# Quality-Based Procedures Clinical Handbook for Low Risk Birth

**The Provincial Council for Maternal and Child Health & Ministry of Health and Long-Term Care**

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Ontario

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# Quality-Based Procedures Clinical Handbook: Low Risk Birth

## 1.0 Purpose

This Clinical Handbook has been created to serve as a compendium of the evidence-based rationale and clinical consensus driving the development of the policy framework and implementation approach for the Low Risk Birth QBP.

This document has been prepared for informational purposes only. This document does not mandate health care providers to provide services in accordance with the recommendations included herein. The recommendations included in this document are not intended to take the place of the professional skill and judgment of health care providers.

# 2.0 Introduction

The Ministry of Health and Long-Term Care (Ministry) established Health System Funding Reform (HSFR) in Ontario in 2012 with a goal to develop and implement a strategic funding system that promotes the delivery of quality health care services across the continuum of care, and is driven by evidence and efficiency. HSFR is based on the key principles of quality, sustainability, access, and integration, and aligns with the four core principles of the ***Excellent Care for All Act*** (ECFAA):

- Care is organized around the person to support their health;
- Quality and its continuous improvement is a critical goal across the health system;
- Quality of care is supported by the best evidence and standards of care; and
- Payment, policy, and planning support quality and efficient use of resources.

Since its inception in April 2012, the Ministry has shifted much of Ontario's health care system funding away from the current global funding allocation (currently representing a large portion of funding) towards a funding model that is founded on payments for health care based on best clinical evidence-informed practices.

Principles of ECFAA have been further reinforced first by Ontario's Action Plan for Healthcare in January 2012, and recently with Patients First: Action Plan for Healthcare in February 2015, which signals positive transformational activity which will require adaptive responses across sectors and organizational levels at a time of accelerated change. The Ministry's commitment is to make Ontario the best healthcare system in the world.

The 2012 Action Plan identified HSFR as a lever to advance quality and ensure that the right care gets provided at the right place and at the right time. HSFR focuses on delivering better quality care and maintaining the sustainability of Ontario's universal public health care system. Ontario is shifting the focus of its health care system away from one that has primarily been health care provider-focused, to one that is patient-centred. The 2015 Action Plan continues to put patients at the heart of the health care system by being more transparent and more accountable to provide health care in a way that maximizes both quality and value.

HSFR comprises 2 key components:

1. Organizational-level funding, which will be allocated as base funding using the Health-Based Allocation Model (HBAM); and
2. Quality-Based Procedure (QBP) funding, which will be allocated for targeted activities based on a "(price x volume) + quality" approach premised on evidence-based practices and clinical and administrative data.

## 2.1 'Money follows the patient'

Prior to the introduction of HSFR, a significant proportion of hospital funding was allocated through a global funding approach, with specific funding for select provincial programs, wait times services and other

targeted activities. However, a global funding approach may not account for complexity of patients, service levels and costs, and may reduce incentives to adopt clinical best practices that result in improved patient outcomes in a cost-effective manner. These variations in patient care evident in the global funding approach warranted the move towards a system where 'money follows the patient".

Under HSFR, provider funding is based on: the types and quantities of patients providers treat, the services they deliver, the quality of care delivered, and patient experience/outcomes. Specifically, QBPs incent to health care providers to become more efficient and effective in their patient management by accepting and adopting clinical best practices that ensure Ontarians get the right care, at the right time and in the right place.

QBPs were initially implemented in the acute care sector, but as implementation evolves, they are being expanded across the continuum of care, including into the community home care sector, in order to address the varying needs of different patient populations.

Internationally, similar models have been implemented since 1983. While Ontario is one of the last leading jurisdictions to move down this path, this positions the province uniquely to learn from international best practices and pitfalls, in order to create a sustainable, efficient and effective funding model that is best suited for the province and the people of Ontario.

## 2.2 What are Quality-Based Procedures?

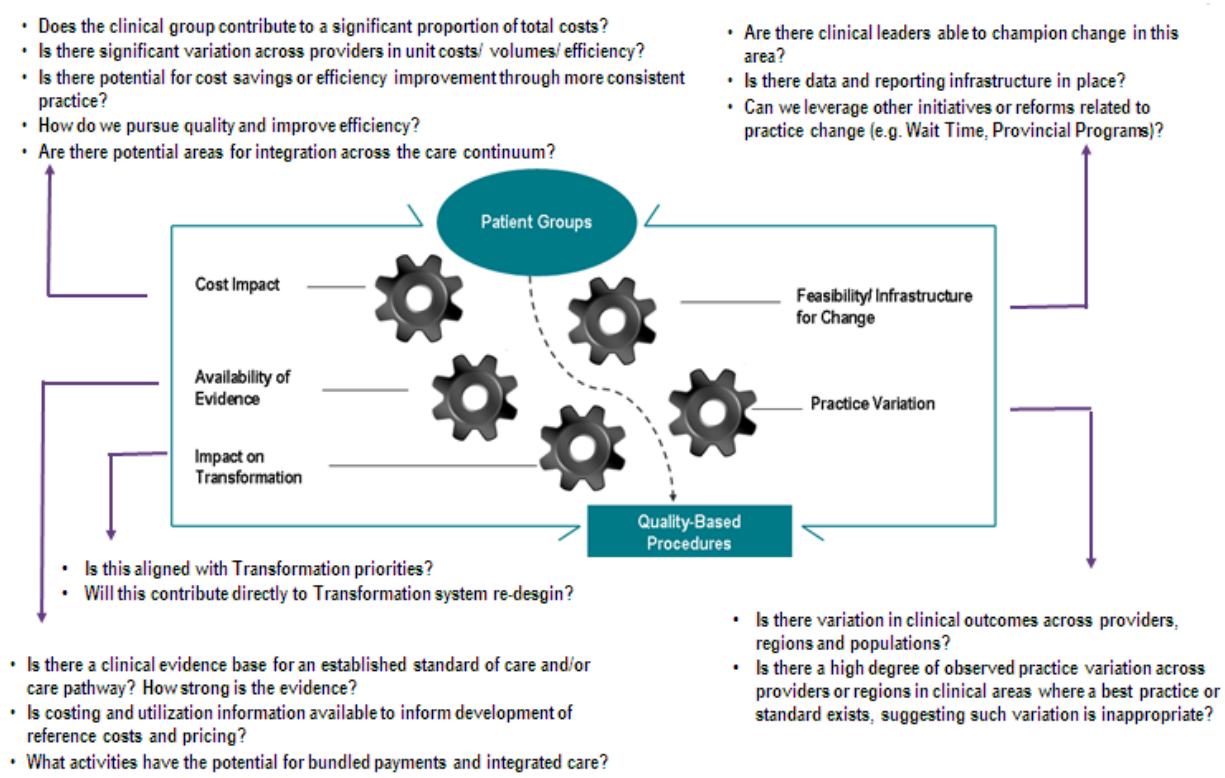
QBPs are clusters of patients with clinically related diagnoses or treatments that have been identified using an evidence-based framework as providing opportunity for process improvements, clinical re-design, improved patient outcomes, enhanced patient experience, and potential health system cost savings.

Initially developed in the acute (hospital) sector, QBPs were defined as "procedures." However, as implementation evolved since the introduction of QBPs in 2012, so too has the approach. Currently, the expanded focus is on care provided in other parts of the health care sector with a focus on a more functional/programmatic/population-based approach. As a result, the definition of QBPs is expanding to include Quality-Based Procedures, Programs and Populations.

QBPs have been selected using an evidence-based framework. The framework uses data from various sources such as, but not limited to: the Discharge Abstract Database (DAD) and National Ambulatory Care Reporting System (NACRS) adapted by the ministry for its HBAM repository. The HBAM Inpatient Grouper (HIG) groups inpatients based on the diagnosis or treatment responsible for the majority of their patient stay. Additional data has been used from the Ontario Case Costing Initiative (OCCI), and Ontario Cost Distribution Methodology (OCDM). Evidence published in literature from Canada and international jurisdictions, as well as World Health Organization reports, have also assisted with the definition of patient clusters and the assessment of potential opportunities (e.g. reducing variation, improving patient outcomes, sustainability).

The evidence-based framework assesses patients using five perspectives, as presented in Figure 1. It is this evidence-based framework that has identified QBPs that have the potential to improve quality of care, standardize care delivery across the province and show increased cost efficiency.

Figure 1: Evidence-Based Framework




### 2.2.1 Practice Variation

Practice variation is the cornerstone of the QBP evidence-based framework. A demonstrated large practice or outcome variance across providers or regions in clinical areas, where a best practice or standard exists, represents a significant opportunity to improve patient outcomes through focusing on the delivery of standardized, evidence-informed practices. A large number of 'Beyond Expected Length of Stay' and a large standard deviation for length of stay and costs were flags to such variation.

### 2.2.2 Availability of Evidence

A significant amount of research has been conducted and collected, both nationally and internationally, to help develop and guide clinical practice. Working with clinical experts, best practice guidelines and clinical pathways can be developed for QBPs and establish appropriate evidence-informed indicators. These indicators can be used to measure the quality of care and help identify areas for improvement at the provider level, and to monitor and evaluate the impact of QBP implementation.

### 2.2.3 Feasibility/ Infrastructure for Change

Clinical leaders play an integral role in this process. Their knowledge of the identified patient populations, and the care currently provided and/or required for these patients, represents an invaluable element in the assessment of much needed clinical delivery and clinical process improvements. Many groups of clinicians have already developed care pathways to create evidence-informed practice. There is now an opportunity for this knowledge to be transferred provincially.

### 2.2.4 Cost Impact

The provincial footprint from a financial perspective also impacts the selection of the QBP. This may include QBPs that are high volume and low-cost, as well as those that are low-volume and high costs (i.e. specialized procedures that demonstrate opportunity for improvement).

A selected QBP should have, as a guide, no less than 1,000 cases per year in Ontario and represent at least one percent of the provincial direct cost budget. For patient cohorts that fall below these thresholds, the resource requirements to implement a QBP can be restrictive. Even where the patient cohorts represent an opportunity for improvement, it may not be feasible, even if there are some cost efficiencies, to create a QBP.

### 2.2.5 Impact on Transformation

The ***Action Plan for Health Care*** was launched in January 2012 and is already making a difference to Ontarians and our health care system:

- We've bent the cost curve since 2011/12
- We're improving the health of Ontarians
- We're enhancing the experience of Ontarians when they use the health system
- We're working with our health sector partners to improve the quality of health care

The next phase of Transformation will build on and deepen implementation of the Action Plan. HSFR is a key element of the Health System Transformation Agenda by ensuring sustainability and quality.

Selected QBPs should, where possible, align with the government's transformational priorities. In addition, the impact on transformation of certain patient populations hitherto not prioritized by the framework can be included as QBPs. This will ensure that QBPs are wide ranging in their scope e.g. paediatric patient populations or patients requiring community care. QBPs with a lesser cost impact but a large impact on the provincial health care system may still be a high priority for creation and implementation.

## 2.3 How will QBPs encourage the delivery of high quality, evidence-based care and innovation in health care delivery?

The QBP methodology is driven by clinical evidence and best practice recommendations from the Clinical Expert Advisory Groups (Advisory Groups). Advisory Groups are comprised of cross-sectoral, multi-geographic and multi-disciplinary membership, including representation from patients. Members leverage their clinical experience and knowledge to define the patient populations and recommend best practices.

Once defined, these best practice recommendations are used to understand required resource utilization for QBPs and will further assist in the development of evidence-informed prices. The development of evidence-informed pricing for the QBPs is intended to incent health care providers to adopt best practices in their care delivery models, maximize their efficiency and effectiveness, and engage in process improvements and/or clinical re-design to improve patient outcomes.

Best practice development for QBPs is intended to promote standardization of care by reducing inappropriate or unexplained variation and ensuring that patients get the right care, at the right place and at the right time. Best practice standards will encourage health service providers to ensure that appropriate resources are focused on the most clinically and cost-effective approaches.

QBPs create opportunities for health system transformation where evidence-informed prices can be used as a financial lever to incent providers to:

- Adopt best practice standards;
- Re-engineer their clinical processes to improve patient outcomes;
- Improve coding and costing practices; and
- Develop innovative care delivery models to enhance the experience of patients.

An integral part of the enhanced focus on quality patient care is the development of indicators to allow for the evaluation and monitoring of actual practice and support on-going quality improvement.

In addition, the introduction of additional QBPs such as outpatient and community-based QBPs will further help integrate care across sectors and encourage evidence-based care across the continuum.

# 3.0 Description of Low Risk Birth QBP

Caesarean section rates have increased globally and in Canada during the past two decades. The Caesarean section rate in Canada increased from 17.6% in 1995 to 26.9% in 2010.[1] The Caesarean section rate in Canada has remained relatively stable since 2010.

Concerns regarding the rising Caesarean section rate include: lack of parallel decreases in infant mortality and morbidity, the risk of immediate and long-term maternal and neonatal complications and rising health care costs.[2] As the evidence base for best practices related to Caesarean section continues to develop, there is no agreed upon appropriate rate of Caesarean section. The World Health Organization (WHO) recommends that the Caesarean section rate should not be higher than 10% to 15%.[3] The leading indications for Caesarean section in Ontario include repeat Caesarean section (35% of all Caesarean sections), lack of progress in labour (18%) and abnormal fetal heart rate tracings (15%) (source: BORN Ontario). A review of provincial data at the individual hospital and LHIN level showed significant variation in Caesarean section rates across the province. For example, between 2009 and 2014, the Caesarean section rate varied from 5% to 38% for women in Robson Group 1, age 20-34.

Rather than targeting a specified, optimal rate of Caesarean section, the goal of the Ontario Low Risk Birth QBP is to reduce the variation in Caesarean section rate across the province via the adoption of evidence-based guidelines that promote vaginal birth. The QBP Expert Panel further recommended a focus on the low-risk, first-time mother in spontaneous labour (Robson Group 1). This focus provides a homogeneous group that is applicable to all levels of maternity care and for which there are evidence-based standards of care that promote vaginal birth. In addition, any reduction in primary Caesarean section will positively impact the rate of repeat Caesarean section.

The Expert Panel recognizes that although this clinical handbook has been developed for the QBP's target population, it can also be used to promote vaginal birth in women outside the target population.

An analysis of the factors that may contribute to the variation in Caesarean section rates in the homogeneous cohort (e.g. clinical, provider, patient and setting) was not done in this QBP. It is anticipated that this will be the focus of individual organizations, with the initiation of local quality improvement initiatives as indicated.

### What is the proportion of Caesarean section deliveries versus vaginal deliveries in Ontario?

Between 2006 and 2014, the average rate of Caesarean section deliveries ranged between 27 and 28% for all women who delivered in Ontario.

[1] Kelly, S. (2013). Examining Caesarean Section Rates in Canada Using the Robson Classification System. *Society of Obstetricians and Gynaecologists*. Retrieved from http://www.jogc.com/abstracts/full/201303_Obstetrics_1.pdf
[2] Ibid.
[3] World Health Organization. Appropriate technology for birth. *Lancet* 1985; 2: 436-7.

**Type of delivery for women who gave birth to a live infant at a hospital in Ontario**

| Type of Delivery | Fiscal Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2006/2007 | | 2007/2008 | | 2008/2009 | | 2009/2010 | |
| | n | % | n | % | n | % | n | % |
| Vaginal | 87,803 | 72.2 | 95,236 | 72.1 | 96,476 | 71.3 | 96,799 | 71.6 |
| Caesarean section | 33,800 | 27.8 | 36,829 | 27.9 | 38,816 | 28.7 | 38,462 | 28.4 |
| Missing data | 107 | 0.1 | 140 | 0.1 | 102 | 0.1 | 119 | 0.1 |
| **Total** | **121,710** | **100.0** | **132,205** | **100.0** | **135,394** | **100.0** | **135,380** | **100.0** |

| Type of Delivery | Fiscal Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2010/2011 | | 2011/2012 | | 2012/2013 | | 2013/2014 | |
| | n | % | n | % | n | % | n | % |
| Vaginal | 95,714 | 71.7 | 96,612 | 71.4 | 98,697 | 71.8 | 97,570 | 72.0 |
| Caesarean section | 37,868 | 28.3 | 38,620 | 28.6 | 38,729 | 28.2 | 38,005 | 28.0 |
| Missing data | 400 | 0.3 | 181 | 0.1 | 0 | 0.0 | 0 | 0.0 |
| **Total** | **133,982** | **100.0** | **135,413** | **100.0** | **137,426** | **100.0** | **135,575** | **100.0** |

Data Source: BORN Ontario (2006-2014)
Notes:

1. Missing data indicates delivery type is missing. These values were excluded from the calculation of percentages.
2. Data was extracted from the BORN Information System on March 19, 2015
3. Data for fiscal year 2013/2014 is preliminary and subject to change as two hospital sites (North York General Hospital and Sunnybrook) are still entering/acknowledging their records for quarter 4 (Jan-Mar 2014).
4. Data capture did not reach 100% until fiscal year 2008/2009. Thus any increasing trends in birth rate from 2006 - 2009 could be due to increased data capture and not necessarily trends in the population.

## What are the primary indications for Caesarean section?

Between April 1, 2012 and March 31, 2014 the most prevalent primary indications for Caesarean section for all women who delivered in Ontario were the following (source: BORN Ontario):

1. Previous Caesarean section (35%)
2. Atypical or abnormal fetal surveillance (15%)
3. Malposition/Malpresentation (12%)
4. Nonprogressive 1st stage of labour (11%)
5. Nonprogressive 2nd stage of labour (5%)
6. Other (22%)

For a complete list of rates of the primary indications for Caesarean section, see Appendix A.

## 3.1 Population Group Definition

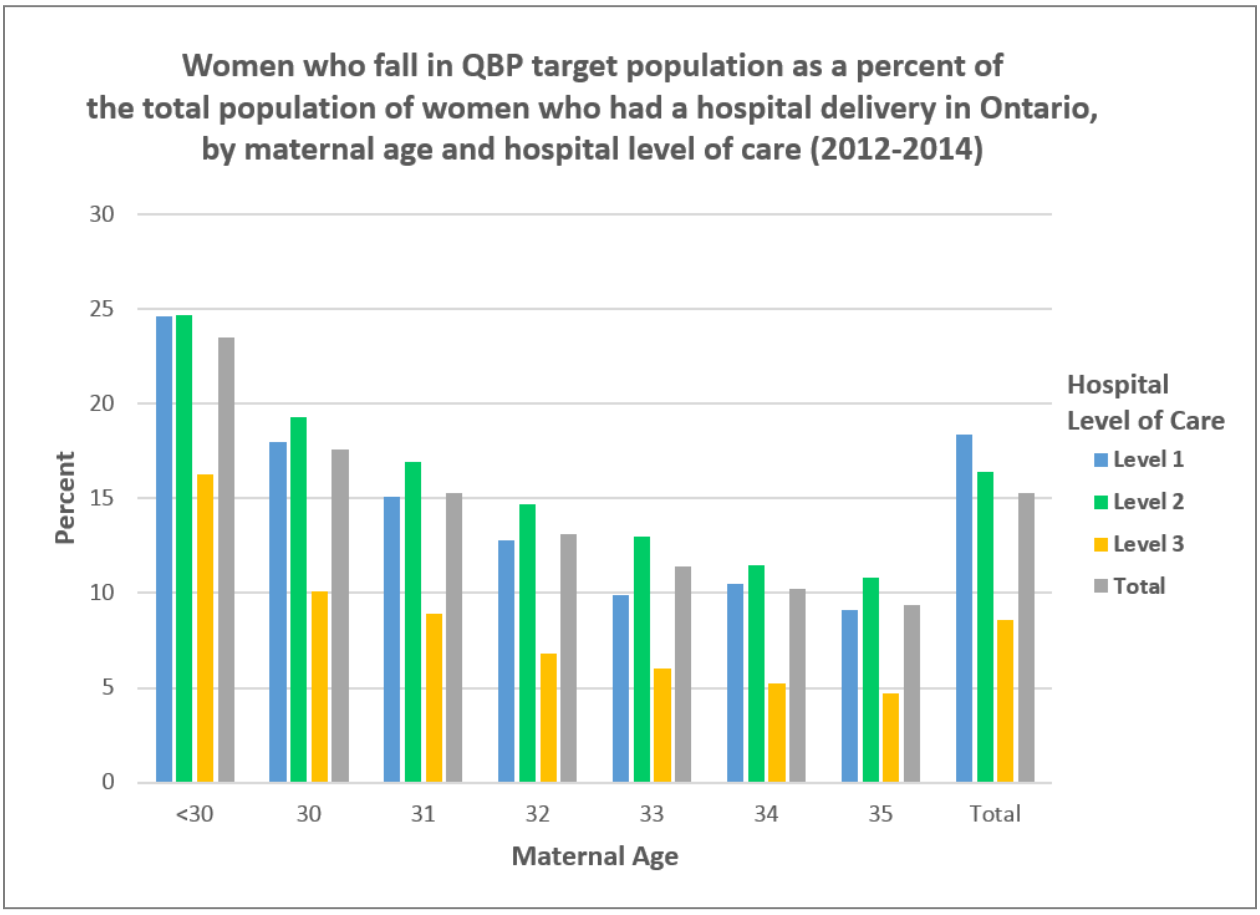
The Expert Panel agreed to focus this QBP on a homogeneous group for whom the evidence supports specific interventions that are likely to promote vaginal birth, rather than focus on a larger, more heterogeneous group that has many different factors that could impact type of delivery. As such, the patient cohort defined for this QBP was comprised of women with the following characteristics:

- <36 years of age at the time of delivery
- Pre-pregnancy BMI <40.0 kg/$m^2$
- Nulliparous
- Singleton gestation with cephalic presentation
- Delivery ≥ 37 weeks of gestation
- Spontaneous labour

In addition, several maternal and fetal health conditions (as captured by the BORN Information System) were excluded in order to ensure a homogeneous and comparable cohort (e.g. maternal and fetal complications, congenital anomalies). The full list of exclusion criteria can be found in Appendix B. Supporting graphs that support the QBP cohort definition can be found in Appendix C.

### What is the proportion of women who fall within this QBP's target population compared to all women who gave birth in Ontario?

The following graph demonstrates the average percent of women who fall within the QBP's target population compared to the total population of women who gave birth in Ontario (2012/13-2013/14). The analysis is provided by hospital level of care and age group. As demonstrated in the graph below, the largest proportion of women within this QBP's target population is below age 30, and steadily decreases to age 35. A higher proportion of women within this QBP's target population deliver at Level 1 and 2 hospitals.




Data Source: BORN Ontario (2012-2014)
Notes:

1. All women who gave birth (including live birth and still birth) at a hospital in Ontario from fiscal year 2012/13 to 2013/14 were included in this analysis.
2. All hospitals which are offering obstetrical services as of Sept 2015 were included in this analysis. Any hospitals which have closed their obstetrical services as April 1, 2009 were excluded from the analysis.
3. Hospital LOC 1 includes Neonatal Level 1.
4. Hospital LOC 2 includes Neonatal Level IIa, Neonatal Level IIb and Neonatal Level IIc.
5. Hospital LOC 3 includes Neonatal Level IIIa/IIIb.
6. Data for fiscal year 2012/13-2013/14 were extracted from the BORN Information System (BIS) on May 9, 2017.

## 3.2 Evidence-Based Rationale

### *3.2.1 Key Objectives of the QBP*

The key objectives of this QBP are to:

- Provide clinicians with evidence-based recommendations regarding management of low risk pregnancies from preconception and into the postpartum period;
- Promote standardized management of low risk pregnancies from preconception and into the postpartum period;
- Reduce variation in the rate of Caesarean sections;
- Promote postpartum recovery and optimal length of stay and early discharge when appropriate

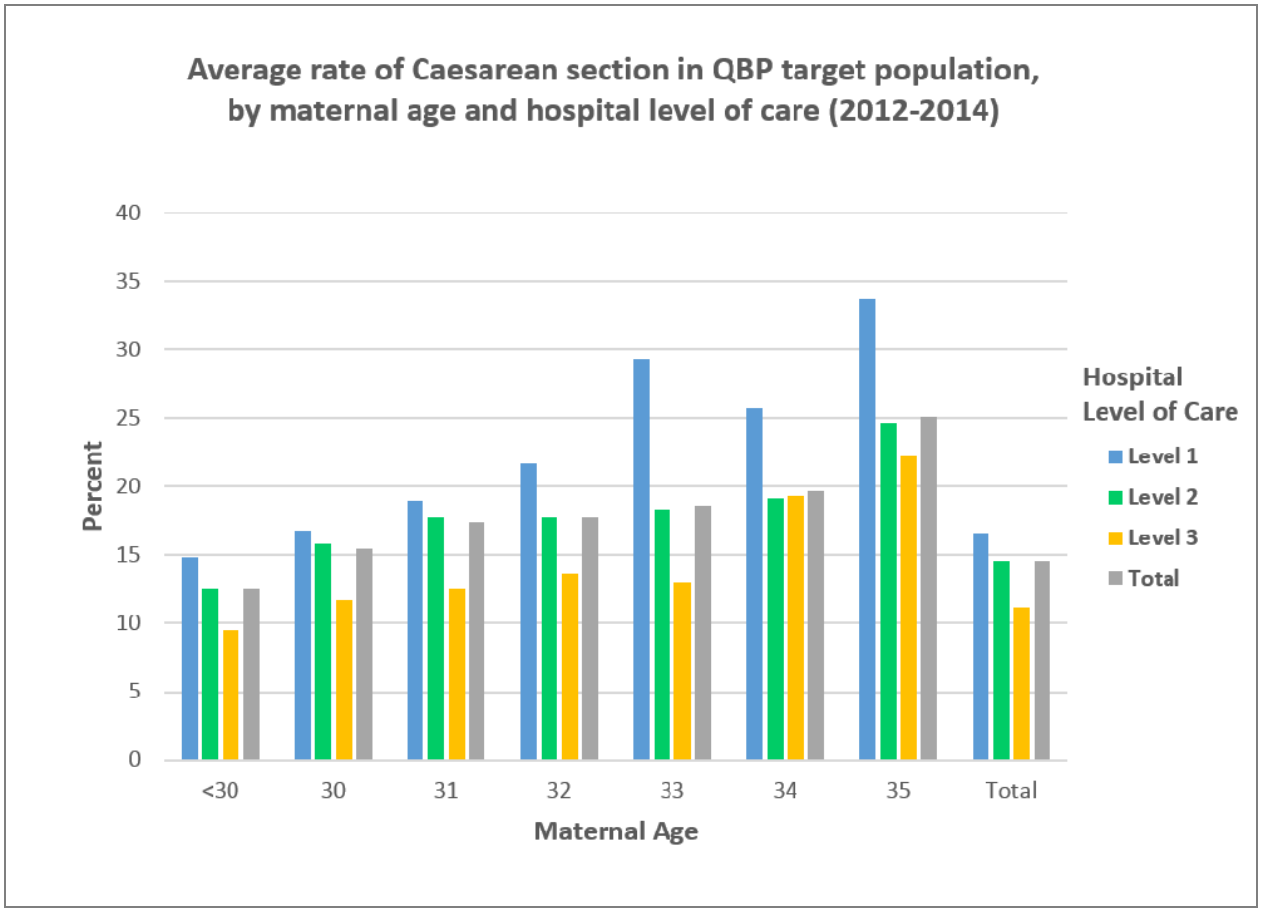
### 3.2.2 Application of the Evidence-Based Framework

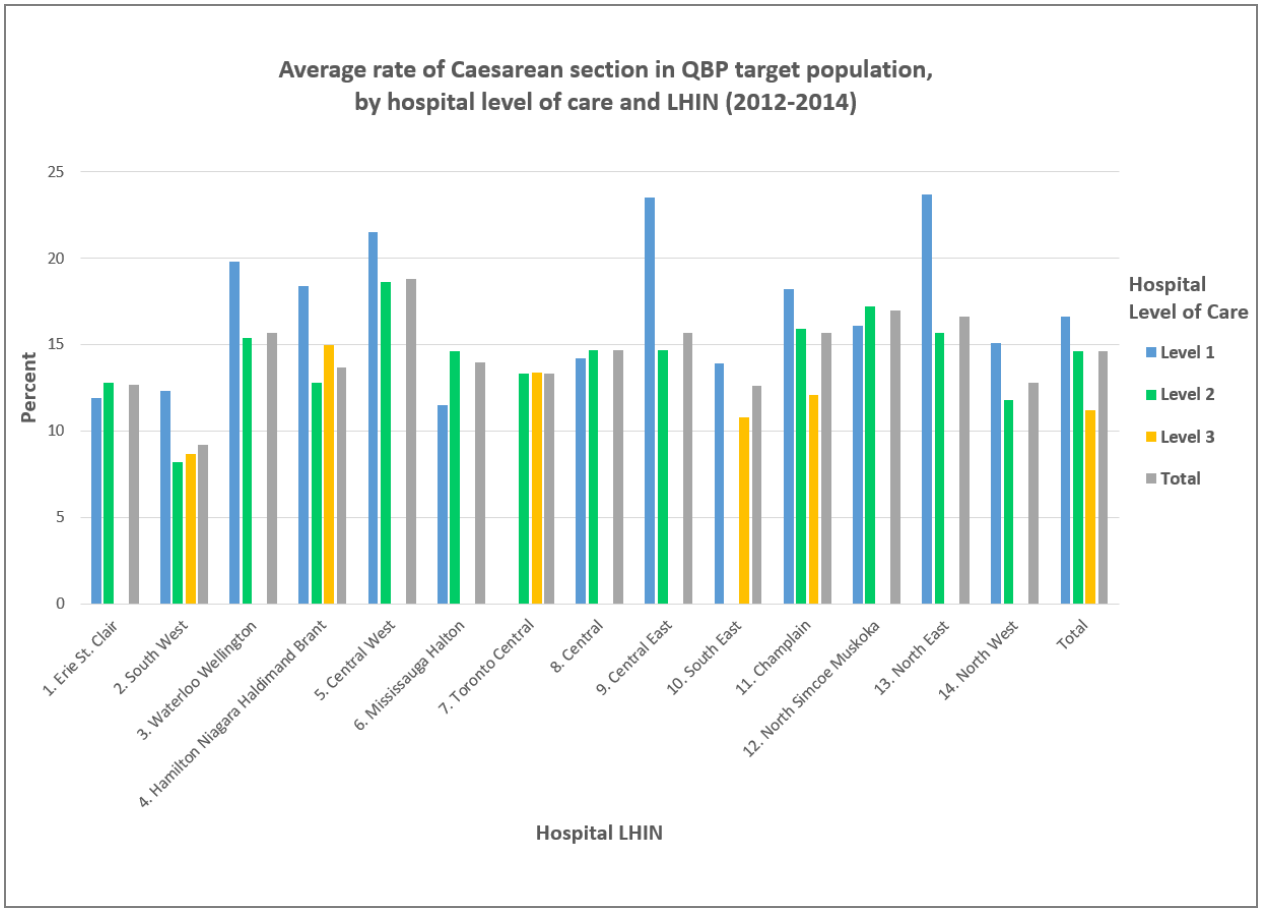
*Refer to Figure 1 (Page 6) for the Evidence-Based Framework.*

What is the average Caesarean section rate for women within the QBP target population?

The following graph demonstrates the average Caesarean section rate for women within the QBP's target population (2012/13-2013/14). The analysis is provided by hospital level of care and age group. Generally the rate of Caesarean section in this population is higher in Level 1 and 2 hospitals compared to Level 3 hospitals. The rate of Caesarean section is highest for women age 35 at Level 1 hospitals and lowest for women under the age 30 at Level 3 hospitals. This finding could be attributed to practice variation across the different hospital levels of care.

The factors that may contribute to the different Caesarean section rates at different levels of care have not been assessed or discussed in this QBP clinical guidebook. However, because of the homogeneity of our cohort population, the Expert Panel proposed that the Caesarean section rate for women within the cohort population should be homogeneous across providers and levels of care.






Data Source: BORN Ontario (2012-2014)
Notes:

1. All women who gave birth (including live birth and still birth) at a hospital in Ontario from fiscal year 2012/13 to 2013/14 were included in this analysis.
2. All hospitals which are offering obstetrical services as of Sept 2015 were included in this analysis. Any hospitals which have closed their obstetrical services as April 1, 2009 were excluded from the analysis.
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5. Hospital LOC 3 includes Neonatal Level IIIa/IIIb.
6. Data for fiscal year 2012/13-2013/14 were extracted from the BORN Information System (BIS) on May 9, 2017.

## 3.3 Expert Panel and Clinician Engagement

The Expert Panel for the Low Risk QBP was composed of clinical experts in obstetrics (community-level and tertiary-level), midwifery, family medicine, nursing, neonatology/ paediatrics, anaesthesiology, and decision support/ data organizations. Please refer to Chapter 10 for a complete membership list. The Expert Panel members sought feedback and input at various stages from external experts within their networks. This process was important to the overall feasibility and acceptance of the final recommendations made. All decisions made by the Expert Panel were made by general consensus.

# 4.0 Best practices[4] guiding the implementation of the Low Risk Birth QBP

## 4.1 Definition of Best Practices

The process for identifying recommended best practices involved the following steps:

- Reviewing existing clinical guidelines and consensus statements;
- Consulting with members of the Expert Panel and their network of experts for additional evidence not included in the guidelines and consensus statements;
- Reviewing and summarizing the evidence cited for each recommendation;
- Discussion amongst the Expert Panel to contextualize the proposed recommendations to the needs/current practices of the Ontario health system;
- Identifying gaps in the evidence that are of value to the care of low risk births;
- Consulting with external experts regarding the recommendations put forward

## 4.2 Clinical Recommendations for Low Risk Births

Clinical practice recommendations for low risk births have been developed to address the following phases of care:

Figure 2: Low Risk Birth QBP Scope


Recommendations based on existing Clinical Practice Guidelines are accompanied by an Evidence Grade, which was developed according to the following criteria:

| Key to evidence statements and grading of recommendations, using the ranking of the Canadian Task Force on Preventive Health Care | |
|---|---|
| **Quality of Evidence Assessment*** | **Classification of Recommendations†** |
| I. Evidence obtained from at least one properly randomized controlled trial | A. There is good evidence to recommend the clinical preventive action |
| II-1. Evidence from well-designed controlled trials without randomization | B. There is fair evidence to recommend the clinical preventive action |
| II-2. Evidence from well-designed cohort | C. The existing evidence is conflicting and does not |

[4] Best practice refers to a combination of best available evidence and clinical consensus as recommended by the Clinical Expert Advisory Groups

| | |
|---|---|
| (prospective or retrospective) or case-control studies, preferably from more than one centre or research group<br>II-3. Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category<br>III. Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees | allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making<br>D. There is fair evidence to recommend against the clinical preventive action<br>E. There is good evidence to recommend against the clinical preventive action<br>F. There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making |

***** The quality of evidence reported in these guidelines has been adapted from the Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.

† Recommendations included in these guidelines have been adapted from the Classification of Recommendations criteria described in the Canadian Task Force on Preventive Health Care.

Source: Woolf SH, Battista RN, Angerson GM, Logan AG, Eel W. Canadian Task Force on Preventive Health Care. New grades for recommendations from the Canadian Task Force on Preventive Health Care. Can Med Assoc J 2003;169(3):207-8.

## PHASE 1 – Pre-Pregnancy Phase Recommendations

The QBP Expert Panel recommends the following evidence-based clinical pathway:

| # | Recommendation | Supporting Evidence | Evidence Type | Evidence Grade |
|---|---|---|---|---|
| **1.0** | **Increase knowledge and awareness about healthy pregnancy through healthcare provider – patient conversation and engagement with other agencies (such as public health agencies)** | | | |
| **1.1** | Strategies to increase public awareness:<br>***Inform and Educate:***<br>DISTRIBUTE information and resources developed by existing programs.<br>Relevant information and resources include:<br>• **The MotHERS Program** – This Ontario-based website provides information to women contemplating pregnancy, are pregnant or are now new mothers keep up-to-date on the latest medical information. Includes links to other resources and mobile apps to track baby's fetal movements and mother's health.<br>*Website link:* http://themothersprogram.ca/before-pregnancy/priming-for-pregnancy<br>• **OMama**– OMama is a maternity care communication project started by the Better Outcomes Registry & Network in Ontario, Canada and sponsored by eHealth Ontario. Using a website, phone app, and a secure place to document health record details (a personal health record), OMama will help women and care providers access trusted information on pregnancy, birth, postpartum, and early parenting.<br>*Website link:* | Expert Panel Consensus | Expert Panel Consensus | III |

| | | | | |
|---|---|---|---|---|
| | http://bornontario.ca/en/partnership-projects/omama/<br>• **The Society of Obstetricians and Gynaecologists of Canada (SOGC) website** – This website provides evidence based information about pregnancy and childbirth to the Canadian public and healthcare professionals. All material on this website are developed by doctors, nurses, and midwives and is based on guidelines from the SOGC.<br>*Website link:* http://pregnancy.sogc.org/<br>• **Association of Ontario Midwives (AOM) website** – This website includes information to the public about midwifery care and helpful resources and information on pregnancy.<br>*]Website link:* http://www.ontariomidwives.ca/care/client-resources<br>• **Healthy Beginnings** – This book was developed by the SOGC, Best Start Resource Centre and the Canadian Paediatric Society. This comprehensive prenatal resource is designed to meet the information needs of couples planning a pregnancy, pregnant women and new parents.<br>*Website link:* http://www.beststart.org/cgi-bin/commerce.cgi?preadd=action&key=E12-E<br>• **The Healthy Pregnancy Guide** – This guide was developed by the Public Health Agency of Canada (PHAC) and will provide women with accurate information to help them make | | | |

| | | | | |
|---|---|---|---|---|
| | good decisions about how to take care of themselves before, during and after their pregnancy.<br>*Website link:* http://www.phac-aspc.gc.ca/hp-gs/guide/index-eng.php | | | |

## PHASE 2 – Antenatal Phase Recommendations

The QBP Expert Panel recommends the following evidence-based clinical pathway:

| # | Recommendation | Supporting Evidence | Evidence Type | Evidence Grade |
|---|---|---|---|---|
| **2.0** | **Inform women that appropriate weight gain and regular exercise appear to decrease risk of Caesarean section** | | | |
| **2.1** | Women should be advised to gain the recommended amount of weight during pregnancy based on their pre-pregnancy body mass index, and counselled on how to stay within the recommended range:<br>• Normal weight – 11.5 - 16.0 kg (25 - 35 lbs) is recommended<br>• Overweight – 7.0 - 11.5 kg (15 - 25 lbs) is recommended<br>• Class I/II Obese – 7.0 kg (15 lbs) is recommended | The Society of Obstetricians and Gynaecologists of Canada, 2010<br>(Source: Davies, G. et al. (2010). "Obesity in Pregnancy- SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.<br>Source: The American College of Obstetricians and Gynecologists. (2013). "Weight Gain During Pregnancy- Committee Opinion." Obstetrics and Gynaecology.<br>Source: Dzakpasu, S. et al. (2014). "Contribution of pre-pregnancy body mass index and gestational weight gain to caesarean birth in Canada." BMC Pregnancy and Childbirth.) | Guideline | NA |
| **2.2** | All women without contraindications should be encouraged to participate in aerobic and strength-conditioning exercises as part of a healthy lifestyle during their pregnancy. | The Society of Obstetricians and Gynaecologists of Canada, 2003<br>(Source: Davies, G. et al. (2003). "Exercise in Pregnancy and the Postpartum Period - Joint SOGC/CSEP Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | II-1,2B |
| **2.3** | Women should be advised that adverse pregnancy or neonatal outcomes are not increased for exercising women. | The Society of Obstetricians and Gynaecologists of Canada, 2003<br>(Source: Davies, G. et al. (2003). "Exercise in Pregnancy and the Postpartum Period - Joint SOGC/CSEP Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | II-1,2B |

| | | | | |
|---|---|---|---|---|
| **3.0** | **Recommend routine dating ultrasound to attain the best estimate of the expected date of delivery** | | | |
| **3.1** | When performed with quality and precision, ultrasound alone is more accurate than a "certain" menstrual date for determining gestational age in the first and second trimesters (≤23 weeks) in spontaneous conceptions, and it is the best method for estimating the delivery date. | The Society of Obstetricians and Gynaecologists of Canada, 2014<br>(Source: Butt, K. et al. (2014). "Determination of Gestational Age by Ultrasound - SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | II |
| **3.2** | In the absence of better assessment of gestational age, routine ultrasound in the first or second trimester reduces inductions for post-term pregnancies. | The Society of Obstetricians and Gynaecologists of Canada, 2014<br>(Source: Butt, K. et al. (2014). "Determination of Gestational Age by Ultrasound - SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | I |
| **3.3** | Ideally, every pregnant woman should be offered a first trimester dating ultrasound; however, if the availability of obstetrical ultrasound is limited, it is reasonable to use a second trimester scan to assess gestational age. | The Society of Obstetricians and Gynaecologists of Canada, 2014<br>(Source: Butt, K. et al. (2014). "Determination of Gestational Age by Ultrasound - SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | I |
| **4.0** | **Counsel women about practices that support vaginal birth** | | | |
| **4.1** | Women should be informed about what it means to be at term and post-term (due date vs. latest date of delivery), and the patient and provider practices during this period that support vaginal birth. | National Institute for Health and Care Excellence, 2008<br>(Source: NICE. (2008). "Induction of Labour– Clinical Guideline."<br>Source: Chaillet, N. et al. (2007). "Identifying barriers and facilitators towards implementing guidelines to reduce Caesarean section rates in Quebec." Bulletin of the World Health Organization.) | Guideline | III |
| **4.2** | Women should be offered information on the benefits, limitations, indications, and risks of intermittent auscultation and electronic fetal monitoring during labour. | Expert Panel Consensus | Expert Panel Consensus | III |

**PHASE 3 – 37 to 41 Weeks Recommendations**

The QBP Expert Panel recommends the following evidence-based clinical pathway:

| # | Recommendation | Supporting Evidence | Evidence Type | Evidence Grade |
|---|---|---|---|---|
| **5.0** | **Perform induction of labour for postdates only after 41 weeks, unless medically indicated** | | | |
| **5.1** | Institutions should have quality assurance programs and induction policies, including safety tools such as checklists, to ensure that inductions are performed only for acceptable indications. | The Society of Obstetricians and Gynaecologists of Canada, 2013 (Source: Leduc, D. et al. (2013). "Induction of Labour - SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | II-2B |
| **5.2** | Before 41 0/7 weeks of gestation, induction of labour should be performed based on maternal and fetal medical indications. | The American College of Obstetricians and Gynecologists, 2014 (Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Cesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.) | Guideline | I-A |
| **5.3** | Women should be offered induction of labour between 41+0 and 42+0 weeks as this intervention may reduce perinatal mortality and meconium aspiration syndrome without increasing the Caesarean section rate. | The Society of Obstetricians and Gynaecologists of Canada, 2013 (Source: Leduc, D. et al. (2013). "Induction of Labour - SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | I-A |
| **5.4** | For pregnancies continuing beyond 41 weeks, twice-weekly assessment for fetal well-being is recommended. | The Society of Obstetricians and Gynaecologists of Canada, 2013 (Source: Leduc, D. et al. (2013). "Induction of Labour - SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | I-A |
| **6.0** | **Perform membrane sweeping/cervical massage to promote onset of labour and avoid likelihood of induction** | | | |
| **6.1** | Women should be offered the option of membrane sweeping commencing at 38 to 41 weeks, following a discussion of risks and benefits. | The Society of Obstetricians and Gynaecologists of Canada, 2008 (Source: Delaney, M. et al. (2008). "Guidelines for the Management of Pregnancy at 41+0 to 42+0 Weeks - SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | I-A |
| **7.0** | **Offer external cephalic version in cases of breech presentation before term when appropriate** | | | |
| **7.1** | Fetal presentation should be assessed and documented beginning at 36 0/7 weeks of gestation to allow for external | The American College of Obstetricians and Gynecologists, 2014 | Guideline | I-C |

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| | cephalic version to be offered if necessary. | (Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.) | | |
| **7.2** | External cephalic version should be offered at 37 weeks to women with a breech presentation. | Expert Panel Consensus<br>(Source: Hofmeyr, G.J. et al. (2012). "External cephalic version for breech presentation at term." Cochrane Database of Systematic Reviews.) | Expert Panel Consensus | III |
| **7.3** | When an external cephalic version is planned, there is evidence that success may be enhanced by regional analgesia. | The American College of Obstetricians and Gynecologists, 2014<br>(Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.) | Expert Panel Consensus | III |
| **7.4** | Provide mentorship and training to obstetrical providers so that they can become more skilled in external cephalic version. Many midwives are trained to perform external cephalic version and can provide interdisciplinary support where needed. | Expert Panel Consensus | Expert Panel Consensus | III |
| **7.5** | LHIN-level/Regional-level initiatives:<br>• Identify centers/hospitals at the LHIN or regional level that perform external cephalic version or offer an external cephalic version clinic<br>• Aim to have at least one care provider at each center/hospital who can perform external cephalic versions, otherwise ensure that protocols are in place for referral<br>• Collect data at the LHIN level on the number and outcome of external cephalic versions conducted by each hospital | Expert Panel Consensus | Expert Panel Consensus | III |
| **8.0** | **Establish standard protocols for induction of labour** | | | |
| **8.1** | Create an algorithm for the booking of inductions so that no inductions can be booked before 41 weeks of gestation, unless medically | Expert Panel Consensus | Expert Panel Consensus | III |

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| | indicated. | | | |

## PHASE 4 – Management of Labour Recommendations

The QBP Expert Panel recommends the following evidence-based clinical pathway:

| # | Recommendation | Supporting Evidence | Evidence Type | Evidence Grade |
|---|---|---|---|---|
| **9.0** | **Support management of latent phase (prior to established active labour) and delay hospital admission until labour is established** | | | |
| **9.1** | Delay admitting women to the labour and delivery unit who do not have any indications/risk factors until they are in active labour, and inform women of risks of admission prior to active labour. | Expert Panel Consensus<br>(Source: Jeremy, N., Lamp, J., Buck, J. (2014). "Outcomes of Nulliparous Women with Spontaneous Labor Onset Admitted to Hospitals in Pre-active versus Active Labor." Journal of Midwifery & Women's Health.<br>Source: Lauzon, L. et al. (2001). "Labour assessment programs to delay admission to labour wards." Cochrane Database of Systematic Reviews.) | Expert Panel Consensus | III |
| **9.2** | Electronic fetal monitoring assessment should be avoided unless risk factors have been identified, and instead fetal status should be assessed by intermittent auscultation. | Expert Panel Consensus<br>(Source: Liston, R. et al. (2007). "Fetal Health Surveillance: Antepartum and Intrapartum Consensus Guideline – SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Expert Panel Consensus | III |
| **9.3** | Routinely offer support and information, and additionally for those women who require pain relief, offer analgesic or other pain relief as an outpatient service or in an early-labour lounge. Provide women with information on alternative methods of pain management. | Expert Panel Consensus | Expert Panel Consensus | III |
| **9.4** | Women should be informed ahead of time that admission to the labour and delivery unit will be delayed until they are in active labour. | Expert Panel Consensus | Expert Panel Consensus | III |
| **10.0** | **Provide one-to-one support during active labour** | | | |
| **10.1** | Women in active labour should receive continuous close support from an appropriately trained person. | The Society of Obstetricians and Gynaecologists of Canada, 2007<br>(Source: Liston, R. et al. (2007). "Fetal Health Surveillance: Antepartum and Intrapartum Consensus Guideline – SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.<br>Source: Caughey, A.B. et al. (2014). "Safe | Guideline | I-A |

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| | | Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.<br><br>Source: Lee, L. et al. (2016). "Management of Spontaneous Labour at Term in Healthy Women". Journal of Obstetrics and Gynecology Canada.) | | |
| **11.0** | **Perform assessment of fetal wellbeing using evidenced based methods** | | | |
| **11.1** | Intermittent auscultation following an established protocol of surveillance and response is the recommended method of fetal surveillance in low risk women; compared with continuous electronic fetal monitoring, it has lower intervention rates without evidence of compromising neonatal outcomes. | The Society of Obstetricians and Gynaecologists of Canada, 2007<br><br>(Source: Liston, R. et al. (2007). "Fetal Health Surveillance: Antepartum and Intrapartum Consensus Guideline – SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | I-B |
| **11.2** | Intermittent auscultation may be used to monitor the fetus prior to and following epidural analgesia, provided that a protocol is in place for frequent intermittent auscultation assessment (e.g., every 5 minutes for 30 minutes after epidural initiation and after bolus top-ups as long as maternal and fetal vital signs are normal). | The Society of Obstetricians and Gynaecologists of Canada, 2007<br><br>(Source: Liston, R. et al. (2007). "Fetal Health Surveillance: Antepartum and Intrapartum Consensus Guideline – SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | III-B |
| **12.0** | **Perform assessment for fetal well-being when abnormal or atypical fetal heart rate tracing** | | | |
| **12.1** | Scalp stimulation should be used as an indirect assessment of acid-base status when abnormal or atypical fetal heart patterns are present. | The American College of Obstetricians and Gynecologists, 2014<br><br>(Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.<br><br>Source: Liston, R. et al. (2007). "Fetal Health Surveillance: Antepartum and Intrapartum Consensus Guideline – SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Guideline | I-C |
| **12.2** | Fetal scalp blood sampling (where available) should be performed to assess fetal acid–base status when abnormal or atypical fetal heart patterns are present at gestations >34 weeks and delivery is not imminent, or if digital fetal scalp stimulation does not result in an | Expert Panel Consensus<br><br>(Source: Liston, R. et al. (2007). "Fetal Health Surveillance: Antepartum and Intrapartum Consensus Guideline – SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.<br><br>Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean | Guideline | III-C |

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| | acceleratory fetal heart rate response. | Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.) | | |
| **12.3** | Amnioinfusion for repetitive variable fetal heart rate decelerations may safely reduce the rate of Caesarean section. | The American College of Obstetricians and Gynecologists, 2014<br>(Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.) | Guideline | I-A |
| **13.0** | **Management of abnormal first stage and second stage of labour** | | | |
| **13.1** | A prolonged latent phase (e.g. greater than 20 hours) in the first stage of labour should not be an indication for Caesarean delivery, since most women with a prolonged latent phase ultimately will enter the active phase with expectant management (the remainder either will cease contracting or will achieve active phase with amniotomy or oxytocin, or both). | The American College of Obstetricians and Gynecologists, 2014<br>(Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.) | Guideline | I-B |
| **13.2** | Slow but progressive labour in the first stage of labour should not be an indication for Caesarean section. | The American College of Obstetricians and Gynecologists, 2014<br>(Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.) | Guideline | I-B |
| **13.3** | Cervical dilatation of 4 cm should be considered the threshold for the active phase of most women, as long as fetal and maternal status are reassuring; before 4cm of dilatation is achieved, standards of active phase progress should not be applied. | The Society of Obstetricians and Gynecologists of Canada, 2016<br>**(Source: Lee, L. et al. (2016).** "Management of Spontaneous Labour at Term in Healthy Women". Journal of Obstetrics and Gynecology Canada.) | Guideline | I-B |
| **13.4** | Women should be informed of the benefits of upright positioning in labour and encouraged and assisted to assume whatever positions they find most comfortable. | The Society of Obstetricians and Gynecologists of Canada, 2016<br>(Source: Lee, L. et al. (2016). "Management of Spontaneous Labour at Term in Healthy Women". Journal of Obstetrics and Gynecology Canada.) | Guideline | I-B |
| **13.5** | Oxytocin should be administered for augmentation of labour when necessary in the first stage of labour | Expert Panel Consensus<br>(Source: Zhang, J. et al. (2010). "Contemporary Patterns of Spontaneous | Expert Panel Consensus | III |

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| | for up to 8 hours. In women with unsatisfactory progress (i.e., protraction or arrest), after 4 hours of oxytocin augmentation, augmentation for an additional 4 hours (total 8 hours) may safely reduce the rate of Caesarean section. | Labor With Normal Neonatal Outcomes." Obstetrics & Gynecology.<br>Source: Lee, L. et al. (2016). **"**Management of Spontaneous Labour at Term in Healthy Women". Journal of Obstetrics and Gynecology Canada.) | | |
| **13.6** | Pushing may commence when the cervix is fully dilated, the presenting part is confirmed to be engaged, and the women feels the urge to push. | The Society of Obstetricians and Gynecologists of Canada, 2016<br>(Source: Lee, L. et al. (2016). "Management of Spontaneous Labour at Term in Healthy Women". Journal of Obstetrics and Gynecology Canada.) | Guideline | III-A |
| **13.7** | Delayed pushing, to allow passive descent, is preferred when the woman has no urge to push, particularly if the presenting part is above station +2 and/or in a non-occiput anterior position, assuming reassuring fetal and satisfactory maternal status. | The Society of Obstetricians and Gynecologists of Canada, 2016<br>(Source: Lee, L. et al. (2016). "Management of Spontaneous Labour at Term in Healthy Women". Journal of Obstetrics and Gynecology Canada.) | Guideline | I-A |
| **13.8** | In women with or without epidural anaesthesia, waiting for up to 2 hours prior to the onset of pushing is appropriate if there is continued descent of the head and reassuring fetal and maternal status. | The Society of Obstetricians and Gynecologists of Canada, 2016<br>(Source: Lee, L. et al. (2016). **"**Management of Spontaneous Labour at Term in Healthy Women". Journal of Obstetrics and Gynecology Canada.) | Guideline | I-A |
| **13.9** | Pushing should commence in all women whenever the guideline waiting time is exceeded. | The Ottawa Hospital Guideline<br>(Source: Sprague, A.E. et al. (2006). "The Ottawa Hospital's Clinical Practice Guideline for the Second Stage of Labour." Journal of Obstetrics and Gynaecology Canada.) | Guideline | III |
| **13.10** | Before diagnosing arrest of labour in the second stage, if the maternal and fetal conditions permit, allow for at least 3 hours of pushing with an epidural and 2 hours of pushing without an epidural. Longer durations may be appropriate on an individualized basis (e.g., with fetal malposition) as long as progress is being documented. | The American College of Obstetricians and Gynecologists, 2014<br>(Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.<br>Source: Lee, L. et al. (2016). **"**Management of Spontaneous Labour at Term in Healthy Women". Journal of Obstetrics and Gynecology Canada.) | Guideline | I-B |

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| **13.11** | A specific absolute maximum length of time spent in the second stage of labour beyond which all women should undergo operative delivery has not been identified. | The American College of Obstetricians and Gynecologists, 2014<br>(Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.<br>Source: Lee, L. et al. (2016). **"**Management of Spontaneous Labour at Term in Healthy Women". Journal of Obstetrics and Gynecology Canada.) | Guideline | I-C |
| **13.12** | Operative vaginal delivery in the second stage of labour should be considered in the clinical management as a safe and acceptable alternative to Caesarean section. | The American College of Obstetricians and Gynecologists, 2014<br>(Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.) | Guideline | I-B |
| **13.13** | Operative delivery less than 2 hours after commencing pushing is not recommended provided maternal status and fetal surveillance are normal. | The Society of Obstetricians and Gynecologists of Canada, 2016<br>(Source: Lee, L. et al. (2016). "Management of Spontaneous Labour at Term in Healthy Women". Journal of Obstetrics and Gynecology Canada.) | Guideline | III-D |
| **13.14** | Training and ongoing maintenance of practical skills related to operative vaginal delivery should be encouraged. | The American College of Obstetricians and Gynecologists, 2014<br>(Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.) | Guideline | I-B |
| **13.15** | Fetal position should be assessed in the second stage of labour, particularly in the setting of abnormal fetal descent, and manual rotation of the fetal occiput should be considered in the setting of fetal malposition, before moving to operative vaginal delivery or Caesarean section. | The American College of Obstetricians and Gynecologists, 2014<br>(Source: Caughey, A.B. et al. (2014). "Safe Prevention of the Primary Caesarean Delivery – Obstetric Care Consensus." American Journal of Obstetrics and Gynecology.) | Guideline | I-B |

## PHASE 5 – Post-Delivery Management Recommendations

The QBP Expert Panel recommends the following evidence-based clinical pathway:

| # | Recommendation | Supporting Evidence | Evidence Type | Evidence Grade |
|---|---|---|---|---|
| **14.0** | **Use evidence based approaches for post-delivery management to promote optimal outcomes and reduced length of hospital stay** | | | |
| **14.1** | Regardless of the mode of delivery, newborns should be placed in uninterrupted skin-to-skin contact with their mothers immediately following birth for at least an hour or until completion of the first feeding or as long as the mother wishes. | Expert Panel Consensus<br>(Source: Moore, E.R., Anderson, G.C., Bergman, N., Dowswell, T. (2009). "Early skin-to-skin contact for mothers and their healthy newborn infants." Cochrane Database of Systematic Reviews.<br>Source: Best Start Resource Centre & Baby Friendly Initiative Ontario. (2013). "The Baby Friendly Initiative: Evidence Informed Key Messages and Resources".) | Expert Panel Consensus | III |
| **14.2** | If skin-to-skin contact between the newborn and the mother is not possible, a partner can also be used. | Expert Panel Consensus | Expert Panel Consensus | III |
| **14.3** | Hospitals should adopt and implement evidenced based guidelines (e.g., SOGC) for discharge after vaginal birth and after Caesarean section. This is intended to promote optimal length of stay and early discharge when appropriate, as well as better outcomes for mother and newborn. | Expert Panel Consensus<br>(Source: Cargill, Y. et al. (2007). "Postpartum Maternal and Newborn Discharge – SOGC Policy Statement." Journal of Obstetrics and Gynaecology Canada.) | Expert Panel Consensus | III |
| **14.4** | Intraoperative epidural/ intrathecal morphine and post-operative multimodal co-analgesics should be used to improve post-operative pain management and encourage early ambulation. | The American Society of Anesthesiologists, 2007<br>(Source: Hawkins, J.L. et al. (2007). "Practice Guidelines for Obstetric Anesthesia." Anesthesiology.) | Expert Panel Consensus | III |
| **14.5** | Evidence-based practices should be followed with respect to surgical site infection prevention. | Expert Panel Consensus | Expert Panel Consensus | III |
| **14.6** | Clinical practice guidelines should be followed for venous thromboembolism prophylaxis. | Expert Panel Consensus<br>(Source: Chan, W. et al. (2014). "Venous Thromboembolism and Antithrombotic Therapy in Pregnancy – SOGC Clinical Practice Guideline." Journal of Obstetrics and Gynaecology Canada.) | Expert Panel Consensus | III |

| 15.0 | Discuss the option of vaginal birth in the subsequent pregnancy with women who had a Caesarean section | | | |
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| **15.1** | Women who have had a Caesarean section should be offered an opportunity for discussion about why they had a Caesarean delivery and counselled about the possibility of having a vaginal birth in their subsequent pregnancy. | Expert Panel Consensus<br><br>Source: National Institute for Health and Care Excellence. (2011). "Caesarean section – Clinical Guideline.") | Expert Panel Consensus | III |

## PHASE 6 – Retrospective Evaluation/Review Recommendations

The QBP Expert Panel recommends the following evidence-based clinical pathway:

| # | Recommendation | Supporting Evidence | Evidence Type | Evidence Grade |
|---|---|---|---|---|
| **16.0** | **Each hospital to establish an interdisciplinary committee to monitor and review performance metrics** | | | |
| **16.1** | Establish hospital processes to review the number of postdates inductions taking place before 41 weeks of gestation to determine whether or not the induction was medically indicated/warranted. | Expert Panel Consensus | Expert Panel Consensus | III |
| **16.2** | Hospitals should review the Caesarean section rate and rate variation by provider to identify opportunities for improvement. | Expert Panel Consensus<br><br>(Source: Chaillet, N. et al. (2007). "Evidence-based strategies for reducing cesarean section rates: a meta-analysis." Birth.<br><br>Source: Kelly, S. et al. (2013). "Examining Caesarean section Rates in Canada Using the Robson Classification System." Journal of Obstetrics and Gynaecology Canada.<br><br>Source: Robson, M.S. et al. (1996). "Using the medical audit cycle to reduce cesarean section rates." American Journal of Obstetrics and Gynecology.) | Expert Panel Consensus | III |
| **16.3** | Caesarean section and all other QBP metrics will be shared publically in an open and transparent manner to promote quality improvement. | Expert Panel Consensus | Expert Panel Consensus | III |
| **16.4** | LHINs should monitor hospital performance based on the established indicators. Where hospitals are consistently unable to meet established performance | Expert Panel Consensus | Expert Panel Consensus | III |

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| | metrics, LHINs should consider progressive performance improvement steps, such as coaching or mentoring by peer hospital organizations. PCMCH may act as support to LHINs and hospitals in enlisting mentorship support. | | | |

# 5.0 Implementation of best practices

How should the best practices be implemented to ensure standardized and optimal patient care delivery?

How should organizations tailor the recommended patient clinical pathway and best practices to their local circumstances?

Tailoring the recommended patient clinical pathway at the local level is critical for successful implementation, adoption and sustained use. Recommended best practices for tailored implementation include the following:

- Identification of a site lead/champion who will be responsible for:
    - Adapting the documents to meet hospital formatting requirements;
    - Leading the pathway and recommendations through the necessary hospital approval committees;
    - Discussing the recommendations and implications obstetric team members (nurses, obstetricians, midwives, family physicians);
    - Organizing education/training sessions and identifying other resources to support uptake of the recommendations.
- Ensuring that a designated physician lead is involved as physician buy-in is critical, and thus this lead will be essential in promoting practice change.
- Ensuring commitment from hospital administration.
- Convening a small implementation team, including the above-mentioned physician lead, to provide oversight in the implementation process, including:
    - Detailed review of the Low Risk Birth Pathway recommendations, including the quality indicators, and the funding and volume impact;
    - Current state assessment and pathway gap analysis on comparison with current institutional and individual practices;
    - Development of an organizational vision, including the identification of opportunities for improvement;
    - Development of an operational strategy to ensure optimal environment for care based on the institution's local circumstances, unique clinical team compositions and available staffing capacities and resources;
    - Discussion of feasible changes for that institution, including outcome measures and targets, and timelines for completion;
    - Progress reports to ensure accountability to hospital administration;
    - Audit and feedback of pathway use;
    - Engagement with peers to promote sharing of implementation experiences and insights.

Further implementation support can be found in the Ontario Hospital Association's *Toolkit to Support the Implementation of Quality-Based Procedures*[5].

[5] Ontario Hospital Association. Toolkit to Support the Implementation of Quality Based Procedures. Available at: https://www.oha.com/KnowledgeCentre/Library/Toolkits/Documents/OHA_QBProcedures_toolkit_FNL.pdf

### Describe the roles of clinicians and multi-disciplinary teams in implementing the best practices

Clinicians and multi-disciplinary teams will be critical in implementing the best practices as proposed by this QBP. First and foremost, their role will be to determine the best way to implement the QBP in their unique environment, comparing the current individual clinician practices and the hospital policies and guidelines to the recommendations in this QBP. The roles of individual clinicians and team members will not change significantly, and physicians will continue to be at liberty to individualize care for a given patient, using their clinical judgment. Additional staff training may be required to familiarize everyone with the QBP recommendations (e.g., delay admitting women to the labour and delivery unit until they are in active labour). The greatest change is that hospitals are recommended to perform audits of Caesarean sections, in addition to performance reviews of the key indicators identified in this QBP. Team members can include (but are not limited to) midwives, family physicians, obstetricians, perinatal nurses, and lactation consultants, as the recommendations of this QBP cover the spectrum of the scopes of practice of these various professions.

### Describe data management implications (if applicable)

Evaluation of the QBP will depend on accurate data collection and hospital-level performance review. The indicators used in the evaluation process are currently captured by BORN BIS. See “Chapter 8 Performance Evaluation and Feedback” for further details regarding the proposed evaluation metrics and technical specifications.

# 6.0 What does it mean for multi-disciplinary teams?

Will the QBP have any implication for multidisciplinary teams? Describe the immediate and/or long-term impact on physicians, nurses, allied health, health records, etc.

Successful implementation of the Low Risk Birth QBP will require collaboration among maternal-newborn providers across the continuum of care, from pre-pregnancy to post-delivery management. The Multidisciplinary Collaborative Primary Maternity Care Project ($MCP^2$) provides a list of guiding principles for multidisciplinary maternal-newborn care teams to ensure that they respect the goals and values for women and their families, provide a mechanism for continuous communication among caregivers, optimize caregiver participation in clinical decision making and foster respect for the contributions of all disciplines. The list of guiding principles is provided below:

1. Belief that quality maternity care is achieved by the contribution of all care providers
2. Mutual trust and respect for each other's perspective and way of thinking
3. Shared values, goals and visions
4. Open, honest communication
5. Informed choice and decision making for the woman
6. Professional competence
7. Responsibility and accountability that recognizes each professions' standards of practice
8. Understanding of, and respect for, different professions' scope of practice
9. Adherence to current best practice guidelines
10. Common protocols for clinical and administrative purposes
11. Unified front and mutual support
12. Willingness to devote time and energy to the collaborative model
13. Willingness to openly discuss differences
14. Open and frank discussion of financial issues

**Converging Strategies and Opportunities for Knowledge Sharing:**
The Provincial Council for Maternal and Child Health (PCMCH) is currently developing a Low Risk Maternal Newborn Strategy for Ontario. The objectives of this strategy are to:

- Optimizes system/ provider practices that promote vaginal birth;
- Promotes access to safe, woman- and family-centred care that is equitable, regardless of race, ethnicity, gender, sexual orientation, class, (dis)ability, language, age, religion, or region/location;
- Supports a system of care that provides women and their families with equitable choice in birth environment and provider.

Recognizing that the Low Risk Birthing QBP and the Low Risk Maternal Newborn Strategy are closely connected with similar target populations, the Expert Panels from both projects are committed to collaborating together in the development of recommendations and implementation plans for the low risk maternal newborn population.

# 7.0 Service capacity planning

How will clinical volume management be affected by QBP funding and/or affect hospital QBP volumes? How will the new model of budget planning include clinicians?

Details to be provided by the Ministry of Health and Long-Term Care.

# 8.0 Performance evaluation and feedback

In introducing the QBPs the ministry has a strong interest in:

1. Supporting monitoring and evaluation of the impact (intended and unintended) of the introduction of QBPs
2. Providing benchmark information for clinicians and administrators that will enable mutual learning and promote on-going quality improvement
3. Providing performance-based information back to Expert Panels to evaluate the impact of their work and update as required in real time

There was recognition that reporting on a few system-level indicators alone would not be sufficient to meet the ministry's aim of informing and enabling quality improvement initiatives at the provider-level. Therefore measures meaningful to hospitals and clinicians that are interpretable and have demonstrable value in improving the quality of care provided to patients are also of utmost importance.

To guide the selection and development of relevant indicators for each QBP, the ministry, in consultation with experts in evaluation and performance measurement, developed an approach based on the policy objectives of the QBPs and a set of guiding principles. This resulted in the creation of an integrated scorecard with the following six quality domains:

- Effectiveness (including safety)
- Appropriateness
- Integration
- Efficiency
- Access
- Patient-centeredness

The scorecard is based on the following guiding principles:

- ***Relevance*** – the scorecard should accurately measure the response of the system to introducing QBPs
- ***Importance*** – to facilitate improvement, the indicators should be meaningful for all potential stakeholders (patients, clinicians, administrators, LHINs and the ministry)
- ***Alignment*** – the scorecard should align with other indicator-related initiatives where appropriate
- ***Evidence*** – the indicators in the integrated scorecard need to be scientifically sound or at least measure what is intended and accepted by the respective community (clinicians, administrators and/or policy-decision makers)

A set of evaluation questions was identified for each of the QBP policy objectives outlining what the ministry would need to know in order to understand the intended and unintended impact of the introduction of

QBPs. These questions were translated into key provincial indicators resulting in a QBP scorecard (see table below).

| Quality Domain | What is being measured? | Key provincial indicators |
|---|---|---|
| **Effectiveness** | What are the results of care received by patients and do the results vary across providers that cannot be explained by population characteristics as well as is care provided without harm? | 1. Proportion of QBPs that improved outcomes<br>2. Proportion of QBPs that reduced variation in outcome<br>3. Proportion of (relevant) QBPs that reduced rates of adverse events and infections |
| **Appropriateness** | Is patient care being provided according to scientific knowledge and in a way that avoids overuse, underuse or misuse? | 4. Proportion of QBPs that reduced variation in utilization<br>5. Proportion of (relevant) QBPs that saw a substitution from inpatient to outpatient/day surgery<br>6. Proportion of (relevant) QBPs that saw a substitution to less invasive procedures<br>7. Increased rate of patients being involved in treatment decision<br>8. Proportion of (relevant) QBPs that saw an increase in discharge dispositions into the community |
| **Integration** | Are all parts of the health system organized, connected and work with another to provide high quality care? | 9. Reduction in 30-day readmissions rate (if relevant)<br>10. Improved access to appropriate primary and community care including for example psychosocial support (e.g. personal, family, financial, employment and/or social needs)<br>11. Coordination of care (TBD)<br>12. Involvement of family (TBD) |
| **Efficiency** | Does the system make best use of available resources to yield maximum benefit ensuring that the system is sustainable for the long term? | 13. Actual costs vs. QBP price |
| **Access** | Are those in need of care able to access services when needed? | 14. Increase in wait times for QBPs / for specific populations for QBP<br>15. Increase in wait times for other procedures<br>16. Increase in distance patients have to travel to receive the appropriate care related to the QBP<br>17. Proportion of providers with a significant change in resource intensity weights (RIW) |

| Quality Domain | What is being measured? | Key provincial indicators |
|---|---|---|
| **Patient-Centeredness** (*to be further developed*) | Is the patient/user at the center of the care delivery and is there respect for and involvement of patients' values, preferences and expressed needs in the care they receive? (TBC) | 18. Increased rate of patients being involved in treatment decision<br>19. Coordination of care (TBD)<br>20. Involvement of family (TBD) |

It should be noted that although not explicitly mentioned as a separate domain, the equity component of quality of care is reflected across the six domains of the scorecard and will be assessed by stratifying indicator results by key demographic variables and assessing comparability of findings across sub-groups. Where appropriate, the indicators will be risk-adjusted for important markers of patient complexity so that they will provide an accurate representation of the quality of care being provided to patients.

The ministry and experts recognized that to be meaningful for clinicians and administrators, it is important to tie indicators to clinical guidelines and care standards. Hence, advisory groups that developed the best practices were asked to translate the provincial-level indicators into QBP-specific indicators. In consulting the advisory groups for this purpose, the ministry was interested in identifying indicators both for which provincial data is readily available to calculate and those for which new information would be required. Measures in the latter category are intended to guide future discussion with ministry partners regarding how identified data gaps might be addressed.

In developing the integrated scorecard approach, the ministry recognized the different users of the indicators and envisioned each distinct set of measures as an inter-related cascade of information. That is, the sets of indicators each contain a number of system or provincial level measures that are impacted by other indicators or driving factors that are most relevant at the Local Health Integration Networks (LHINs), hospital or individual clinician level. The indicators will enable the province and its partners to monitor and evaluate the quality of care and allow for benchmarking across organizations and clinicians. This will in turn support quality improvement and enable target setting for each QBP to ensure that the focus is on providing high quality care, as opposed to solely reducing costs.

It is important to note that process-related indicators selected by the Expert Panels will be most relevant at the provider level. The full list of these measures is intended to function as a 'menu' of information that can assist administrators and clinicians in identifying areas for quality improvement. For example, individual providers can review patient-level results in conjunction with supplementary demographic, financial and other statistical information to help target care processes that might be re-engineered to help ensure that high-quality care is provided to patients.

Baseline reports and regular updates on QBP specific indicators will be included as appendices to each QBP Clinical Handbook. Reports will be supplemented with technical information outlining how results were calculated along with LHIN and provincial-level results that contextualize relative performance. Baseline reports will also be accompanied by facility-level information that will facilitate sharing of best practices and target setting at the provider-level.

The ministry recognizes that the evaluation process will be on-going and will require extensive collaboration with researchers, clinicians, administrators and other relevant stakeholders to develop, measure, report, evaluate and, if required, revise and/or include additional indicators to ensure that the information needs of its users are met.

## 8.1 Evaluation Metrics for the Low Risk Birth QBP

The Low Risk Birth QBP Expert Panel recommends three outcome indicators that should be measured within the QBP low risk target population, in order to evaluate this QBP. These indicators include:

**Low Risk QBP Evaluation Metrics**

| Evaluation Metric | | Domain | Relevance | Rationale | Feasibility/ Data Source |
|---|---|---|---|---|---|
| 1 | Rate of vaginal delivery and Caesarean section delivery | Effectiveness<br>Appropriateness<br>Efficiency | Administrators<br>Clinicians<br>MOHLTC<br>LHINs | To measure if the QBP clinical care pathway is promoting increased vaginal birth within the QBP target population | Data readily available in BORN Ontario |
| 2 | Rate of admission to a special care nursery or transfer to other hospital | Effectiveness<br>Appropriateness | Administrators<br>Clinicians<br>MOHLTC<br>LHINs | To measure if appropriate care is provided | Data readily available in BORN Ontario |
| 3 | Rate of Caesarean section delivery for women with non-progressive first stage of labour with a dilatation of <4cm | Effectiveness<br>Appropriateness | Administrators<br>Clinicians<br>MOHLTC<br>LHINs | To measure if appropriate care is provided | Data not readily available |

Recognizing there are other metrics that could be used to evaluate this QBP, such as patient satisfaction, presence of continuous support in labour and Caesarean section rate variation, the Expert Panel agreed that the three selected metrics are a strong starting point to evaluate this QBP.

# 9.0 Support for Change

The ministry, in collaboration with its partners, will deploy a number of field supports to support adoption of the funding policy. These supports include:

- Committed clinical engagement with representation from cross-sectoral health sector leadership and clinicians to champion change through the development of standards of care and the development of evidence-informed patient clinical pathways for the QBPs.

- Dedicated multidisciplinary clinical expert group that seek clearly defined purposes, structures, processes and tools which are fundamental for helping to navigate the course of change.

- Strengthened relationships with ministry partners and supporting agencies to seek input on the development and implementation of QBP policy, disseminate quality improvement tools, and support service capacity planning.

- Alignment with quality levers such as the Quality Improvement Plans (QIPs). QIPs strengthen the linkage between quality and funding and facilitate communication between the hospital board, administration, providers and public on the hospitals' plans for quality improvement and enhancement of patient-centered care.

- Deployment of a Provincial Scale Applied Learning Strategy known as IDEAS (Improving the Delivery of Excellence Across Sectors). IDEAS is Ontario's investment in field-driven capacity building for improvement. Its mission is to help build a high-performing health system by training a cadre of health system change agents that can support an approach to improvement of quality and value in Ontario.

We hope that these supports, including this Clinical Handbook, will help facilitate a sustainable dialogue between hospital administration, clinicians, and staff on the underlying evidence guiding QBP implementation. The field supports are intended to complement the quality improvement processes currently underway in your organization.

# 10.0 Membership

### QBP Expert Panel Members

| Name | Title | Organization |
|---|---|---|
| Jane Wilkinson (Co-Chair) | Obstetrician-community | Halton Healthcare |
| L. Nichole Currie | Family Physician | Temiskaming Hospital |
| Lucy Gilmore | Clinical Nurse Specialist | Headwaters Health Care Centre |
| Joanne MacKenzie | Program Director | Mount Sinai Hospital |
| Danielle McKinlay | Decision Support | Hamilton Health Sciences Corporation – McMaster Site |
| Tracy Pearce-Kelly | Midwife | Joseph Brant Hospital |
| Shelly Petruskavich | Registered Nurse | Trillium Health Partners |
| Kate Rheault | Obstetrician-community | Orillia Soldiers Memorial Hospital |
| Carla Sorbara | Midwife | Midwifery Care North Don River Valley |
| Ann Sprague | Acting Director | BORN Ontario |
| Georgina Wilcock | Obstetrician-community | The Scarborough Hospital |

### QBP Reviewers

| Name | Title | Organization |
|---|---|---|
| Graeme Smith (Co-Chair) | Obstetrician-academic | Kingston General Hospital |
| Jon Barrett | Obstetrician-academic | Sunnybrook Health Science Centre |
| Jennifer Blake | Chief Executive Officer | Society of Obstetricians and Gynecologists |
| Arthur Zaltz | Obstetrician-academic | Sunnybrook Health Science Centre |

# Appendix A – Primary Indications for Caesarean Section

| Primary Indication for Caesarean Section | % |
|---|---|
| Accommodates Care Provider/ Organization | 0.0 |
| Anomaly | 0.2 |
| **Atypical or Abnormal Fetal Surveillance** | **14.9** |
| Cord Prolapse | 0.4 |
| Declined Vaginal Birth After Caesarean Section (VBAC) | 0.0 |
| Eclampsia | 0.1 |
| Failed Forceps/ Vacuum | 0.5 |
| Failed Induction | 0.0 |
| Failed VBAC | 0.4 |
| Hemolysis Elevated Liver Enzymes Low Platelet Count (HELLP) | 0.3 |
| Herpes Simplex Virus | 0.1 |
| Intrauterine Growth Restriction | 0.8 |
| Macrosomia | 1.1 |
| **Malposition/ Malpresentation** | **12.1** |
| Maternal Health Conditions | 1.0 |
| Maternal Request | 2.2 |
| Missing Data | 4.9 |
| Multiple Gestations | 1.1 |
| **Nonprogressive First Stage of Labour** | **10.7** |
| Nonprogressive Labour/ Descent/ Dystocia | 1.6 |
| **Nonprogressive Second Stage of Labour** | **5.4** |
| Not Eligible for VBAC | 0.0 |
| Obesity | 0.0 |
| Other Obstetrical Complications | 2.5 |
| Placenta Previa | 1.9 |
| Placental Abruption | 0.9 |
| Preeclampsia | 1.0 |
| Prelabour Rupture of Membranes in Women with Planned Caesarean Section | 0.1 |

| | |
|---|---|
| Preterm Prelabour Rupture of Membranes in Women with Planned Caesarean Section | 0.1 |
| **Previous Caesarean Section** | **35.2** |
| Previous Uterine Rupture | 0.0 |
| Suspected Chorioamnionitis | 0.2 |
| Uterine Rupture | 0.1 |
| **Total** | **100.0** |

Data Source: BORN Ontario (April 1, 2012-Mar 31, 2014)

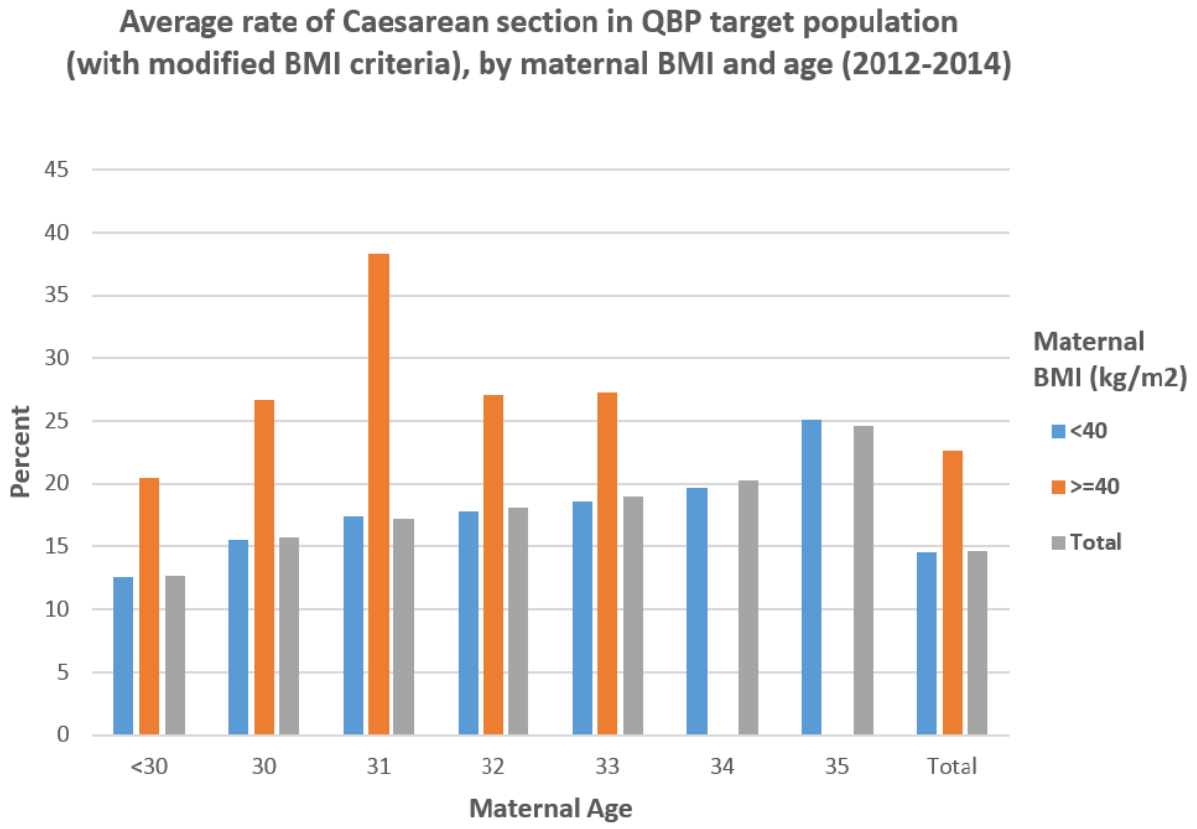
# Appendix B – List of QBP Target Population Exclusion Criteria

| Classification of Disorders | Specific Condition |
|---|---|
| **Maternal Health Conditions** | |
| **Autoimmune** | Lupus; Autoimmune Other |
| **Cancer** | Diagnosed in Pregnancy; Medication Exposure in Pregnancy – Chemotherapeutic Agents |
| **Cardiovascular** | Cardiovascular Disease; Congenital Heart Defect; Congenital Heart Disease; Pre-existing Hypertension; Cardiovascular Other |
| **Diabetes** | Diabetes and Pregnancy |
| **Gastrointestinal** | Hepatitis; Liver/ Gallbladder - Intrahepatic Cholestasis of Pregnancy, Liver/ Gallbladder – Other |
| **Genitourinary** | Renal Disease; Uterine Anomalies; Genitourinary Other |
| **Haematology** | Idiopathic Thrombocytopenia; Sickle Cell Disease; Thrombophilia; Haematology Other |
| **Hypertensive Disorders in Pregnancy** | Gestational Hypertension; Eclampsia; HELLP; Preeclampsia; Preeclampsia Requiring Magnesium Sulfate; Pre-existing Hypertension with Superimposed Preeclampsia; Maternal Unknown |
| **Musculoskeletal** | Musculoskeletal (Unspecified) |
| **Neurology** | Epilepsy/ Seizures \| Seizure Occurred in Current Pregnancy; Neurology Other |
| **Pulmonary** | Previous Pulmonary Embolism/ Deep Vein Thrombosis; Pulmonary Other |
| ***[Other]*** | Maternal Health Conditions Other |
| **Complications of Pregnancy** | |
| **Fetal** | Anomalies; Isoimmunization/ Alloimmunization; Intrauterine Growth Restriction; Oligohydramnios; Fetal Other |
| **Maternal** | Preterm Prelabour Rupture of Membranes (PPROM); Maternal Other |
| **Placental** | Placenta Accreta; Placenta Increta; Placenta Percreta; Placenta Previa; Placental Abruption; Placental Other |

# Appendix C – Additional Data and Graphs

## What is the impact of BMI on Caesarean section rate within the QBP target population?

Morbidly obese women with a body mass index (BMI >40 kg/m$^2$) are at increased risk of pregnancy complications and Caesarean delivery[6]. The following graph demonstrates the average Caesarean section rate for women within the QBP's target population by BMI and age group.




Data Source: BORN Ontario (2012-2014)
Notes:

1. All women who gave birth (including live birth and still birth) at a hospital in Ontario from fiscal year 2012/13 to 2013/14 were included in this analysis.
2. All hospitals which are offering obstetrical services as of Sept 2015 were included in this analysis. Any hospitals which have closed their obstetrical services as April 1, 2009 were excluded from the analysis.
3. Data for fiscal year 2012/13-2013/14 were extracted from the BORN Information System (BIS) on May 9, 2017.

[6] Machado, L. (2012). Cesarean Section in Morbidly Obese Parturients: Practical Implications and Complications. North American Journal of Medical Sciences, 4(1), 13-18.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