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SUMMARY

**Promising measures to reduce the use  
of avoidable obstetrical interventions  
with low-risk women**

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*Summary of the report prepared by*

**Michel Rossignol,  
Faiza Boughrassa and  
Jean-Marie Moutquin**

# SUMMARY

## PROMISING MEASURES TO REDUCE THE USE OF AVOIDABLE OBSTETRICAL INTERVENTIONS WITH LOW-RISK WOMEN

### Mandate

The use of obstetrical interventions is widespread in Québec. For example, in 2009–2010, the overall caesarean delivery rate (all pregnancies combined) was approximately 23%, the pharmacological induction rate 30%, the epidural analgesia rate 69%, and the continuous electronic fetal monitoring rate 65% (data from MED-ÉCHO and the Public Health Agency of Canada, 2009). Québec’s 2008–2018 perinatal policy, along with its 2008–2012 policy implementation plan, places priority on promoting physiological delivery and reducing obstetrical interventions. These policy directions prompted the mandate entrusted to the Institut national d’excellence en santé et en services sociaux (INESSS) by the Ministère de la Santé et des Services sociaux (MSSS).

INESSS was asked two questions. What measures could be taken in Québec to reduce the use of the following obstetrical interventions: epidural analgesia, continuous electronic fetal monitoring, labour induction, labour augmentation, and caesarean delivery. What factors affect the use or not of these procedures? The first objective of this study was to retrieve, assess and synthesize the scientific evidence supporting the concept of “avoidable intervention,” defined as a procedure that can be replaced with a less invasive option, including no intervention, and that yields comparable outcomes in terms of quality of care and maternal and perinatal health. The second objective was to submit this evidence to obstetric practitioners for review in order to identify measures and courses of action aimed at reducing the number of avoidable obstetrical interventions in Québec.

### Methodology

The literature search focused on systematic reviews and meta-analyses of the five relevant interventions, and only data on full-term pregnancies (> 37 weeks) and low-risk pregnancies were selected. Of the 4000 or so titles and abstracts retrieved from the databases, 306 were selected for their relevance, 99 underwent a detailed analysis of their quality by two evaluators, and 49 were ultimately selected for data extraction. Meta-analyses of the randomized controlled trials on epidural analgesia were then performed because no meta-analysis comparing pharmacological and non-pharmacological approaches had been found. Statistics on the prevalence of obstetrical interventions in Québec derive from the MED-ÉCHO database.

The task of interpreting the data and formulating measures was supported by a scientific committee composed of two obstetrician-gynecologists, two general practitioners, two nurses, a midwife, a researcher and a representative from the Society of Obstetricians and Gynaecologists of Canada (SOGC). The measures were then presented in a workshop attended by representatives from 26 organizations involved in obstetrics. For each measure, the strength of evidence and the strength of consensus were graded on a three-point scale (strong, moderate or weak).

## Results

### **Epidural analgesia and non-pharmacological pain-management methods**

The question of reducing the use of epidural analgesia for low-risk vaginal births is not the same as for other obstetrical procedures. The scientific data invited a paradigm shift. In fact, the issue here is not to identify situations in which interventions are “avoidable” but rather to emphasize the complementary nature of these pain-management methods and to consider epidural analgesia as a complement to a range of measures, including continuous support, non-pharmacological pain control approaches and favourable environments.

### **Electronic fetal monitoring**

All the data converge on the fact that electronic fetal monitoring for low-risk pregnancies offers no maternal or neonatal health benefit. On the contrary, it increases the rates of caesarean, operative vaginal delivery and epidural analgesia, and decreases spontaneous vaginal deliveries, compared with intermittent auscultation, the recommended option.

### **Labour induction and augmentation**

For full-term and low-risk pregnancies, labour induction has been studied most often in heterogeneous situations (e.g., intact or ruptured membranes, favourable cervix or not, and wide variety of methods used alone or in combination). Compared with no intervention while awaiting spontaneous labour or with placebo, pharmacological induction methods have consequences that depend on the pharmacological agent used. It may be associated with the use of obstetrical interventions, with increases in caesarean sections and in epidural analgesia, as in the case of prostaglandin E2 and oxytocin administered vaginally, and with an increase in operative vaginal deliveries, as in the case of oral mifepristone. Alternatively, high-dose oral prostaglandin or misoprostol can reduce the caesarean rate.

Labour augmentation does not seem to confer any maternal or neonatal health benefit and has little effect, either positive or negative, on the use of obstetrical interventions, compared with monitoring the natural pace of labour.

In these labour induction and augmentation interventions, the heterogeneous outcomes were due to the lack of standardization in the interventions themselves, which often combined several types of methods, and to population mixes that often made the outcomes impossible to interpret.

### **Caesarean section**

Studies of the risks and benefits of caesarean sections were generally of moderate to low quality, and the systematic reviews often pooled data derived from mutually incompatible methodologies. For example, the reduction in neonatal mortality and uterine rupture rates reported in some of the studies on caesarean delivery for women with a previous caesarean cannot be generalized to the Québec population, which has the lowest of those rates in the world. Furthermore, caesarean sections are also followed by complications such as hemorrhaging, fever and infections, which may lead to extended hospital stays and reduced success with breastfeeding.

Concerning the methods proven effective in reducing the use of caesarean sections, the method of choice was audits and feedback in obstetrical practice. While the reproducibility of interventions is difficult to evaluate, there is strong consistency among the outcomes achieved in different settings. The reduction observed in caesarean section rates, approximately 30% on average, was not associated with changes in neonatal or maternal mortality and morbidity rates.

Lastly, so-called “convenience” caesareans conceal quite another reality. International and Canadian studies have confirmed that the reasons given by mothers for preferring to have caesareans often include a history of caesarean sections and a previous traumatic experience with vaginal delivery, two situations for which education and support to women are key to successful vaginal deliveries.

### **Interrelationships between the interventions**

Examination of the interrelationships between interventions illustrates what has been described as a cascade of obstetric interventions and indicates that the best potential for reducing caesarean sections can be found in prenatal education and in clinical-practice audits and feedback. This information, combined with Québec statistics on regional variations in the rates of caesarean sections and of vaginal birth after caesarean (VBAC), indicates that lowering caesarean rates in Québec by 5% compared with the current rate (23.2% in 2009-2010) would be a realistic objective.

### **Recommendation**

Upon completing this work, INESSS, backed by scientific evidence and the opinions of experts and partners in obstetric care, finds that physiological or vaginal birth for women with low-risk pregnancies seems desirable. This report proposes 10 general measures, 19 measures related to the five obstetrical interventions covered in this report, and 37 possible courses of action to reduce avoidable procedures in women with low-risk pregnancies. These measures do not replace the existing practice guidelines. INESSS recommends that the MSSS should invite organizations representing women, obstetric care providers, concerned professional organizations and obstetric teaching institutions to jointly develop, on the basis of the proposed measures, an action plan for reducing avoidable obstetrical procedures in Québec from the perspective of reaching informed and shared decisions with women.