



Maternal Newborn Dashboard - Key Performance Indicator Criterion Reference Guide

This reference guide is provided to assist hospital users to better understand the criterion used to calculate the rates and proportion values for each of the six key performance indicators (KPIs) of the BORN Maternal Newborn Dashboard, as available in the BORN Information System (BIS).

The KPI criterion are defined by the pertinent BIS data elements that are used to calculate the rates and proportion values for the respective Maternal Newborn Dashboard KPI, as shown on each of the following tabs - one tab per KPI.

As well, pick-list values for each data element when selected will result in a patient record to be either included or excluded for a given KPI based on the KPI criterion definition, as illustrated in the tables on the following tabs.

In addition, the numerator and denominator definitions for each KPI are provided.

Lastly, the 'Definition of indicator' and 'Notes' corresponding to each KPI tab from the Maternal Newborn Dashboard report are shown on each of the following tabs for each KPI.

Last updated October 2, 2013



BORN Maternal Newborn Dashboard Frequently Asked Questions (FAQs)

Q1. Why isn't Cesarean Section Rate one of the Key Performance Indicators of the Maternal Newborn Dashboard?

A1. Measuring the overall Cesarean Section (CS) rate is too complex an issue to handle a single indicator on the Maternal Newborn Dashboard (MND). The overall CS rate indicator was on the original list of indicators under consideration for MND development; however, it got prioritized below KPIs that were selected by an expert panel who evaluated the list of KPIs and rated them against the evaluation criteria: 1) clinically meaningful; 2) feasible to measure (the Robson CS Monitoring report hadn't been developed at that time therefore, detailed analysis was a challenge); 3) amenable to change (complex issues to tackle with a multitude of factors that influence the CS rate). The Maternal Newborn Outcomes Committee (MNOC) Dashboard Subcommittee agreed that it would be more appropriate to examine a more specific CS related issue within the realm of CS issues (e.g. the current KPI 4 on elective repeat CS (ERCS) <39 weeks) as a starting place and leave the broader CS question for future consideration.

[See the response to question 5 of the BORN Information System \(BIS\) Reporting Roadmap & FAQ \(under 'Quick reference guides'\).](#)

Cesarean Section data can be obtained from the following BIS reports:

- Robson Cesarean Section Monitoring Report
- Profile of Birth – Birth/Mother
- Key Indicator - Maternal Summary

Q2. 'Newborn Feeding at Discharge' was selected as 'Breastmilk Only'; however, the 'Reason For Breastmilk Substitute' was completed, even though breastmilk was not substituted. This is contradictory, how should we handle this issue?

A2. The *BORN Data Collection Review Committee* is working to assess inclusion of a validation rule in the BIS to remove collection for 'Reason for Breastmilk Substitute' when a newborn was exclusively breastfed. This committee will implement the following enhancements: for breastmilk substitution, if 'Newborn Feeding at Discharge' is selected as 'Breastmilk Only', then 'Reasons For Breastmilk Substitute' cannot be selected as 'No Breastmilk Substitute'.

Q3. 'Newborn Feeding at Discharge' vs. from birth to discharge

A3. In collaboration with the Breastfeeding Committee of Canada (BCC), BORN is working to rename the 'Newborn Feeding at Discharge' data element such that the period of feeding is better defined.

Q4. Are there definitions for the reasons for unsatisfactory samples in KPI 1?

[A4. For detailed information about newborn blood spot collection, submitter education and support, as well as resources for health care providers and parents please follow this link: http://www.newbornscreening.on.ca/bins/content_page.asp?cid=7-177-207-216](http://www.newbornscreening.on.ca/bins/content_page.asp?cid=7-177-207-216)



KPI 1 - Proportion of newborn screening samples that were unsatisfactory for testing, by submitting hospital and comparator groups

Numerator: number of unsatisfactory newborn screening samples submitted by a given hospital (submitter) as recorded by Newborn Screening Ontario (NSO)

Denominator: total number of newborn screening samples submitted by a given hospital (submitter) as recorded by NSO

KPI 1 Criterion
Reason for Unsatisfactory Sample
If reason selected by NSO, record is INCLUDED in KPI
✓ Lab Unsatisfactory - Blood spots appear clotted or layered
✓ Lab Unsatisfactory - Blood spots appear diluted
✓ Lab Unsatisfactory - Blood spots appear scratched or abraded
✓ Lab Unsatisfactory - Blood spots are supersaturated
✓ Lab Unsatisfactory - Blood spots are wet and/or discoloured
✓ Lab Unsatisfactory - Quantity of blood insufficient
✓ Lab Unsatisfactory - Specimen delivered to lab >14 days after collection
✓ Data Unsatisfactory - Blood dot collection paper is expired
✓ Data Unsatisfactory - Blood spots appear to be damaged or delayed in transit
✓ Data Unsatisfactory - Insufficient data provided
✓ Other Unsatisfactory - Other

Definition of indicator *The number of newborn screening samples that are unsatisfactory for testing, expressed as a percentage of the total number of newborn screening samples submitted to Newborn Screening Ontario (NSO) from a given organization (as noted on the newborn screening requisition as the 'Submitting Health Care Provider').*

- Notes**
- 1. Samples coded as unsatisfactory due only to collection at <24 hours of age (i.e., there are no other reasons the sample was deemed unsatisfactory) were not considered unsatisfactory for this analysis, since sample collection at <24 hours of age is recommended in cases of early discharge, transfer, or transfusion.*
 - 2. Reporting hospital and comparator hospital data are shown regardless of data acknowledgement for any given month, as data for this indicator is reported from Newborn Screening Ontario.*
 - 3. If values for a particular category or section are zero for both the reporting hospital and comparator groups, the rows are suppressed.*
 - 4. Neonatal Level of Care was chosen for comparator data as Maternal Level of Care designations were created by The Provincial Council for Maternal and Child Health (PCMCH) in 2011 and were not available prior to this date.*
 - 5. There will be no missing data for the 'NSO unsatisfactory samples' KPI. Each sample provided to NSO must fall into one of two categories: satisfactory or unsatisfactory. This determination will always be available for each sample.*
 - 6. If 'No data' for a given time period, represents no births.*



KPI 2 - Rate of episiotomy in women who had a spontaneous vaginal birth

Numerator: number of women who had an episiotomy

Denominator: total number of women who had a spontaneous vaginal birth

KPI 2 Criterion	
Episiotomy (M0512)	Type of Birth (M0503)
<p>If selected, record is INCLUDED in KPI</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Medio-lateral <input checked="" type="checkbox"/> Midline <p>If selected, record is EXCLUDED from KPI</p> <ul style="list-style-type: none"> <input type="checkbox"/> None <input type="checkbox"/> Unknown 	<p>If selected, record is INCLUDED in KPI</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Spontaneous Vaginal Birth <p>If selected, record is EXCLUDED from KPI</p> <ul style="list-style-type: none"> <input type="checkbox"/> Assisted Vaginal <input type="checkbox"/> Induced or Spontaneous Labour Cesarean Section <input type="checkbox"/> No Labour - Cesarean Section <input type="checkbox"/> Vaginal (from Niday)

Definition of indicator The number of women who had a spontaneous vaginal birth with episiotomy, expressed as a percentage of the total number of women who had a spontaneous vaginal birth (in a given place and time).

- Notes**
- Reporting hospital data are shown only if data have been acknowledged for submission for a given month.
 - Quarterly values for hospital data are only shown when all three months in that quarter are reported and acknowledged for the reporting hospital. Quarterly values are not calculated for comparator data, as these values may differ from those shown on the dashboard landing and home page, which require that all three months of data in the reporting period be acknowledged for submission.
 - Comparator data are shown only if a minimum of three or more hospitals within the comparator group have acknowledged their data submission for a given month. The 'Hospitals with acknowledged data submission' column indicates the number of hospitals who have acknowledged their data submission out of the total number of hospitals in the comparator group for a given month. The comparator groups 'Other same level of care hospitals' and 'Other similar birth volume hospitals', exclude data from the reporting hospital. The Ontario comparator group includes data from the reporting hospital. If applicable, 'No data' indicates that there are no records meeting the criterion for all comparator hospitals who have acknowledged data for a particular indicator for a given month.
 - Neonatal Level of Care was chosen for comparator data as Maternal Level of Care designations were created by The Provincial Council for Maternal and Child Health (PCMCH) in 2011 and were not available prior to this date.
 - Caution should be taken when interpreting data if the proportion of 'Missing data' is greater than 5%. Missing data represents records where episiotomy type and/or parity is unknown.
 - If 'No data' for a given time period, represents no births.



KPI 3 - Rate of formula supplementation at discharge in term infants whose mothers intended to breastfeed

Numerator: number of term infants whose mothers intended to breastfeed and who received formula supplementation at discharge home

Denominator: total number of term infants discharged home whose mothers intended to breastfeed

KPI 3 Criterion			
Gestational Age at Birth (N0014)	Intention to Breastfeed (M0047)	Newborn Discharged or Transferred To	Newborn Feeding at Discharge (N0044)
If selected, record is INCLUDED in KPI <input checked="" type="checkbox"/> ≥ 37 weeks + 0 days	If selected, record is INCLUDED in KPI <input checked="" type="checkbox"/> Yes	If selected, record is INCLUDED in KPI <input checked="" type="checkbox"/> Home	If selected, record is INCLUDED in KPI <input checked="" type="checkbox"/> Formula Only <input checked="" type="checkbox"/> Combination
If selected, record is EXCLUDED from KPI <input checked="" type="checkbox"/> ≤ 36 weeks + 6 days	If selected, record is EXCLUDED from KPI <input checked="" type="checkbox"/> No	If selected, record is EXCLUDED from KPI <input checked="" type="checkbox"/> CAS Apprehension <input checked="" type="checkbox"/> Transfer to NICU/SCN other Hospital <input checked="" type="checkbox"/> Transfer to NICU/SCN same Hospital <input checked="" type="checkbox"/> Transfer to Paediatric unit	If selected, record is EXCLUDED from KPI <input checked="" type="checkbox"/> Breastmilk Only <input checked="" type="checkbox"/> NA <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> Unknown

Definition of indicator

The number of term infants receiving formula supplementation at discharge home, expressed as a percentage of the total number of term infants discharged home whose mothers intended to breastfeed (in a given place and time).

Notes

1. Intention to breastfeed indicates whether the mother intends to breastfeed her infant. This is self-reported during pregnancy or at the time of birth.
2. Reporting hospital data are shown only if data have been acknowledged for submission for a given month.
3. Quarterly values for hospital data are only shown when all three months in that quarter are reported and acknowledged for the data submission for a given month. The 'Hospitals with acknowledged data submission' column indicates the number of hospitals who have acknowledged their data submission out of the total number of hospitals in the comparator group for a given month. The comparator groups 'Other same level of care hospitals' and 'Other similar birth volume hospitals', exclude data from the reporting hospital. The Ontario comparator group includes data from the reporting hospital.
5. Neonatal Level of Care was chosen for comparator data as Maternal Level of Care designations were created by The Provincial Council for Maternal and Child Health (PCMCH) in 2011 and were not available prior to this date.
6. Caution should be taken when interpreting data if the proportion of 'Missing data' is greater than 5%. Missing data represents records with unknown newborn feeding type at discharge.
7. If 'No data' for a given time period, represents no births.



KPI 5 - Proportion of women who delivered at term and had Group B Streptococcus (GBS) screening at 35-37 weeks' gestation

Numerator: number of women who delivered at term and had GBS screening at 35-37 weeks' gestation

Denominator: total number of women who delivered at term (≥37 weeks' gestation)

Note: the number of women who delivered at term and did not have GBS screening at 35-37 weeks' gestation are also presented in the MND report

KPI 5 Criterion	
Gestational Age at Birth (N0014)	Group B Strep Screening Results (35-37 weeks) (M0527)
<p>If selected, record is INCLUDED in KPI <input checked="" type="checkbox"/> ≥37 weeks + 0 days</p> <p>If selected, record is EXCLUDED from KPI <input checked="" type="checkbox"/> ≤36 weeks + 6 days</p>	<p>If selected, record is INCLUDED in KPI <input checked="" type="checkbox"/> Negative Result <input checked="" type="checkbox"/> Positive Result <input checked="" type="checkbox"/> Done, result unknown <input checked="" type="checkbox"/> Urine Positive for GBS</p> <p>If selected, record is EXCLUDED from KPI <input checked="" type="checkbox"/> Declined screening <input checked="" type="checkbox"/> Not done <input checked="" type="checkbox"/> Unknown if screened</p>

Definition of indicator *The number of women who delivered at term and had Group B Streptococcus (GBS) screening at 35-37 weeks' gestation (35 weeks + 0 days to 36 weeks + 6 days gestation), expressed as a percentage of the total number of women who delivered at term (in a given place and time). GBS screening protocol based on the Society of Obstetricians and Gynaecologists of Canada (SOGC) Guidelines No. 298, October 2013.*

- Notes**
1. Reporting hospital data are shown only if data have been acknowledged for submission for a given month.
 2. Quarterly values for hospital data are only shown when all three months in that quarter are reported and acknowledged for the reporting hospital. Quarterly values are not calculated for comparator data, as these values may differ from those shown on the dashboard landing and home page, which require that all three months of data in the reporting period be acknowledged for submission.
 3. Comparator data are shown only if a minimum of three or more hospitals within the comparator group have acknowledged their data submission for a given month. The 'Hospitals with acknowledged data submission' column indicates the number of hospitals who have acknowledged their data submission out of the total number of hospitals in the comparator group for a given month. The comparator groups 'Other same level of care hospitals' and 'Other similar birth volume hospitals', exclude data from the reporting hospital. The Ontario comparator group includes data from the reporting hospital.
 4. Neonatal Level of Care was chosen for comparator data as Maternal Level of Care designations were created by The Provincial Council for Maternal and Child Health (PCMCH) in 2011 and were not available prior to this
 5. Caution should be taken when interpreting data if the proportion of 'Missing data' is greater than 5%. Missing data represents records where the GBS screening result is unknown.
 6. If 'No data' for a given time period, represents no births.



KPI 6 - Proportion of women who were induced with an indication of post-dates and were less than 41 weeks' gestation at delivery

Numerator: number of women who were induced with an indication of post-dates and were less than 41 weeks' gestation at delivery

Denominator: total number of women who were induced with an indication of post-dates

KPI 6 Criterion		
Gestational Age at Birth (N0014)	Type of Labour (M0502)	All indications for induction of labour (D0039)
If selected, record is INCLUDED in KPI <input checked="" type="checkbox"/> ≤40 weeks + 6 days	If selected, record is INCLUDED in KPI <input checked="" type="checkbox"/> Induced	If selected, record is INCLUDED in KPI <input checked="" type="checkbox"/> Fetal Post dates
If selected, record is EXCLUDED from KPI <input checked="" type="checkbox"/> ≥41 weeks + 0 days	If selected, record is EXCLUDED from KPI <input checked="" type="checkbox"/> Spontaneous <input checked="" type="checkbox"/> No Labour	If selected in combination with 'Post dates' record is still INCLUDED in KPI <input checked="" type="checkbox"/> Fetal Atypical or Abnormal Fetal Surveillance <input checked="" type="checkbox"/> Fetal Fetal anomalies <input checked="" type="checkbox"/> Fetal Demise <input checked="" type="checkbox"/> Fetal Isoimmunization/Alloimmunization <input checked="" type="checkbox"/> Fetal IUGR <input checked="" type="checkbox"/> Fetal Macrosomia <input checked="" type="checkbox"/> Fetal Multiple gestation <input checked="" type="checkbox"/> Fetal Other Fetal Complication <input checked="" type="checkbox"/> Fetal Termination of Pregnancy <input checked="" type="checkbox"/> Maternal Diabetes <input checked="" type="checkbox"/> Maternal History of precipitous delivery <input checked="" type="checkbox"/> Maternal Oligohydramnios <input checked="" type="checkbox"/> Maternal Other Obstetrical Complications/Concerns <input checked="" type="checkbox"/> Maternal Polyhydramnios <input checked="" type="checkbox"/> Maternal Pre-existing maternal medical conditions <input checked="" type="checkbox"/> Maternal Preeclampsia/Hypertension <input checked="" type="checkbox"/> Maternal Prelabour rupture of membranes (PROM) <input checked="" type="checkbox"/> Maternal Preterm prelabour rupture of membranes (PPROM) <input checked="" type="checkbox"/> Other Accommodates Care Provider/Organization <input checked="" type="checkbox"/> Other Distance from birth hospital/Safety precaution <input checked="" type="checkbox"/> Other Maternal Request <input checked="" type="checkbox"/> Unknown

Definition of indicator
Notes

The number of women who were induced with an indication for induction of labour of post-dates (>41 weeks gestation) and were actually less than 41 weeks' gestation (less than or equal to 40 weeks + 6 days gestation), expressed as a percentage of the total number of women who were induced with an indication for induction of labour of post-dates (in a given time and place). Indication

- 1. Reporting hospital data are shown only if data have been acknowledged for submission for a given month.*
- 2. Quarterly values for hospital data are only shown when all three months in that quarter are reported and acknowledged for the reporting hospital. Quarterly values are not calculated for*
- 3. Comparator data are shown only if a minimum of three or more hospitals within the comparator group have acknowledged their data submission for a given month. The 'Hospitals with*
- 4. Neonatal Level of Care was chosen for comparator data as Maternal Level of Care designations were created by The Provincial Council for Maternal and Child Health (PCMCH) in 2011 and were not*
- 5. If 'No data' for a given time period, represents no births.*