The Impact of the Tennessee Initiative for Perinatal Quality Care

"Promotion of Safe Vaginal Delivery" Project

TIPQC
Tennessee Initiative for Perinatal Quality Care

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PROBLEM

Nationally, there is a push to reduce the number of unnecessary cesareans (c-section) due to the increased risk for hemorrhage, infection, and blood loss, as well as longer recovery times associated with c-section births.

From 2018- 2022, the cesarean delivery rate in Tennessee (TN) remained above 32% (CDC). According to LeapFrog data, the rate of c-section births among nulliparous, term, singleton, vertex (NTSV) pregnancies range from 11% to 42% among responding TN birthing hospitals.

With the Healthy People Goal of 2030, TIPQC adapted the Alliance for Innovation on Maternal Health (AIM) Reduction of c-section project in helping TN hospitals to lower their cesarean delivery rates for nulliparous, term, singleton, vertex (NTSV) pregnancy.

ACTION

In November of 2022, TIPQC launched the Promotion of Safe Vaginal Delivery (PVD) Project with 6 pilot teams. The project promoted safe vaginal delivery for ALL mothers presenting with a NTSV and thus aimed to decrease NTSV c-section delivery rates to <23.6% (Healthy People Goal 2030).

In May of 2023, 29 additional teams joined the 6 pilot teams. 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. TIPQC provided extensive educational opportunities during monthly huddles, in person trainings, and resource sharing. In 2023 and 2024, TIPQC sponsored 11 Spinning Babies® courses to educate more labor and delivery nurses, obstetricians, midwives, and doulas on various physiological techniques to support vaginal delivery. TIPQC also conducted a Labor Culture Survey with Dr. White Van Gompel for 27 hospitals which helped identify different areas for improvement and assess culture issues on each unit.

Monthly outcome measures captured by each facility included: c-section delivery rate among NTSV population and c-section delivery rate among NTSV population after labor induction. The aggregate data for these outcome measures was stratified as well. Balancing measures included percent of 5-minute APGAR scores ≤ 5 among NTSV vaginal births and percent of maternal complications among NTSV vaginal births. Monthly data capture began in November 2022 for the pilot teams and in March 2023 for the non-pilot teams. Data was shared in aggregate and by facility to evaluate current practices and opportunities for improvement.

EXPLANATION OF IMPACT

As seen in Figure 1, Outcome Measure #1, (Q4 2022 to Q3 2024), the six pilot hospitals (Wave 1 – blue line) have seen a relative increase of 3.0 % (27.3% to 28.3%) during the 22 months of participation. These teams have a median value of 28.1% and an average rate of 27.8%.

Project Statistics

63%

of hospital teams met Outcome Measure #1 in the last 6 months of the project

60%

of hospital teams met Outcome Measure #2 in the last 6 months of the project

30,813

NTSV deliveries included

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These teams have a median value of 28.1% and an average rate of 27.8%. Non-pilot hospitals (Wave 2 – orange line) have seen a relative decrease of 7.0% (28.4% to 26.6%) during the 19 months of participation. These teams have a median value of 28.0% and an average of 27.9%.

As seen in Figure 2 for Outcome Measure #2, the pilot hospitals (Wave 1- blue line) have seen a 23% relative reduction and non-pilot hospitals (Wave 2- orange line) have seen a 3% reduction. At sustainment (September 2024), the rate of Outcome Measure #1 is 27.8% for the full collaborative, which is higher than the desired goal of 23.6%.

In the past 6 months, 63% of teams met Outcome Measure #1 and 60% met Outcome Measure #2 at least twice. From November 2022 to September 2024, data analysis for Outcome Measure #1 included 30,813 NTSV deliveries (total number of women with live births who are having their first birth ≥ 37 weeks gestation and have a singleton in vertex (cephalic) position. Of these deliveries, there were 8,562 deliveries with a cesarean birth.

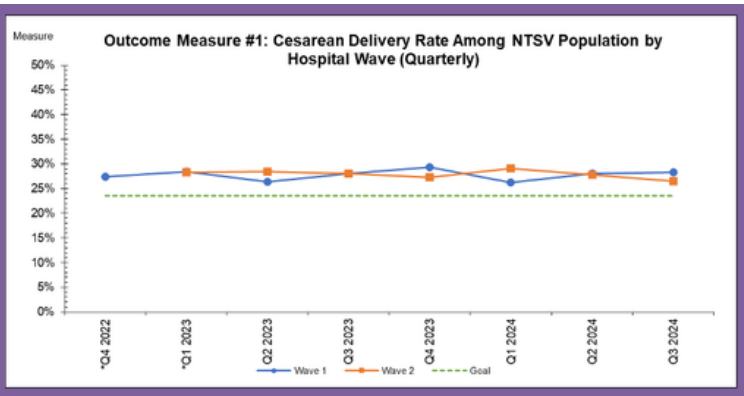

Figure 1: OM #1

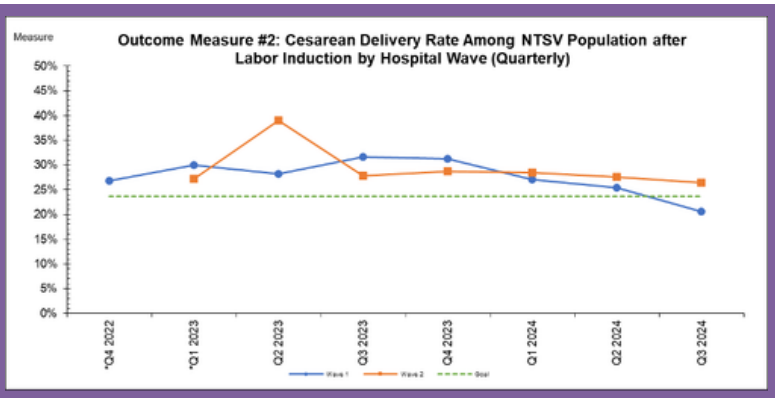

Figure 2: OM #2

Process and structure measures were collected quarterly by the teams, as well. Process measures 1a and 2a focused on provider and nursing education on safe support of labor and vaginal births, reported out as a cumulative total. In Q3 2024 17 teams (49%) provided education to 90-100% of their *providers* compared to 13 teams (37%) in Q4 2023. In Q3 2024, 22 teams (63%) provided education to 90-100% of their *nursing staff* compared to 11 teams (31%) in Q4 2023. Structure Measures, reported on a Likert scale, looked at teams progress towards putting and keeping that measure in place, such as a hospital policies and procedures for labor support that were reviewed and updated in the last 2 years (SM3a). By Q3 2024 14 teams (40%) had this measure fully in place compared to 8 teams (23%) in Q4 2023. Structure Measure 5 looked at establishing multidisciplinary case reviews for indications of cesarean births. By Q3 2024 16 teams (46%) had this measure fully in place compared to 3 teams (9%) in Q1 2023.

Prior to entering sustainment each hospital's leader was provided with a survey to rate the efficacy of the education provided throughout the project. As shown in Figure 3, tools such as Spinning Babies ®, staff education and collaborative learning proved to be the most helpful interventions. In 2023 and 2024, TIPQC sponsored 11 Spinning Babies® courses which trained over 130 individuals in labor positioning. One attendee wrote "*Our primary c-section rate has decreased from 30% in one quarter to 19% the next after a group of staff attending Spinning Babies® workshop.*"

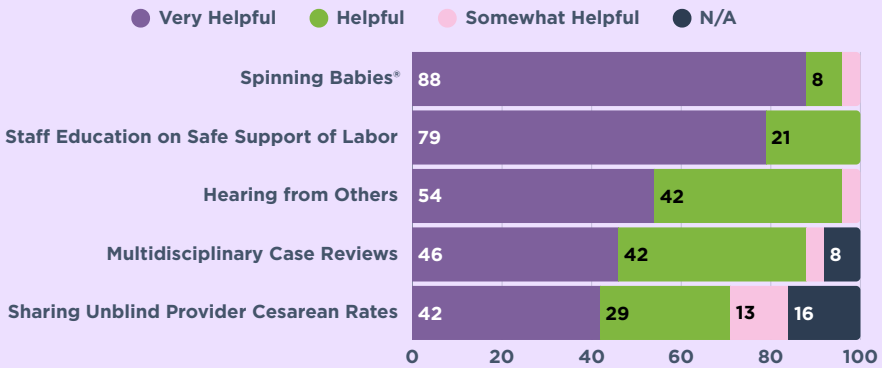

Figure 3: Post Project Survey

WHO WAS RESPONSIBLE

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

CONTACT

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