

Improving rates of normothermia on admission to Neonatal Unit in infants born at <34 weeks gestation



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Preterm babies are particularly vulnerable to hypothermia after birth. Studies have shown hypothermia to be a risk factor for death, development of respiratory distress syndrome and intraventricular haemorrhage. In the year 2022, 69% of babies admitted to the Neonatal Unit (NNU) at <34 weeks had a temperature within the normothermic range – this is significantly below the national standard.

Background

Kingston is a level 2 Local Neonatal Unit within the South London Neonatal Network. We provide intensive care, high dependency, and special care for infants over 27 weeks' gestation (28 weeks' for twins).

There are approximately 4,600 deliveries at Kingston per year. In the year 2024, 443 babies were admitted to the neonatal unit, 87 of whom were born at <34 weeks' gestation.

Objectives

1. Improve staff awareness and education around maintaining normothermia.
2. Update departmental guidance on thermal care in neonates.
3. Explore new equipment to facilitate maintenance of normothermia.
4. Regularly review temperature data to respond to issues identified.

Aims

Improve the rate of normothermia in infants born at <34 weeks' gestation on admission to the neonatal unit at Kingston Hospital by 20%.

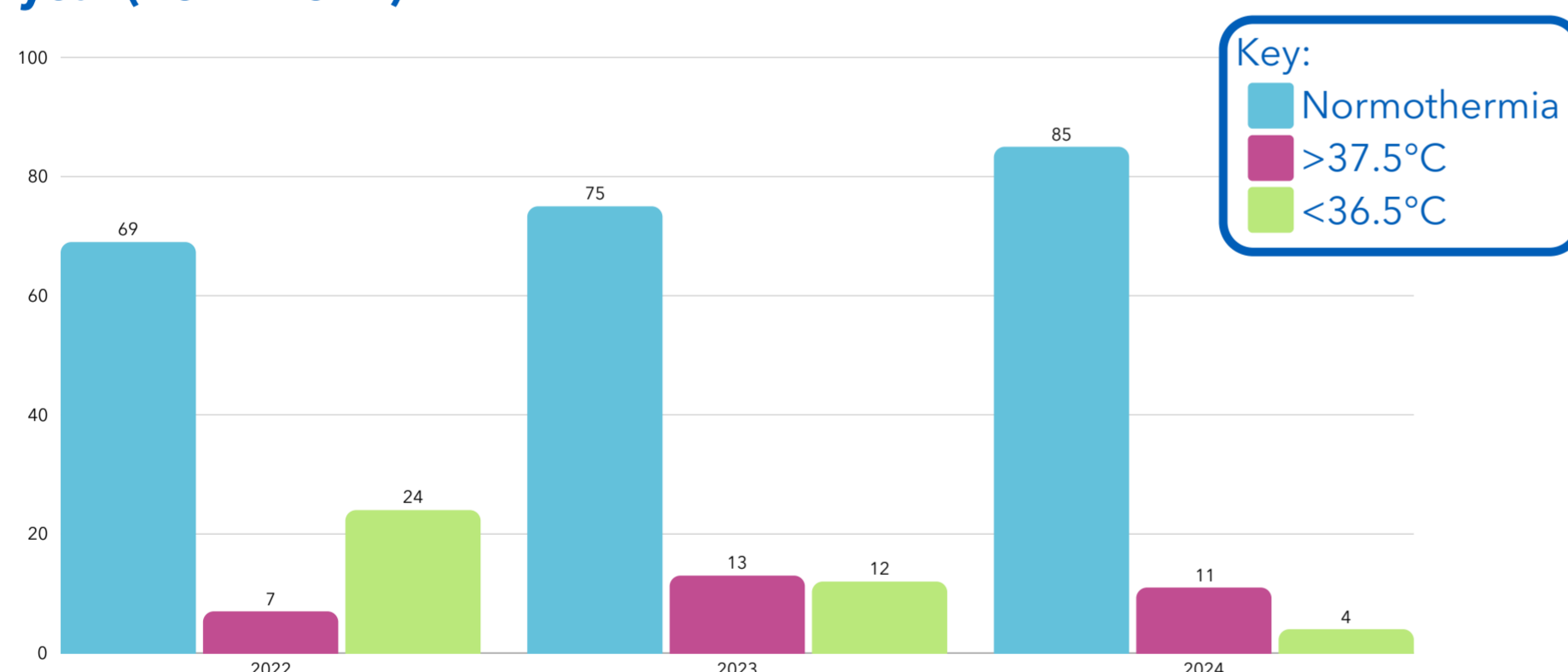
Meet the NNAP developmental standard; that at least 90% of babies should have an admission temperature measuring within the normal range of 36.5-37.5°C.

Demonstrate a continuous improvement over a two-year period.

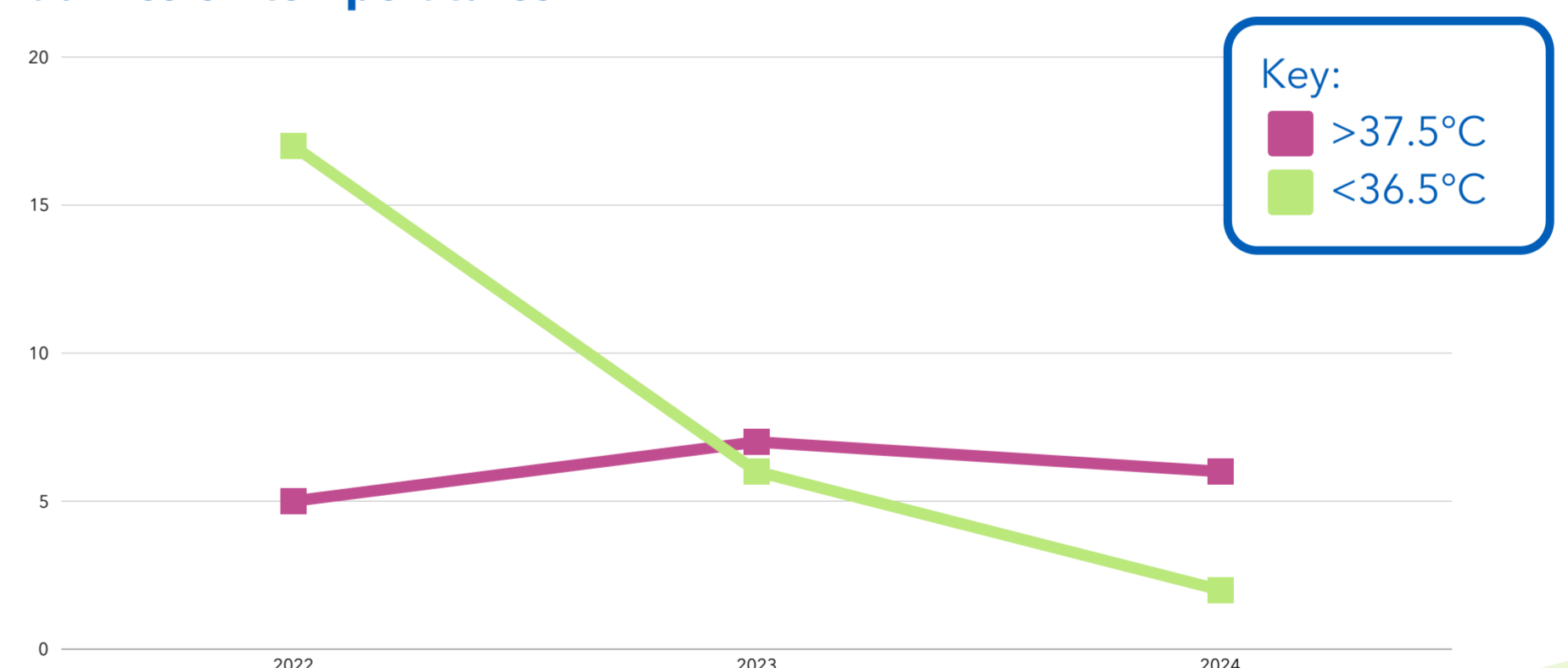
Method

- Development of a Thermal care bundle, kept on Neonatal Unit.
- Introduction of the use of an exothermic mattress and Babywrap for <32 weeks or <1500g.
- Update of departmental Thermal Care Guideline.
- Development of a Preterm Perioptimisation Team, with regular review of data.
- Introduction of the Perinatal Optimisation Passport.
- Establishment of a daily Preterm huddle on NNU, with assignment of a thermal care lead.
- Display of data to share progress with the department.

Preterm (<34 weeks) admission temperature comparison (%) by year (2022-2024)



Number of babies born at <34 weeks with high / low admission temperatures



Results

Our interventions have led to a consistent improvement in rates of normothermia. The use of equipment to aid temperature maintenance has become embedded in unit practice. The daily Preterm huddle ensures ongoing awareness of active temperature management at preterm deliveries.

- This project has resulted in a 16% improvement in babies born at <34 weeks, being normothermic on admission to NNU.

Conclusions

We are moving closer to our target of 90% and have implemented sustainable changes, with buy in from key stakeholders.

We will continue to monitor our data monthly to identify further opportunities for incremental improvement. The development of our Preterm Perinatal Optimisation Team, with regular input from our Programme Lead at the HIN South London, has been key to implementing regular review of our data and sharing this with the wider team.