Lewisham and Greenwich NHS Trust

Improving thermoregulation and deferred cord clamping (DCC) in preterm infants

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Aim

- Increase the proportion of babies <34 weeks achieving normothermia (36.5-37.5°C) within one hour of birth.
- Improve adherence to DCC for at least one minute.
- Develop structured interventions to embed sustainable improvements.

Background

University Hospital Lewisham is part of Lewisham & Greenwich NHS Trust and operates a Level 2 Neonatal Unit. In 2024, the Trust recorded 6,730 deliveries, with 3,155 occurring at Lewisham Hospital. Hypothermia at admission and incomplete deferred cord clamping (DCC) were identified as areas for improvement. Maintaining normothermia and achieving full DCC duration of one minute or more are essential for reducing neonatal morbidity.

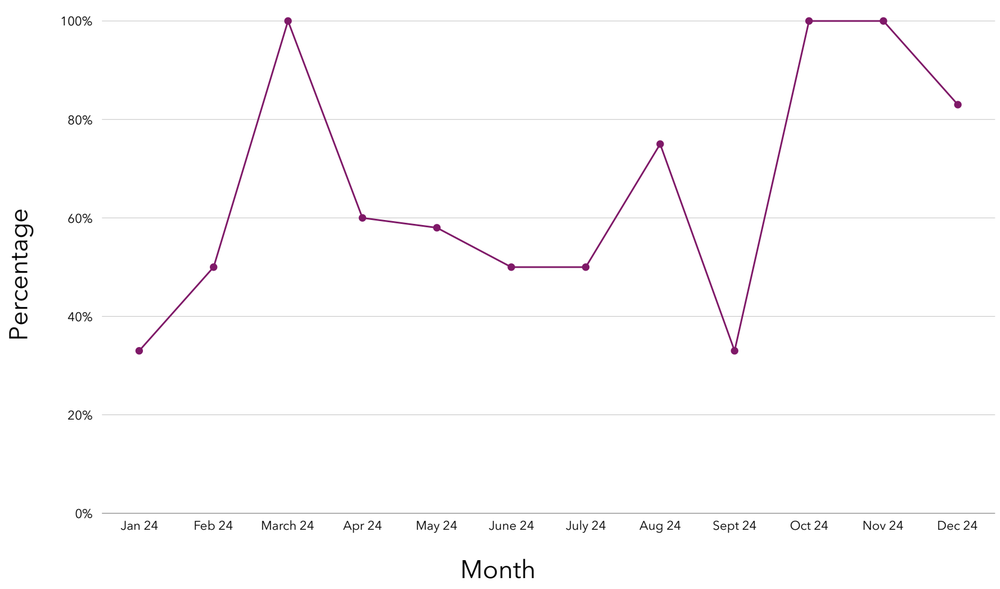
Method

Data was collected from BadgerNet to track normothermia rates and DCC completion. Additional data collection forms were used for accuracy. A multidisciplinary approach was taken, involving medical students, midwives, neonatal nurses, and obstetricians, with support from the Health Innovation Network (HIN) South London.

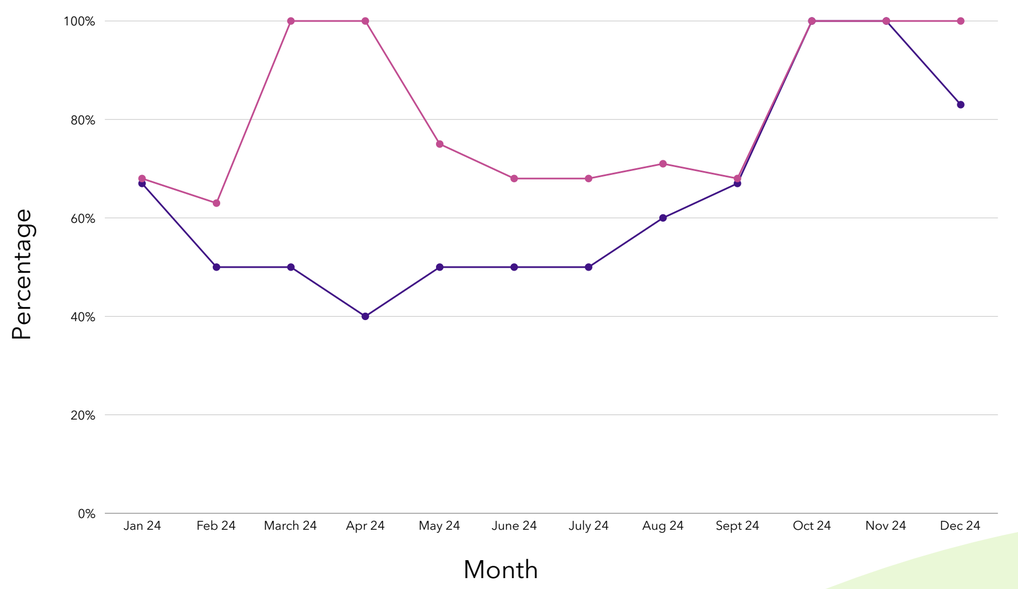
For thermoregulation, NeoHelp sterile plastic bags, amendments to the WHO checklist in theatre and 'Situational Awareness Timers' were introduced to prompt temperature checks at 15, 30, and 45 minutes post-birth. Simulation training sessions and a sticker-based reminder system reinforced best practices.

For DCC, neonatal registrars scrubbed in to directly auscultate the baby's heart rate immediately at birth to facilitate waiting one minute to clamp the cord. A sterile cover was used over the stethoscope to maintain sterility in the operating environment, ensuring safe assessment and confidence to continue DCC.

Percentage of babies who received DCC at or after one minute



Percentage of babies with normothermia taken within one hour of birth



Results

- Normothermia within one hour increased from a range of 40-67% to 83-100%.
- Overall normothermia rates improved from a range of 40-83% to 83-100%.
- Temperature recording within one hour of birth reached 100% (previously 68-75%).
- DCC completion for at least one minute improved from a range of 33-75% to 83-100%.
- Increased engagement and adherence across multidisciplinary teams.

Conclusions

Sustainable improvements in thermoregulation and DCC were achieved through structured interventions. The use of 'Situational Awareness Timers' ensured timely thermal care, while the neonatalogist's presence during DCC provided confidence to maintain the cord intact. Future plans include implementing a 'Theatre Thermal Environment Improvement Bundle', optimising operating room temperature, introducing a DCC proforma for better data collection, and adopting LifeStart technology for resuscitation with an intact cord.

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