

## Improving health care for mother and child, doing fewer cesareans and ... saving money

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In Canada, one in four women delivers by caesarean section. This procedure can save the life of the mother and baby. But the steady increase in the rate of caesareans in industrialized countries is cause for concern because a medically unnecessary caesarean entails the risk of additional complications for the mother and her child, as well as costs for the health system.

For the first time, a study published today in *BMC Medicine* evaluated the economic impact and benefits of a training program developed jointly with the Society of Obstetricians and Gynaecologists of Canada (SOGC).

"We have shown that professional training to reinforce skills in obstetric clinical practice and self-assessment are effective in reducing the rate of medically unnecessary caesareans and in improving the quality of care offered to mothers and babies. This training program resulted in a cost reduction of approximately \$180 per birth. If a similar program were offered in all Quebec hospitals, it would amount to a savings of \$15.8 million annually," declared Mira Johri, Principal Scientist at the University of Montreal Hospital Research Centre (CRCHUM), Professor at the university's School of Public Health and the lead author of the study.

The QUARISMA (QUAlity of Care, Obstetrics RISk MAnagement and Mode of Delivery in Quebec) study is a cluster-randomized clinical trial that took place in 32 hospitals in Quebec between 2008 and 2012. In half



of the hospitals targeted, the <u>health professionals</u> were trained to follow the QUARISMA program, which is based on training in clinical best practices and self-assessment through audit and feedback. The remaining hospitals—the control group—received standard care, with no special intervention.

"We observed that a multifaceted audit and feedback intervention aimed at health professionals results in a slight reduction in the rate of caesareans for low-risk pregnancies, without adverse effects on maternal and neonatal health," revealed Nils Chaillet, principal investigator of the QUARISMA trial, researcher at the CHU de Québec-Université Laval Research Centre and professor at Université Laval's Faculty of Medicine.

These results showing the program's effectiveness were published in The *New England Journal of Medicine* in April 2015. Today, after analyzing the effect of the program on 105,351 women included in the study, the researchers conclude that, in addition to reducing the number of medically unjustified caesareans, the program has made it possible to save money.

How can a slight reduction in the rate of caesareans generate several millions of dollars in savings per year? Does this mean that caesareans are expensive interventions? "The main source of cost savings was not the modest reduction in the number of caesareans," explained Johri. "We discovered that better case management by clinicians led to fewer neonatal complications, and therefore better use of resources by the intervention group." The \$15.8 million in savings can therefore be attributed mainly to optimizing the use of health interventions.

"Caesareans are important for the reduction of perinatal mortality and morbidity in cases of high-risk pregnancies," added Chaillet. "However, medically unnecessary caesareans do not provide any benefits and can



even lead to unnecessary complications."

"When the time comes to decide whether to perform a caesarean or not, clinical factors do not always prevail," Johri concluded. "Improving health care quality is in everyone's interest. We have shown that a training program for health professionals reduces the number of medically unnecessary caesareans and benefits public finances and the health of mothers and babies."

**More information:** Mira Johri et al, A cluster-randomized trial to reduce caesarean delivery rates in Quebec: cost-effectiveness analysis, *BMC Medicine* (2017). DOI: 10.1186/s12916-017-0859-8

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