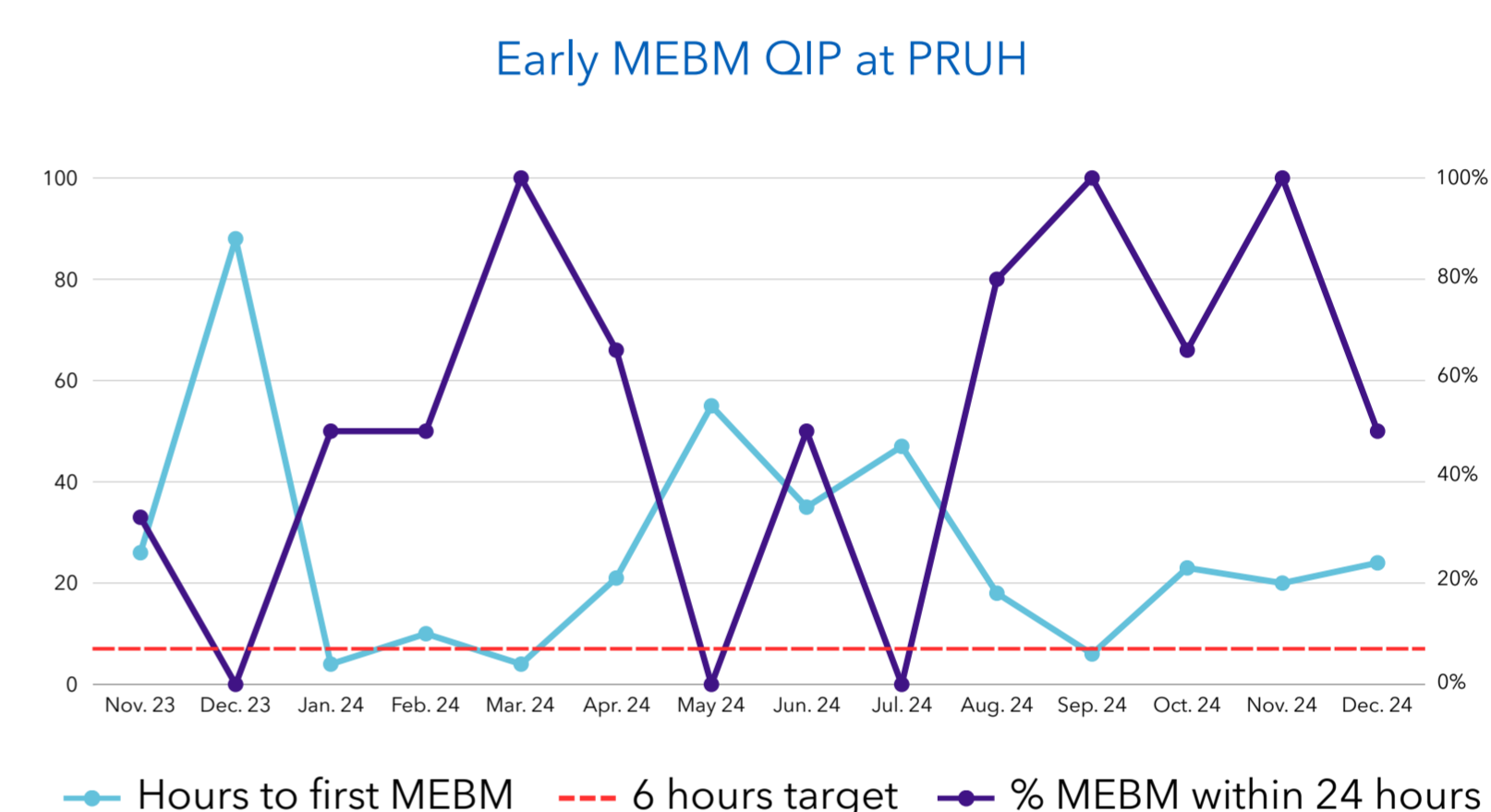
In April 2024, a Perinatal Preterm Optimisation working group was created to bring together different projects aimed at improving the outcomes of premature infants (which were previously led by small independent groups). The group is led by neonatal consultants and formed by neonatal doctors and nurses, breastfeeding supporters, obstetric doctors, and midwives. Monthly meetings were arranged for review and discussion of the different interventions and outcomes.

This group has focused on the following Quality Improvement Project (QIP) for preterm optimisation:

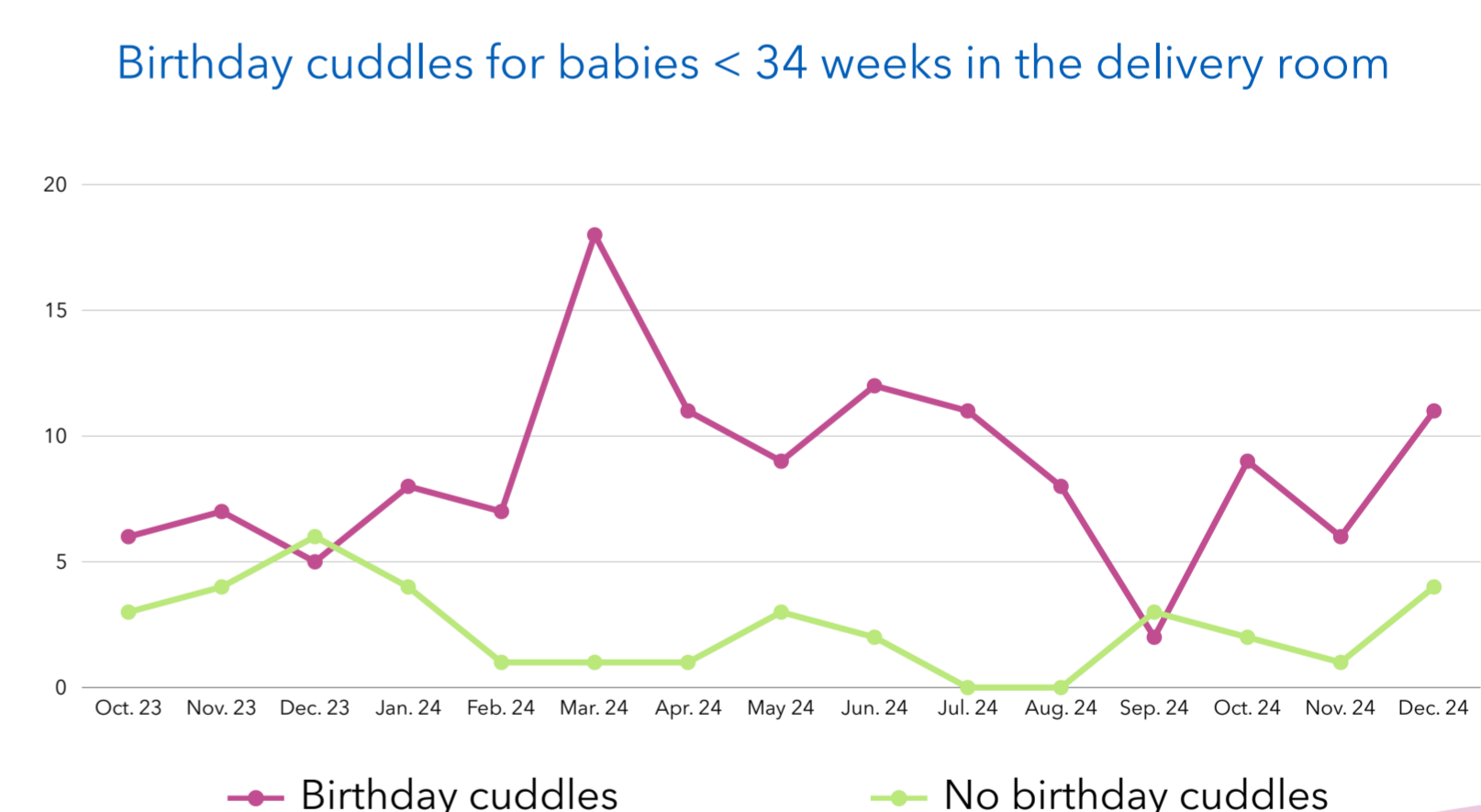
- Implementation of the BAPM Passports (baby and clinical).
- Improvement of antenatal counselling and its documentation.
- Antenatal preterm intervention cards for the labour ward.
- Delayed cord clamping.
- Thermoregulation.
- Birthday cuddles.
- Supermilk: Early maternal expressed breastmilk (MEBM) quality improvement project (QIP) - a project to improve delivery of maternal breastmilk to babies born under 34 weeks' gestation.
- Monthly preterm optimisation newsletters.

The neonatal team created a database to prospectively collect all relevant data included in the different projects. Data is analysed and presented by a member of the MDT in our monthly meetings for discussion and for implementation of changes to improve outcomes. Data is available from October 2023.

Time to first MEBM and Percentage of babies receiving the first MEBM within first 24 hours. Data for PRUH site from November 2023 (pre-implementation) until December 2024



Number of babies born < 34 weeks receiving and not receiving birthday cuddles at Denmark Hill - 2023-2024



Results

- Since starting the early maternal expressed breastmilk (MEBM) quality improvement project, both sites saw a quick improvement, with most babies consistently receiving MEBM within 24 hours.
- Temperature is checked on admission to the unit, before and after birthday cuddles, and during resuscitation and stabilisation.
- Labour ward cards are now routine practice across both sites and successfully used during morning and evening huddles.
- Plans for delayed cord clamping (DCC) are performed whenever possible.

Conclusions

We have successfully implemented the BAPM preterm passports at DH, and we are working to implement them at the PRUH site too. Antenatal counselling is now supported using the BAPM preterm passport for discussion with parents.

Labour ward cards are well received by the whole team, with especially positive feedback from the midwifery team using them during their daily huddles. Birthday cuddles are embedded in our practice, and we are now offering them to the birthing partner when babies are born under general anaesthetic, or when the mother is too unwell to have them.

Project members: Akrum Elhussein, Sanket Thakur, Mirna Krishnan, Anna Ntovolov, Jinimole Arun, Sally Hubbard, Mohammed Sayeemuddin, Evangelia Myttaraki, Merinmary George, Elena Abad, Ravindra Bhat, Lisa Long, Ghalia Ashoor, Kenga Sivarajah, Salma Jabak, Monica Abor, Hannah Nathan, Natasha Bell, Olivia Beaumont, Millie Sullivan, Aretha Ve, Babini Jacob, Judith Angell, Adetokunbo Omofade, Reziquiel Morales, Emmanuel Eyo-Ita, Georgie Jenkins, Getlie Api-It, Laura Pointer.