

The Impact of the Tennessee Initiative for Perinatal Quality Care

"Optimal Cord Clamping Improvement" Project



TIPQC

Tennessee Initiative for Perinatal Quality Care

www.tipqc.org

PROBLEM

The World Health Organization has recommended that at birth, neonates receive at least 60 seconds of placentally transfused blood before the umbilical cord is clamped. This practice has been shown to have many benefits for the newborn, including reducing morbidity and mortality, improving neurodevelopment outcomes for the infant, reducing the incidence of late-onset sepsis, reducing the need for blood transfusions, and reducing the need for hypotension treatment. Despite this, low rates of delayed cord clamping occur. According to Quinn, et al,* every 10% increase in the rate of delayed cord clamping among preterm infants at a hospital was associated with a 5% lower hospital mortality rate.

ACTION

The aim of this project was to increase the percentage of infants born in participating TN delivering facilities that have their umbilical cord clamped at least 60 seconds after birth to 90% by June 2023.

The project was launched by five (5) pilot teams in January 2022. Detailed educational instruction occurred at TIPQC's Annual Conference and the project was made available in May 2022. An additional 22 hospitals joined and all 27 have remained active. The participating hospitals were provided a toolkit, QI education, data collection tools, content education from nationally recognized experts, and a road map for implementation. Teams participated in monthly huddles, quarterly learning sessions, and annual state-wide meetings, as well as coaching calls from TIPQC. Based on their current practice, these teams implemented evidence-based procedures, protocols, and potentially best practices.

Monthly outcome measures captured by each facility included: all live births, infants who had their cord clamped after 60s, and race. Balancing measures included: 5-minute Apgar and first temperature. Monthly data capture began in January 2022 for the pilot teams and in May 2022 for the non-pilot teams. Data was shared in aggregate and by facility to evaluate current practices and opportunities for improvement.

EXPLANATION OF IMPACT

During the project, 61,642 infants, representing 83% of the live births in the participating hospitals, received cord clamping ≥ 60 seconds after birth.

Upon completion of the project, provider and nurse education process measures were completed at the goal level of 90% in 88% and 92% of the participating facilities, respectively. By June 2023, 26 out of 27 (96%) of teams reported integration of DCC documentation into the EMR.

Project Statistics

83%

Infants had their umbilical cord clamped ≥ 60 seconds after birth at the completion of the project.

69%

Increase (across the 5 pilot teams) in the percent of infants who had their umbilical cord clamped ≥ 60 seconds after birth

13%

Increase (across the 22 active non-pilot teams) in the percent of infants who had their umbilical cord clamped ≥ 60 seconds after birth

27

All 11 of Tennessee's Maternal Level of Care III and IV hospitals participated in the project and 16 Maternal Level of Care I and II hospitals.

61,642

Infants impacted by this project, who received optimal cord clamping

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EXPLANATION OF IMPACT, CONTINUED

As shown in Figure 1, (January 2022 – June 2023) the five pilot hospitals (Wave 1 – blue line) have seen a 69% increase in the mean percentage of infants (live births) who had their umbilical cord clamped ≥ 60 seconds after birth (from 51% to 86%). From May 2022 to May 2023, the twenty-two active non-pilot teams (Wave 2 – orange line) had a 13% increase.

As seen in Figure 2, when looking at this data as a collaborative during the first 9 months the rate of delayed cord clamping was 76%. A favorable shift was noted in October of 2022 and showed a mean rate of 87% that was sustained throughout the project.

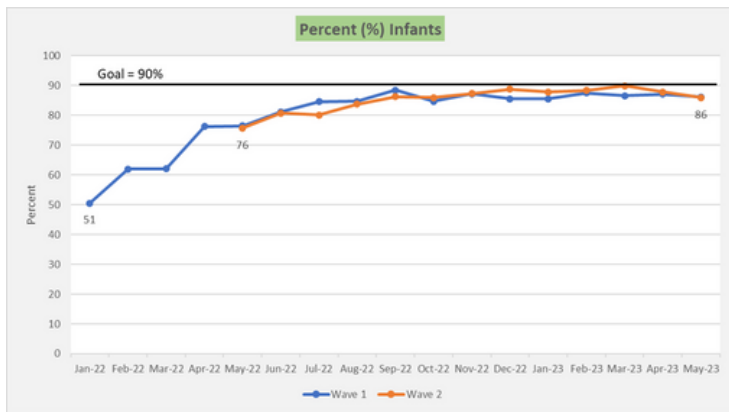


Figure 1

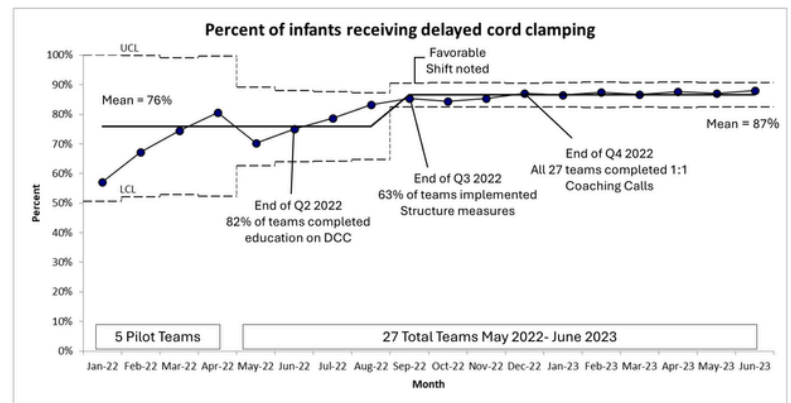


Figure 2

WHO WAS RESPONSIBLE

The collaborative and statewide efforts of TIPQC and the participating hospitals have all contributed to this improvement.

CONTACT

For more information, please contact Brenda Barker, TIPQC Executive Director, at brenda.barker@TIPQC.org, or visit our website at www.tipqc.org.

*Quinn, et al, *Delayed Cord Clamping Uptake and Outcomes for Infants Born Very Preterm in California*, AM J Perinatology. 2022 Nov. DOI:1055/A-175-4607.