

UTILIZING KEY PERFORMANCE INDICATORS TO DRIVE QUALITY IMPROVEMENT INITIATIVES IN THE BIRTHING UNIT



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DESCRIPTION

Elective repeat Caesarean-sections (C-sections) performed prior to 39 weeks gestation in low-risk pregnancies are associated with increased maternal and neonatal morbidity. In Ontario, the Better Outcomes Registry and Network (BORN) tracks the proportion of low-risk women who have a repeat C-section between 37 and 39 weeks' gestation. The target for this Key Performance Indicator (KPI) is 11%. At Humber River Health (HRH) Birthing Unit (BU) baseline rate of 48.1% from July to August 2023, exceeding the provincial comparator rate of 26.8% (Figure 1), highlighting a need for improvement.

OBJECTIVE

To reduce the rate of low-risk repeat C-sections performed before 39 weeks gestation as outlined in evidence-based guidelines and BORN KPI targets.

ACTIONS TAKEN

Unit-level KPI data from BORN was analyzed to establish baseline rates, assess trends, and determine the issue. An interdisciplinary approach was taken to align practices with clinical guidelines, leverage data for improvement, and drive accountability through structured feedback loops. A formal audit system was introduced: nurse leads reviewed C-section bookings four weeks in advance, mindful of patient experience, and flagged all low-risk C-sections prior to 39 weeks. The Most Responsible Physician (MRP) received a template letter (Figure 3) from the Chief of Obstetrics, Program Director and BU leadership team advising them to update the medical indication for C-section or reschedule after 39 weeks.

Key Performance Indicators	Rate (%)	Status	Benchmark rates (%)			Comparator rates (%)		
			Target (green)	Warning (yellow)	Alert (red)	Other Neonatal Level 2c hospitals	Other 2500-4000 birth volume hospitals	Ontario
4 Proportion of women with a cesarean section performed from <37 to <39 weeks' gestation among low-risk women having a repeat cesarean section at term.	48.1	●	<11.0	11.0-15.0	>15.0	31.0	24.2	26.8

Figure 1. BORN KPI Benchmark and Comparator Rate from July 2023 to September 2023– Retrospective Review

Key Performance Indicators	Rate (%)	Status	Benchmark rates (%)			Comparator rates (%)		
			Target (green)	Warning (yellow)	Alert (red)	Other Neonatal Level 2c hospitals	Other 2500-4000 birth volume hospitals	Ontario
4 Proportion of women with a cesarean section performed from <37 to <39 weeks' gestation among low-risk women having a repeat cesarean section at term.	21.2	●	<11.0	11.0-15.0	>15.0	38.7		22.4

Figure 2. BORN KPI Benchmark and Comparator Rate from November 2024 to January 2025 – Post-Intervention Review

Subject: Review of Caesarean Section Bookings

As part of our ongoing Quality improvement initiatives, we are conducting a review of all caesarean section bookings to ensure adherence to best practice guidelines. Specifically, we are verifying that elective low-risk caesarean sections are not scheduled before 39 weeks of gestation.

In our recent review, we have noted that your office has scheduled an elective low-risk caesarean section prior to 39 weeks gestation:

Patient Name:

Date & Time:

We kindly request that you review this booking. If this caesarean section is being performed for a different medical indication, please update the booking information accordingly. However, if this is a low-risk repeat caesarean section, we will not be able to proceed with the booking as scheduled. We kindly request you reschedule the procedure to a date when the patient will be at least 39 weeks gestation, and respond to this email in 3-5 days please.

Your continued collaboration in this matter is greatly appreciated as we strive to enhance our clinical practices and ensure the best outcomes for our patients. Thank you!

Sincerely,
Birthing Unit Medical and Leadership Team

Figure 3. Template Letter Sent to MRP to Advise on Medical Indication of C-Section

Proportion of Women with a Cesarean Section Performed from ≥37 to <39 Weeks' Gestation Among Low-Risk Women Having a Repeat Cesarean Section at Term

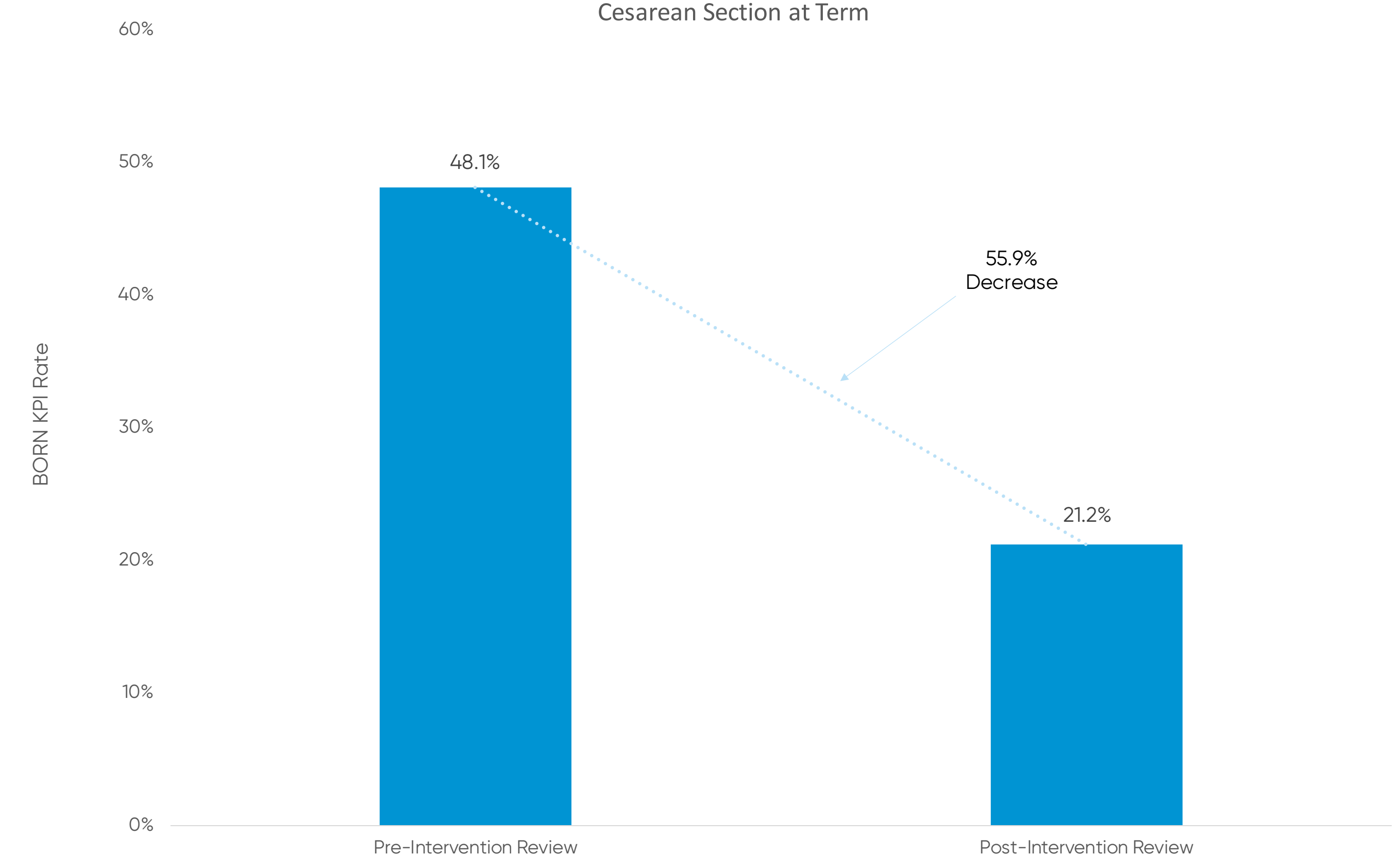


Figure 4. Post-Intervention Analysis of Change Percentage for BORN KPI Rate from July 2023 to January 2025

SUMMARY OF RESULTS

Audits influenced system changes in ensuring accurate documentation of primary reason for C-section and appropriate booking of elective C-section after 39 weeks gestation. The rate of low-risk repeat C-sections performed less than 39 weeks gestation decreased from 48.1% (Figure 2) to 21.2% (November 2024 to January 2025), representing a 55.9% relative reduction (Figure 4). While the target of 11% has not yet been reached, this significant improvement demonstrates early success in changing clinical practice and supporting safer maternal and neonatal outcomes.

LESSONS LEARNED

Sustained progress will involve ongoing chart review audits, real-time performance monitoring, and expanding education on timing of delivery.

