

IMPROVING NEWBORN CARE USING BETTER OUTCOMES REGISTRY AND NETWORK KEY PERFORMANCE INDICATORS

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DESCRIPTION

Maintaining neonatal thermoregulation is essential for ensuring hemodynamic stability in newborns. In Ontario, the Better Outcomes Registry and Network (BORN) has identified normothermia (36.5–37.5°C) at the time of primary neonatal intensive care unit admission as a key performance indicator (KPI). BORN has established a target of ≥85% for inborn infants excluding those undergoing therapeutic hypothermia. To be in alignment with best practices and BORN guidelines, Humber River Health reviewed its compliance with this measure. At baseline, HRH's NICU had a compliance rate of 65% in April 2023, revealing a need for improvement in maintaining appropriate admission temperatures.

OBJECTIVE

The aim of this quality improvement project is to ensure ≥85% of inborn infants are admitted to the NICU with normal body temperature.

ACTIONS TAKEN

A literature review was conducted to understand factors affecting neonatal thermoregulation. BORN documentation and NICU admission data were retrospectively analyzed to identify trends and sources of temperature variation, such as admissions from the birthing unit, mother-baby unit, or resuscitation room. Interventions included targeted staff education via weekly huddles and education days with sign-offs. The Giraffe Shuttle was reintroduced, with vendor-led training on best practices. A practice change was implemented, requiring all NICU transports to use pre-warmed isolettes instead of hand-carrying or using open bassinets.

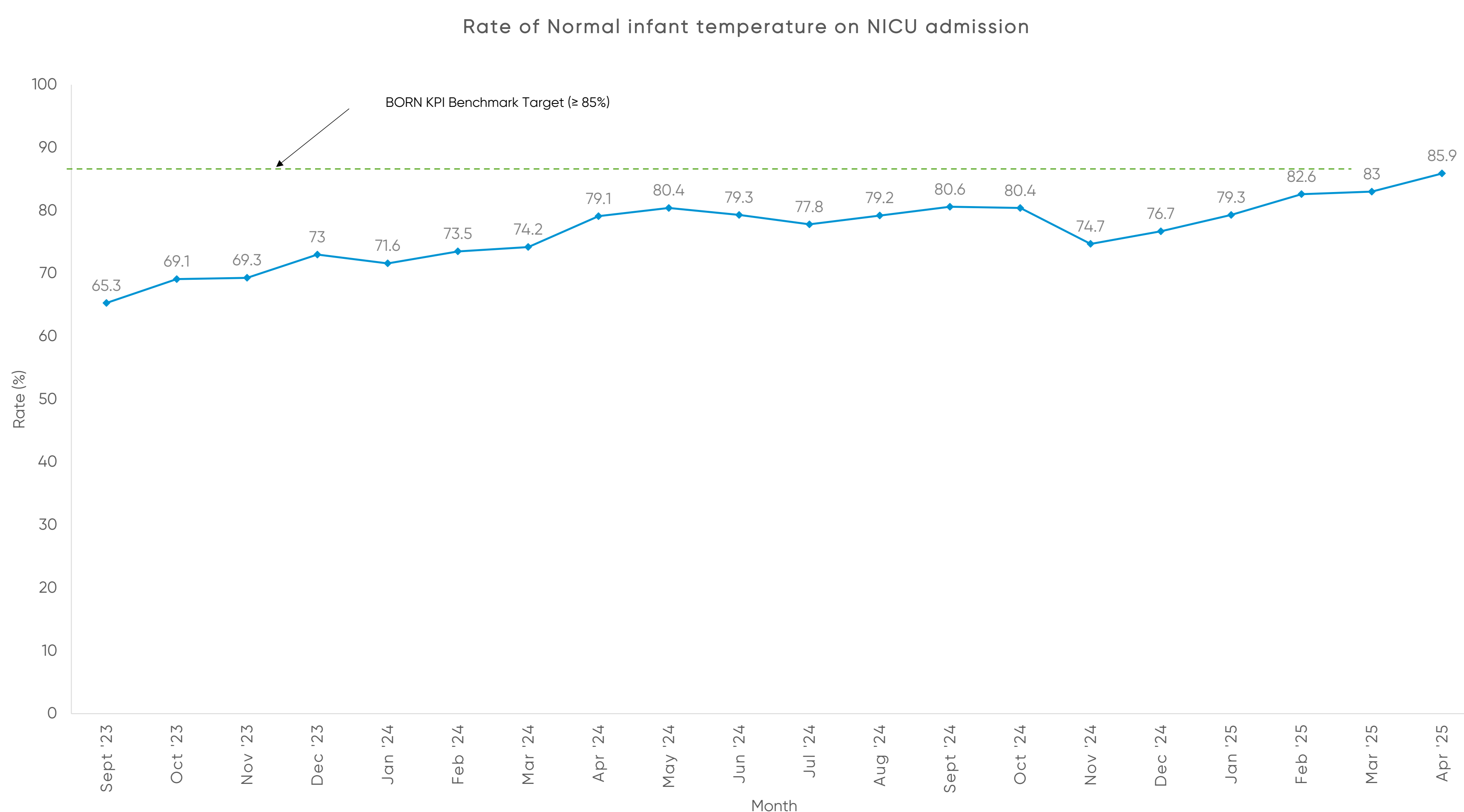


Figure 1. BORN KPI, Rate of Normal Infant Temperature from Sept 2023 to April 2025.

Humber River Regional Hospital - Wilson Site (Neonatal Level 2c), 01-Jul-2023 to 30-Sep-2023.
Months with acknowledged data submission: Jul 2023, Aug 2023, Sep 2023

NICU Key Performance Indicators	Rate (%)	Status	Benchmark rates (%)			NICU Comparator rates (%)	
			Target (green)	Warning (yellow)	Alert (red)	Other Neonatal Level 2c hospitals	Ontario
2 Rate of normal infant temperature (36.5 to 37.5 C inclusive) on primary admission to NICU for inborn infants (excluding Therapeutic Hypothermia).	65.3	●	≥85	75-84	<75	75.7	76.9

Data source: BORN Ontario, 2023-2024

Humber River Regional Hospital - Wilson Site (Neonatal Level 2c), 01-Feb-2025 to 30-Apr-2025.
Months with acknowledged data submission: Feb 2025, Mar 2025, Apr 2025

NICU Key Performance Indicators	Rate (%)	Status	Benchmark rates (%)			NICU Comparator rates (%)	
			Target (green)	Warning (yellow)	Alert (red)	Other Neonatal Level 2c hospitals	Ontario
2 Rate of normal infant temperature (36.5 to 37.5 C inclusive) on primary admission to NICU for inborn infants (excluding Therapeutic Hypothermia).	85.9	●	≥85	75-84	<75	74.5	76.7

Data source: BORN Ontario, 2024-2026

Figure 2. NICU BORN Dashboard for Sept 2023 and April 2025.

SUMMARY OF RESULTS

Through engaging with BORN documentation and NICU data, HRH was able to implement targeted strategies to improve infant body temperature on NICU admission. The percentage of infants admitted to the NICU with normal body temperature increased from 65% to 85.9% in September 2025 (Figure 1), successfully meeting the BORN KPI target. This improvement highlights the effectiveness of targeted education, data-driven interventions, and proper equipment utilization in enhancing neonatal care and outcomes.

LESSONS LEARNED

Data-driven strategies, consistent staff education, and proper transport practices are crucial for sustaining quality improvements in neonatal thermoregulation and achieving KPI targets.

