Evaluating Fetal Fibronectin Testing for Preterm Labour

Evidence-based decision-making ensures safety, appropriateness and value

Our challenge

56,329 births
in Alberta (2018)[1]

1 in 12
babies in Alberta is born preterm[2]

Alberta has the
highest rate[2]
of preterm births in Canada (8.7%)

Results to date

Study evaluated
9 years
of data (2010 to 2018)

Replacing laboratory point-of-care testing with clinical assessment has resulted in
no negative change in outcomes
for mothers and babies

High-quality, evidence-based care at lower cost

Estimated savings[3] of
$5 million per year
and more than
$12.5 million to date

Better value and healthcare sustainability

Alberta Health Services
Strategic Clinical Networks™

Inspiring solutions. Together.

What was the issue?

Preterm babies are at greater risk of health problems, including issues with breathing, feeding, infection, and developmental delays. Alberta has the highest rate of preterm births in the country.

In 2006, fetal fibronectin testing was implemented across the province for women showing symptoms of preterm labour. This decision reflected the best evidence available at the time. The goal was to more accurately assess the risk of preterm labour and avoid preterm births, unnecessary hospital admissions and urgent transfers.

Fetal fibronectin testing involves collecting a sample from the mother and analyzing it using a laboratory device. However, results are not always reliable and 'false-positives' are common. This was frustrating for expectant mothers and medical teams as women were being transferred to hospitals with specialist services when no delivery was imminent.

In 2016, the Institute for Health Economics examined new evidence, which revealed that fetal fibronectin testing had made no difference in hospital admission patterns.[4] Although the test was convenient, there was no evidence that it reduced preterm births, improved outcomes or provided value. However, many physicians, especially those in rural areas were reluctant to stop using it, concerned the change might lead to an increase in preterm deliveries in rural hospitals.

What we did to address it

The Maternal, Newborn, Child and Youth SCN was asked to evaluate the practice and make an evidence-informed recommendation regarding the continued use of fetal fibronectin testing in Alberta. The network brought together a diverse team to:

- thoroughly review available research related to fetal fibronectin testing and its effectiveness in predicting preterm births, and
- evaluate current practices in rural and urban communities and identify opportunities for improvement

The team recommended that fetal fibronectin testing be discontinued in Alberta as up-to-date evidence showed no benefit to patient safety or outcomes for mothers and their babies.[5] Instead, they developed a guideline and decision aid to help clinicians assess the risk of preterm birth without the need for lab testing. In response to concerns from rural physicians, these tools were adapted for rural sites.

Testing devices were removed from all sites in 2016. To ensure there were no unintended consequences resulting from this change, practitioners continued to monitor preterm births.

How this work is making a difference

This work has resulted in significant savings for all Albertans. Since discontinuing fetal fibronectin testing, AHS estimates it has saved $5 million per year, and approximately $12.5 million to date.

Most importantly, there has been no change in maternal or newborn outcomes since discontinuing fetal fibronectin testing and shifting to a clinical approach. There has been no significant change in the rate of preterm deliveries in rural hospitals or referrals and urgent transfers of rural patients to urban hospitals.[6]

Expectant mothers and their families can be confident they are receiving quality, evidence-based care that makes appropriate use of health resources. And care providers can be confident they have the tools they need to make effective decisions and provide safe, high-value, patient-centred care.

What's next?

The network's Maternal and Fetal Standing Committee will continue to monitor how preterm labour is managed in rural hospitals to ensure the safety of mothers and babies. The network is also supporting other high-priority initiatives. For example, we're working with Indigenous communities to address issues such as homelessness among pregnant Indigenous mothers and to build capacity within the community to care for expectant mothers and their babies.

Partnerships and dialogue critical to project success

Stakeholders came together at a series of town hall meetings. This provided an opportunity to engage partners from all zones, share information and address concerns.

Obstetricians, family physicians and midwives from rural and urban settings met with nurses, laboratory clinicians, operational leaders, researchers, and data analysts to review the evidence and consider local needs and resources. Together, we determined the most appropriate course of action and developed a plan to implement and monitor this change in practice.

Reassessing clinical practice to ensure high quality, high-value care is a key part of the SCN mandate. This project demonstrates how Alberta is using evidence to inform decision making, improve patient safety and clinical appropriateness, and maximize healthcare resources. It's an approach that benefits all Albertans.

To learn more, visit www.ahs.ca/mncyscn