

ORN Better Outcomes Registry & Network Registre et Réseau des Bons Résultats dès la naissance

Using Data to Support Quality Maternal Newborn Care – Lessons Learned in Ontario

Perinatal NB – Perinatal Education Day May 28, 2018

> Ann Sprague, RN, PhD Project Advisor - BORN Ontario



• I have no conflicts of interest to report

 I receive a salary from BORN Ontario – a program at the Children's Hospital of Eastern Ontario



The Journey Begins

Hospital Specific CS Rates for Robson 1, 2a, 2b combined in Low Risk Women, Sorted in Ascending Order, 2007/08 – 2011/12



Ontario

Quality in Maternal Newborn Care

- Pregnancy, birth and the early newborn period are times of *high utilization of health care services.*
- There are potential missed opportunities for health promotion, safety issues and increased costs for the individual and the system when quality is not well defined or measured.
 - Almost all women have multiple contacts with the health care system, including consultation with a variety of care providers, diagnostic testing and a hospital admission.
 - Most newborns also spend time in hospital and a small percentage require intensive care.



Quality in Healthcare

- How Do You Measure it?
 - Many quality frameworks exist
 - Consistent to most is care that is:





Quality Care – Are You Providing It?

- Do you have quality indicators for your workplace?
- Do you have a way of measuring these?



- Do you get regular feedback/monitor these indicators?
- ✓ Do you seek feedback from care providers and those who receive your care?
- ✓ Do you have a plan for what to do if you are not meeting your quality targets?
- ✓ Do your stakeholders know your quality targets?
- Do you compare yourselves to others and learn from them?



QUALITY IN ONTARIO – THE BORN STORY



What is **BORN**?

- BORN is a **REGISTRY**: granted status under the *Personal* Health Information Privacy Act (PHIPA) in Nov 2009
- Allows BORN to collect, use and disclose personal health information **without consent** for the purpose of "facilitating or improving the provision of health care".



This special authority requires BORN to develop and adhere to rigorous privacy policies and have them reviewed and *approved* by the Ontario Information and Privacy Commissioner



BORN Purposes

- 1. Identify individuals or settings where appropriate care has not been received and facilitate access to care and treatment for mothers, infants and children.
- 2. Facilitate **continuous improvement** of healthcare delivery tools to minimize adverse outcomes.
- 3. Determine where maternal and/or newborn outcomes are clinically or statistically discrepant with accepted norms and raise alerts where necessary.





BORN Purposes (continued)

- 4. Enable health care providers to improve care by providing information & tools to **compare their outcomes and performance** with peers and/or benchmarks.
- 5. Identify areas where **best practice evidence needs implementation** (knowledge translation strategies) to improve the quality and efficiency of care for mothers, infants and children.
- 6. Create reports that can be used to provide the Ministry of Health and Long-Term Care, Local Health Integration Networks and Public Heath Units with comprehensive and timely information for mothers, babies and children.





DATA IN – DATA OUT



1,136,480

Babies in the BORN Information System (as of Mar 31, 2018)





9,315 system users across 200+organizations (Mar, 2018)





Impact



Ontario

Births in Ontario Per Year





Improvement

- Performance improvement first requires:
 - Healthcare professionals to be aware of evidence-practice gaps and
 - **To agree** about the need for and direction of change.
- Audit and feedback can be used to drive quality improvement by helping users identify areas where practice is good or there is room for improvement





NB Perinatal Health Program Report of Indicators | 2011–2016







Cochrane Database of Systematic Reviews

Audit and feedback: effects on professional practice and healthcare outcomes (Review)

Ivers N, Jamtvedt G, Flottorp S, Young JM, Odgaard-Jensen J, French SD, O'Brien MA, Johansen M, Grimshaw J, Oxman AD

- A 2012 Cochrane review (140 RCTs) concluded that audit and feedback interventions yielded a median 4.3% increase in provider compliance with practice recommendations (IQR: 0.5%–16%).
- Audit and feedback is more effective when:
 - Baseline performance is low
 - Provided more than once
 - Explicit targets and an action plan are included



Maternal Newborn Dashboard (MND)

- Reports on selected KPIs (feedback)
- Compares performance to established ideal (benchmarks)



 Provides alerts (signals) to trigger action when performance is sub-optimal

MND launched Nov 19, 2012

Allows these users to better meet their quality mandate as set out in the *Excellent Care for All Act (2010)*.







Measuring Quality in Maternal-Newborn Care: Developing a Clinical Dashboard

Ann E. Sprague, RN, PhD,¹ Sandra I. Dunn, RN, PhD,¹ Deshayne B. Fell, MSc,¹ JoAnn Harrold, MD, FRCPC,^{2,} Mark C. Walker, MD, FRCSC,^{1,3,4} Sherrie Kelly, MSc,¹ Graeme N. Smith, MD, PhD, FRCSC⁵

- Rigorous dashboard development process
- Key stakeholders SMEs
 - Clinical practice, KT, performance measurement, analysis, research, policy)
- Key Performance Indicator (KPI) selection
 - Clinically meaningful
 - Feasible to measure
 - Amenable to change

- Evidence-based
 benchmarks & evidence
 summaries
 http://www.bornontario.ca/en/born-information-system/report-training/
- Multi-functional design features to present data and facilitate audits
- Communication and Implementation plan





Maternal Newborn Dashboard (MND): A KT Intervention for Quality Improvement

MND launched Nov 19, 2012

Allows these users to better meet their quality mandate as set out in the *Excellent Care for All Act (2010)*.



Date report run: 10-June-2013 (allow 1 month lag in May for data acknowledgement) Maternal Newborn Dashboard - Home Page

Hospital, 1-Feb-2013 to 30-Apr-2013. Months with acknowledged data submission: February, March, April.

Key Performance Indicators				Bei	nchmark rates	(%)	Comparator rates Other Other 100		(%)
		Rate (%)	Status	Target (green)	Warning (yellow)	Alert (red)	Neonatal Level IIc hospitals	2499 birth volume - hospitals	Ontario
1	Proportion of newborn screening samples that were unsatisfactory for testing	1.9	•	<2.0	2.0-3.0	×3.0	4.0	4.3	4.5
2	Rate of episiotomy in women who had a spontaneous vaginal birth	16.8	0	<13.0	13.0-17.0	>17.0	15.7	15.2	18.3
3	Rate of formula supplementation at discharge in term infants whose mothers intended to breastfeed	40.1	•	<20.0	20.0-25.0	>25.0	40.2	39.7	39.8
4	Proportion of women with a cesarean section performed from ≥37 to <39 weeks' gestation among low-risk	52.8	•	<11.0	11.0-15.0	×15.0	54.3	62.5	51.0
5	women having a repeat cesarean section at term Proportion of women who delivered at term and had Group B Streptococcus (CBS) composing at 25-37 weaks'	97.0	•	>94.0	90.0-94.0	<90.0	97.1	96.9	97.3
6	gestation Proportion of women who were induced with an	9.5	0	<5.0	5.0-10.0	>10.0	10.1	9.6	18.0
	indication of post-dates and were less than 41 weeks' gestation at delivery								

MND Key Performance Indicators

	Key Performance Indicators	Target %	Warning %	Alert %
1.	Proportion of newborn screening samples unsatisfactory for testing	<2.0	2.0-3.0	>3.0
2.	Rate of episiotomy in women who had a spontaneous vaginal birth	<13.0	13.0-17.0	>17.0
3.	Rate of formula supplementation at discharge in term infants whose mothers intended to breastfeed	<20.0	20.0-25.0	>25.0
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, by hospital of birth and comparator groups	<11.0	11.0-15.0	>15.0
5.	Proportion of women who delivered at term who had GBS screening at 35-37 weeks' gestation	>94.0	90.0-94.0	<90.0
6.	Proportion of women who were induced with an indication of post-dates and were less than 41 weeks' gestation at delivery	<5.0	5.0-10.0	>10.0



What the User Sees in the BIS

				Benchmark values (%)			Comparator values (%)		
Key	Performance Indicators	Rate (%)	Status	Target (green)	Warning (yellow)	Alert (red)	Other Neonatal Level IIc hospitals	Other 1001- 2499 birth volume hospitals	Ontario
1	Proportion of newborn screening samples that were unsatisfactory for testing	1.2	•	<2.0	2.0-3.0	>3.0	1.1	1.5	1.1
2	Rate of episiotomy in women who had a spontaneous vaginal birth	12.3	•	<13.0	13.0-17.0	>17.0	15.6	10.0	11.2
3	Rate of formula supplementation at discharge in term infants whose mothers intended to breastfeed	35.6	•	<20.0	20.0-25.0	>25.0	34.0	33.6	32.7
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	42.3	•	<11.0	11.0-15.0	>15.0	45.8	48.0	41.1
5	Proportion of women who delivered at term and had Group B Streptococcus (GBS) screening at 35-37 weeks' gestation	90.2	•	>94.0	90.0-94.0	<90.0	92.3	88.7	91.4
6	Proportion of women who were induced with an indication of post-dates and were less than 41 weeks' gestation at delivery	17.2	•	<5.0	5.0-10.0	>10.0	22.6	27.4	19.1



Maternal Newborn Dashboard Study

Purpose:

• To evaluate the effect of an electronic audit and feedback system on six key performance indicators (KPIs) in Ontario

Explore:

- Attributes of the dashboard
- Organizational factors
- Facilitation/resource factors

Multi-phased, mixed methods design

Dunn et al. Implementation Science (2016) 11:59 DOI 10.1186/s13012-016-0427-1

Implementation Science

Open Access

STUDY PROTOCOL

A mixed methods evaluation of the maternal-newborn dashboard in Ontario: dashboard attributes, contextual factors, and facilitators and barriers to use: a study

protocol

Sandra Dunn^{9*}, Ann E. Sprague⁹, Jeremy M. Grimshaw², Ian D. Graham³, Monica Taljaard⁴, Deshayne Fell¹, Wendy E. Peterson⁵, Elizabeth Darling⁶, JoAnn Harrold⁷, Graeme N. Smith⁸, Jessica Reszel⁹, Andrea Lanes¹, Carolyn Truskoski¹⁰, Jodi Wilding¹, Deborah Weiss¹ and Mark Walker¹¹







Methods - ITS

- Data (2009-2015)
 - BORN Registry datasets Niday & BIS
 - Perinatal Services BC data external controls
- Study time period
 - 3 years pre-MND implementation and 2 years post-implementation.
 - 5 month implementation time period was censored from the analysis.

Analysis

- Segmented regression (accounting for serial autocorrelation)
- Effect of the MND was assessed at 30 months post-implementation
- Measured as both the absolute and relative differences between observed KPI rates and KPI rates predicted based on preimplementation trends



Results - ITS

Downloaded from http://qualitysafety.bmj.com/ on November 25, 2017 - Published by group.bmj.com

ORIGINAL RESEARCH



Effect of a population-level performance dashboard intervention on maternal-newborn outcomes: an interrupted time series study

Deborah Weiss,¹ Sandra I Dunn,^{1,2} Ann E Sprague,^{1,2} Deshayne B Fell,^{2,3} Jeremy M Grimshaw,⁴ Elizabeth Darling,⁵ Ian D Graham,⁴ JoAnn Harrold,^{6,7} Graeme N Smith,⁸ Wendy E Peterson,⁹ Jessica Reszel,^{1,2} Andrea Lanes,^{1,4,10} Mark C Walker,^{1,3,4,10,11,12} Monica Taljaard⁴

http://qualitysafety.bmj.com/content/early/2017/11/23/bmjqs-2017-007361





Summary

- At 30 months post-implementation:
 - 1.5 fewer episiotomies per hundred women
 - 10.4 fewer per hundred repeat CS prior to 39 weeks in low risk women
 - 2.8 more women receiving GBS screening at the right time
 - 11.7 fewer inductions per hundred for post-dates for women less than 41 weeks at delivery
- No effect of Dashboard on internal or external validation indicators
 - In fact two indicators in BC worsened



IMPACT of the Dashboard -Provincial

- Our results indicate that over 30 months, the Dashboard was associated with:
 - 1825 fewer women undergoing an elective repeat caesarean delivery prior to 39 weeks, with a resultant reduced risk of adverse outcomes for newborns;
 - 2990 fewer episiotomies;
 - 3188 fewer inductions for postdates prior to 41 weeks
 - 7990 more women receiving appropriately timed GBS screening.



Case Study - OBJECTIVE

The objective of the *case study phase* of the study was:

To improve our understanding about the factors that explain variability in performance after implementation of the Maternal Newborn Dashboard.



METHODS (cont'd)

Data collection:

- Individual and dyadic interviews
- Focus groups
- Observations (with photographs and researcher notes)
- Document review



METHODS (cont'd)

Data analysis:

- Conventional content analysis
- Additional data sources helped to corroborate our findings
- Interpretive summary for each site written according to guiding questions
- Classification of hospitals into one of four quadrants according to their level of buy-in/effort and performance on the Dashboard



RESULTS

 Between June to November 2016, we visited 14 sites and met with 107 people



RESULTS (cont'd)



Barriers and Facilitators

			Domain		Facilitators		Barriers	Outcome	
		Q1	Structure	•	Small interprofessional	•	Lack of resources		
enga	L OW agement		Process	•	teams Less "red tape" Less patient turnover Focus on data entry	•	No formal change process	HIGH performance	
eng:	HIGH agement	Q2	Structure	•	Flattened interprofessional hierarchy Key roles for driving change MND alignment with organizational priorities Sharing MND data Improving data quality Increasing			HIGH performance	
		Q3	Structure	•	interprofessional communication Use of change framework	•	Lack of MND alignment		
enga	L <mark>OW</mark> agement		Process			•	priorities Disconnect between leadership and frontline Lack of team buy-in No formal change targeted	LOW performance	
н	IGH	Q4	Structure			•	Fragmented interprofessional team Lack of knowledge about KPIs	LOW	
enga 35	gement		Process	•	Multiple strategies and attempts to improve on MND	•	No formal change process (or less mature change process) used Variable levels of buy-in from team	performance	E



"Green" Sites Common Themes	"Red" Sites Common Themes				
MND/ BIS "champion" present ¹⁵	No MND/BIS champion ¹⁵				
Leadership support and buy-in ¹¹	Lack of leadership support and buy-in ¹¹				
Believes in the evidence behind the KPIs ¹³	Questioned the credibility of the KPI selection process ¹³				
Feels KPIs align with priorities ¹	Doesn't believe the MND KPIs are a priority or relevant ¹				
Clear accountability and ownership of the data ²	Lack of accountability or ownership ²				
Staff empowerment to communicate interprofessionally ²	Lack of interprofessional communication ²				
Prioritizes data quality and trusts in the data ¹³	No trust in the data ¹³				
Accesses BORN resources, engages with BORN liaison ¹⁵	Do not use BORN resources – not aware of BORN liaison ¹⁵				
	Ontario				

DISCUSSION

What factors explain variability in performance after implementation of the Maternal Newborn Dashboard?

 Our study identified *structural* and *process* facilitators and barriers to using the dashboard for quality improvement in 14 diverse hospital settings



DISCUSSION (cont'd)

How can we use these study findings to improve uptake and use of an audit and feedback system in maternal-newborn care?



IMPLICATIONS

For practice:

- Identifying *a priori* stage of change of the organization for implementing and using the audit and feedback system for quality improvement in their setting
- Developing evidence-based strategies based on stage of change to support hospitals



IMPLICATIONS (cont'd)

For research:

- Future work to identify and test appropriate screening tools and tailored implementation tool kits and support is warranted
- Results of this study will contribute to international audit and feedback scientific community



Other Audit & Feedback – Short

Reports

TWO BIRTH EXPERIENCES IN ONTARIO

Wide variation

exists in the use of interventions during labour and birth across Ontario hospitals.

Some variation is due to the level of care needed to support safe birth when complications arise. However, for healthy pregnant women with no labour complications, birth experiences should be similar.

KATIE and JULIA are both expecting their first child, have similar healthy, low-risk pregnancies and give birth in a hospital with over 500 births/year (n=57 in Ontario). How different are their births?

INDUCTION	CESAREAN BIRTH (C/S)	EXCLUSIVE BREASTFEEDING (EB)
Medication and other techniques are sometimes used to initiate contractions when labour doesn't start on its own. In low- risk pregnancies, induction should only be used when the pregnancy continues beyond 41 weeks of gestation.	A cesarean section is a surgery in which a baby is delivered through an incision in the mother's abdomen. When not medically necessary, cesarean delivery should be avoided to reduce post- surgical complications and reduce the likelihood of needing a cesarean delivery in a future pregnancy.	Breast milk is the best food for babies. It helps with brain development and helps protect infants from infectious illness. Hospitals should support and encourage new mothers to initiate exclusive breastfeeding so that it is well-established by the time mothers and babies are discharged from the hospital.
Lower rate is better	Lower rate is better	Higher rate is better



33.0% EB: (35.5% to 48.3%) Induction: (31.9% to 42.4%) C/S (24.0% to 33.0%)



35.5%

Other Audit & Feedback – Selfgenerated reports

Distribution of type of birth, by hospital, hospital corporation and other same level of care hospitals

X Hospital, 01-Jan-2016 to 31-Mar-2017

	Total nu wome gave	umber of en who birth	Vag	Vaginal		arean	
	n	%	n	%	n	%	•
X General Hospital	466	100.0	340	73.0	126	27.0	•
Other Neonatal Level 1 hospitals	17,585	100.0	12,831	73.0	4,754	27.0	Hospitals with acknowledged data submission

Data source BORN Ontario, 2015-2017

Definition of indicator The number women who had a vaginal or cesarean births, expressed as a percentage of the total number of women who had a live birth or stillbirth (in a given place and time). The 'Other same level of care hospitals' data is expressed as the mean percent of women who had vaginal or cesarean birth from a minimum of three or more hospitals within the same level of care (excluding the reporting hospital(s)).

See General Notes

Notes

1. 'Other same level of care hospitals' data shown has been acknowledged for submission on a monthly basis. Data from the reporting hospital(s) may or may not have been acknowledged for submission.

2. If applicable, 'Other same level of care hospitals' data with cell sizes <6 will be suppressed and represented as S.

3. Caution should be taken when interpreting data if the proportion of 'Missing data' is greater than 5%.





NB Perinatal Health Program Report of Indicators | 2011–2016



New Report – Lots of Good Info

- Are you ready to choose a provincial QI project?
- A project that is:
 - meaningful (evidence supported, reduces costs, means a lot to families, just right to do)
 - feasible to undertake (doesn't take heaven and earth to change practice!)
 - fairly easy to measure



A Clinical Example

Cesarean Birth

- What is the rate?
- What's driving the rate?
- Do you know what the rate should be?
- Where do you want to improve?
- Are you willing to set a benchmark?
- Who should monitor?
- What is the 'carrot' or 'stick'





- Improving c/s rates the potential solutions
 - Reduce primary cesarean (these will become your repeats in subsequent years)
 - Increase VBAC
- Where will you get the most bang for your buck?



Cesarean Section – NB Report

Table 2.1: C-section Rate, by birthing hospital and year, New Brunswick, 2011/12-2015/16

Pirthing Encility	C-Section Rate						
Birtining Facility	2011/12	2012/13	2013/14	2014/15	2015/16		
Campbellton Regional Hospital	40.2%	32.8% 🔻	31.9% 🔻	30.6% 🔻	23.6% 🔻		
Chaleur Regional Hospital	26.8%	28.8% 🔺	37.7% 🔺	33.3% 🔻	32.6% 🔻		
Dr. Everett Chalmers Regional Hospital	30.1%	30.6% 🔺	30.9% 🔺	30.0% 🔻	30.4% 🔺		
Dr. Georges-LDumont University Hospital Centre	25.3%	29.3% 🔺	25.9% 🔻	30.1% 🔺	30.5% 🔺	NB	
Edmundston Regional Hospital	29.8%	31.1% 🔺	27.3% 🔻	24.0% 🔻	29.0% 🔺	20	
Miramichi Regional Hospital	38.4%	40.0% 🔺	35.6% 🔻	34.3% 🔻	32.4% 🔻	20.	
The Moncton Hospital	29.7%	28.8% 🔻	26.0% 🔻	27.8% 🔺	31.5% 🔺		
Saint John Regional Hospital	20.3%	20.3%	21.3% 🔺	21.2% 🔻	19.5% 🔻		
Upper River Valley Hospital	24.7%	26.1% 🔺	27.6% 🔺	23.1% 🔻	30.7% 🔺		

ON Comparison – 2014-2016

- No labour c/s 14.4% (repeats or primary elective)
- Induced or spont labour c/s 12.9%

Total 27.3



Cesarean Section Rate by LHIN among Low Risk

Women

Is this the area for improvement?

(Ontario, 2014-2015 to 2015-2016)

		C-SE	C-SECTION RATE AMONG LOW RISK WOMEN						
	LHIN OF BIRTH	2014	-2015	2015	2016				
		N	(%)	N (%)					
1	Erie St. Clair	322	20.6	284	19.1				
2	South West	445	16.8	438	17.6				
3	Waterloo Wellington	375	18.5	397	20.2				
4	Hamilton Niagara Haldimand Brant	649	18.7	612	18.2				
5	Central West	469	22.9	522	24.4				
6	Mississauga/Halton	368	20.1	470	16.9				
7	Toronto Central	807	20.9	752	19.8				
8	Central	723	17.6	958	21.0				
9	Central East	715	21.5	683	20.7				
10	South East	169	14.8	191	17.8				
11	Champlain	748	20.3	670	19.7				
12	North Simcoe Muskoka	244	21.9	228	23.0				
13	North East	353	23.4	305	21.3				
14	North West	111	19.5	92	17.6				
	Ontario	6,498	19.7	6,602	19.8				

Definition of low risk women: Hospital birth, nulliparous, full term (between 37 and 42 weeks of gestational age), singleton, live birth, cephalic presentation, without or minor complications of pregnancy, without or minor pre-existing maternal health conditions, no diabetes in pregnancy and no hypertension disorder in pregnancy and age at 35 years old or under.



Repeat C-section – NB Perinatal



New Resources

Quality-Based Procedures Clinical Handbook for Low Risk Birth

The Provincial Council for Maternal and Child Health & Ministry of Health and Long-Term Care July 27, 2017

Ontario

http://www.health.gov.on.ca/en/pro/programs/ecfa/ docs/hb_low_risk_birth.pdf



ERCS in Low Risk Women 37-39 wks NB Perinatal

Table 2.4 Per cent of term low-risk repeat C-sections delivered between 37 and 39 weeks gestation, by birthing hospital, New Brunswick, 2011/12-2015/16

Pirthing Escility	Low-Risk Term Repeat C-Sections 37-39 Weeks						
Birthing Facility	2011/12	2012/13	2013/14	2014/15	2015/16		
Campbellton Regional Hospital	41.2%	12.8% 🔻	13.7% 🔺	29.0% 🔺	20.8% 🔻		
Chaleur Regional Hospital	16.4%	10.8% 🔻	14.0% 🔺	17.2% 🔺	23.1% 🔺		
Dr. Everett Chalmers Regional Hospital	14.0%	11.1% 🔻	15.4% 🔺	13.9% 🔻	12.2% 🔻		
Dr. Georges-LDumont University Hospital Centre	21.4%	20.8% 🔻	19.2% 🔻	19.6% 🔺	18.4% 🔻		
Edmundston Regional Hospital	16.0%	25.4% 🔺	31.9% 🔺	23.2% 🔻	11.5% 🔻		
Miramichi Regional Hospital	24.4%	28.6% 🔺	35.5% 🔺	32.6% 🔻	28.0% 🔻		
The Moncton Hospital	21.4%	21.9% 🔺	16.1% 🔻	16.7% 🔺	17.5% 🔺		
Saint John Regional Hospital	4.0%	8.5% 🔺	9.3% 🔺	4.3% 🔻	7.6% 🔺		
Upper River Valley Hospital	NR	15.0% 🔺	11.0% 🔻	12.9% 🔺	NR		



The proportion of Women in Ontario with a Caesarean Section Performed from ≥ 37 to < 39 weeks' Gestation among Low-risk Women having a Repeat Caesarean Section at Term

(Ontario, April 2014 to March 2016, by quarter)





Costs associated with ERCS between37-39 wks(accepted in JOGC)

April 2013-March 2014.

- We extracted 2875 ERCS dyads at ≤39w, and 3892 dyads at ≥39w.
- There were 216 NICU admissions <39w (0.75%), and 224 ≥39w (0.58%).
- Average neonate cost was \$1268.56 (<39w) versus \$1126.56(≥39w), a difference of \$142.00 per birth. Average dyad cost was \$3605.70 (<39w) versus \$3456.61 (≥39w), a difference of \$149.08.
- If these births were delayed to ≥39 weeks, net annual savings of \$404,842 and \$428,605 would be realized on "baby only" and "dyad" costs
 respectively.

Costs associated with ERCS between 37-39 wks (accepted in JOGC)

When costs are lower, and the outcomes are equal (or better) economists call this a *dominant scenario* (strongest incentive for adoption).

In both years examined, our data suggests that permitting repeat caesarian sections before 39 weeks is an *inefficient use of resources*; using more healthcare dollars for similar outcomes.



VBAC – NB Perinatal

Table 2.2: Crude VBAC Rate, VBAC Attempt Rate and VBAC Success Rate, New Brunswick, 2011/12-2015/16

Location	VBAC Deliveries							
Location	2011/12	2012/13	2013/14	2014/15	2015/16			
Crude VBAC Rate	13.5%	12.1% 🔻	12.1%	12.7% 🔺	12.2% 🔻			
VBAC Attempt Rate	17.0%	15.4% 🔻	16.1% 🔺	16.9% 🔺	17.9% 🔺			
VBAC Success Rate	79.3%	78.8% 🔻	75.2% 🔻	75.3% 🔺	68.1% 🔻			

ON Success Rate Similar

Key factor is defining eligible women



Rate of Attempted VBAC Among Eligible Women with 1-2 Previous Cesarean Sections, by LHIN

(Ontario, 2014-2015 to 2015-2016)

		ATTEMP	ATTEMPTED VBAC RATE AMONG ELIGIBLE WOMEN						
	LHIN OF BIRTH	2014	-2015	2015-2016					
		N (%)	N (%)					
1	Erie St. Clair	232	33.3	223	33.9				
2	South West	551	49.0	545	53.9				
3	Waterloo Wellington	268	28.1	309	31.5				
4	Hamilton Niagara Haldimand Brant	510	37.2	557	38.9				
5	Central West	377	52.4	393	57.5				
6	Mississauga/Halton	406	43.0	392	43.0				
7	Toronto Central	610	34.0	539	40.5				
8	Central	489	29.0	478	28.9				
9	Central East	558	38.1	584	35.5				
10	South East	162	35.4	148	29.8				
11	Champlain	560	38.5	569	40.5				
12	North Simcoe Muskoka	121	26.1	143	28.4				
13	North East	170	25.9	177	28.4				
14	North West	97	37.5	112	40.3				
	Ontario	5,111	36.4	5,169	38.0				

Data source: BORN Ontario, 2014-2015 to 2015-2016

Definition of indicator: Rate of attempt by eligible women, expressed as a percentage of women with 1-2 previous cesarean sections who attempted a trial of labor. We excluded: 1. Women without previous CS; 2. Previous uterine rupture; 3. Women declined TOL with planned scheduled repeated CS; 4. Women with placenta previa or placenta abruption or mal-presentation; 5. Not eligible for VBAC is clearly identified in dataset



Successful VBAC Rate by LHIN in Eligible Women with 1-2 Previous Cesarean Sections

Ontario 2014-2015 and 2015-2016

		SUCCESSFUL VBAC RATE AMONG WOMEN WITH ATTEMPTED VBAC						
	LHIN OF BIRTH	2014	-2015	2015-2016				
		N ((%)	N (%)				
1	Erie St. Clair	149	64.2	158	70.9			
2	South West	425	77.1	415	76.2			
3	Waterloo Wellington	210	78.4	231	74.8			
4	Hamilton Niagara Haldimand Brant	371	72.8	391	70.2			
5	Central West	237	62.9	244	62.1			
6	Mississauga/Halton	240	59.1	263	67.1			
7	Toronto Central	380	62.3	356	66.1			
8	Central	341	69.7	305	63.8			
9	Central East	378	67.7	391	67.0			
10	South East	111	68.5	101	68.2			
11	Champlain	378	67.5	372	65.4			
12	North Simcoe Muskoka	81	66.9	93	65.0			
13	North East	112	65.9	112	63.3			
14	North West	68	70.1	83	74.1			
	Ontario	3,481	68.1	3,515	68.0			

2.1% of records were excluded for missing data

Data source: BORN Ontario, 2014-2015 to 2015-2016 **Definition of indicator**: Successful vaginal birth after attempted trial of labour following 1-2 previous cesarean sections among all women who attempted VBAC



New Resources

Quality Standards

Vaginal Birth After Caesarean

Care for People Who Have Had a Caesarean Birth and Are Planning Their Next Birth





Summary

This quality standard addresses care for people who have had a Caesarean birth and are planning their next birth. It focuses on care for people who are pregnant with one baby who is head-down and at full term. The primary goals of this quality standard are to improve access to safe vaginal birth after Caesarean delivery and promote informed shared decision-making. Achieving these objectives is also expected to increase Ontario's rate of planned vaginal births after Caesarean over time.



OTHER AREAS RIPE FOR A QI PROJECT?

DO THEY MEET THE CRITERIA:

- CLINICALLY MEANINGFUL
- FEASIBLE TO MEASURE
- ACTIONABLE



Pirthing Facility	Episiotomy						
Birthing Facility	2011/12	2012/13	2013/14	2014/15	2015/16		
Campbellton Regional Hospital	55.5%	52.7% 🔻	49.6% 🔻	55.2% 🔺	51.1% 🔻		
Chaleur Regional Hospital	9.0%	9.6% 🔺	14.4% 🔺	22.8% 🔺	20.4% 🔻		
Dr. Everett Chalmers Regional Hospital	9.2%	9.4% 🔺	8.0% 🔻	6.9% 🔻	9.8% 🔺		
Dr. Georges-LDumont University Hospital Centre	4.1%	5.5% 🔺	6.0% 🔺	6.6% 🔺	6.0% 🔻		
Edmundston Regional Hospital	35.4%	31.0% 🔻	27.0% 🔻	27.3% 🔺	20.2% 🔻		
Miramichi Regional Hospital	21.6%	11.1% 🔻	12.4% 🔺	17.5% 🔺	17.3% 🔻		
The Moncton Hospital	8.5%	8.7% 🔺	7.1% 🔻	9.0% 🔺	11.7% 🔺		
Saint John Regional Hospital	8.2%	8.2%	8.1% 🔻	6.6% 🔻	6.9% 🔺		
Upper River Valley Hospital	NR	NR	NR	NR	NR		

Table 2.5: Episiotomy Rate for singleton vaginal deliveries, by birthing hospital, New Brunswick, 2011/12-2015/16



Small numbers lead to greater variability

- Good to see actual #s as well as rates
- Any differences in population?
- Trend over time to see stability



Figure 2.6: Episiotomy Rate for singleton vaginal deliveries, by birthing hospital, New Brunswick, 2015/16

Table 3.1: Per cent of infants admitted to SCU/NICU within the first 28 days of life, by birthing hospital, New Brunswick, 2011/12-2015/16

Pirthing Encility	Primary Special Care Nursery/NICU Admission							
	2011/12	2012/13	2013/14	2014/15	2015/16			
Campbellton Regional Hospital	54.3%	49.7% 🔻	45.8% 🔻	29.2% 🔻	19.6% 🔻			
Chaleur Regional Hospital	36.7%	36.0% 🔻	48.6% 🔺	49.8% 🔺	53.7% 🔺			
Edmundston Regional Hospital	14.6%	16.0% 🔺	18.3% 🔺	19.8% 🔺	16.3% 🔻			
The Moncton Hospital*	38.5%	31.5% 🔻	34.6% 🔺	32.8% 🔻	35.4% 🔺			
Saint John Regional Hospital*	31.8%	32.4% 🔺	33.5% 🔺	28.1% 🔻	29.4% 🔺			
Dr. Everett Chalmers Regional Hospital*	29.9%	27.3% 🔻	30.9% 🔺	30.5% 🔻	38.4% 🔺			
& Upper River Valley Hospital								



Figure 3.5: Per cent of infants admitted to SCU/NICU within the first 28 days of life, by birthing hospital, New Brunswick, 2015/16

NICU Care

•

- Very costly
 - Separates mothers and babies
- Report by Level of care or GA or birth weight for more specificity



ON - NICU Dashboard in Development

- Rate of primary SCN/NICU admissions of inborn infants ≥ 36 weeks' gestation without intervention
- Proportion of primary admissions to SCN/NICU of inborn infants ≥ 35 weeks' gestation receiving room air as the initial gas used during resuscitation (in the 1st 30 minutes of life)
- Rate of infants receiving mother's own breast milk in hospital, who continue to receive mother's own breast milk at discharge from SCN/NICU*
- Rate of normal infant temperature (36.5 C to 37.5 C inclusive) for inborn infants on primary admission to SCN/NICU



Birthing Encility	Exclusive Breastfeeding Rate					
	2013/14	2014/15	2015/16			
Campbellton Regional Hospital	54.9%	57.2% 🔺	53.0% 🔻			
Chaleur Regional Hospital	58.7%	55.0% 🔻	58.4% 🔺			
Dr. Everett Chalmers Regional Hospital	59.2%	60.2% 🔺	59.5% 🔻			
Dr. Georges-LDumont University Hospital Centre	75.3%	73.4% 🔻	60.9% 🔻			
Edmundston Regional Hospital	56.2%	52.0% 🔻	45.5% 🔻			
Miramichi Regional Hospital	48.7%	53.1% 🔺	46.9% 🔻			
The Moncton Hospital	59.9%	55.7% 🔻	52.6% 🔻			
Saint John Regional Hospital	59.4%	59.1% 🔻	60.2% 🔺			
Upper River Valley Hospital	56.6%	58.8% 🔺	57.8% 🔻			

Table 3.3: Exclusive Breastfeeding Rate, by birthing hospital, New Brunswick, 2013/14-2015/16



Figure 3.8: Exclusive Breastfeeding Rate, by birthing hospital, New Brunswick, 2015/16



Baby-Friendly Initiative Indicators Summary Report



Rates of Supplementation - With (B) and without (C) Documented Medical Reasons

	Rate (%)	Jan 2015	Feb 2015	Mar 2015	Apr 2015	May 2015	Jun 2015	Jul 2015	Aug 2015	Sep 2015	Oct 2015	Nov 2015	Dec 2015
	В	14.6	11.2	12.3	16.7	11.1	14.4	17.8	13.2	10.7	13.5	15.5	15.3
	с	16.2	17.8	17.1	13.1	10.7	10.6	15.7	14.0	16.1	16.2	16.7	16.5
Total(B+C)		30.8	29.0	29.4	29.8	21.8	25.0	33.5	27.2	26.8	29.7	32.2	31.8

Data source BORN Ontario, 2014-2016

Notes

1. (B) The number of breastfed infants who received at least one feed other than human milk (human milk substitute, water, or other fluids with the exception of medications, or vitamins or mineral drops) in the hospital because of documented medical reason(s).

2. (C) The number of breastfed infants who received at least one feed other than human milk (human milk substitute, water, or other fluids with the exception of medications, or vitamins or mineral drops) in the hospital without any documented medical reason(s).

 This report includes all live births and follows the infant from birth to discharge from hospital. The report combines the postpartum child and NICU encounters for the reporting organization only. The report includes only live births in the reporting hospital, and excludes cases where the birth occured in another setting.
 Missing data is excluded from Keys B and C. Percentage calculations for B and C use BI as their denominator.

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Value of a Perinatal Program

- Able to offer assistance connecting high performing hospitals with those that need assistance
- Awareness if the first step to dealing with practice issues
 - Hospitals and gov't have a responsibility for quality care
- A provincial community-of-practice group should be able to tackle some key issues

Change is complex – a recipe for success is partnership





What we Learned in Ontario

• Successful sites:

- Take responsibility for the practice issue 'own the problem'
- KPIs that align with organizational priorities
- Leadership buy-in and support
- Onsite champion to manage and shepherd change
- Trust, rely on and are accountable for their data (data driven culture)
- Strong motivated IP teams that problem solve practice issues together
- Continuously strive to improve
- Experienced and resourced to support change
- Well established communication networks internal and external
- Share their data publically
- And the list goes on....!



What I've Learned about QI Projects

- Don't need a fancy data collection system
- Pick a few indicators to start (avoid indicator fatigue)
- Assess barriers and facilitators in advance!!
- Find a way to monitor each month
- Communicate relentlessly about what you want to achieve
- Regular feedback and help to struggling sites
- Celebrate success
- If you wait for perfect, you'll never start



Ongoing Dashboard Development

- ART Dashboard
 - KPIs selected

NICU Dashboard

- KPIs selected
- Dashboard report under development

MND Dashboard

- Revisions and updates pending
- New KPIs recommended
- Liaising with other provincial organizations involved in quality care



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- Jessica Reszel RN MScN (Research Coordinator)
- Deborah Weiss PhD (Epidemiologist/Analyst)
- Holly Ockenden MSc (Research Assistant)
- Grad Students:
 - Andrea Lanes MSc, PhD(c)
 - Ashley Desrosiers BScN
 - Kira Friesen, RN MScN
 - Carolyn Truskoski RN MScN

- Investigators
 - Sandra Dunn RN PhD (Co-PI)
 - Mark Walker MD FRCSC (Co-PI)
 - Ann Sprague RN PhD
 - Monica Taljaard PhD
 - Deshayne Fell PhD
 - Wendy Peterson RN PhD
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Questions? ? <u>www.BORNOntario.ca</u> info@BORNOntario.ca

Ann Sprague, RN PhD asprague@bornontario.ca





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