MSH-CARES: Evaluation and scaling up of a multifaceted intervention to reduce Caesarean section rates in a community hospital setting

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Acknowledgements

- Danielle Rolfe & Esther Shoemaker @ UOttawa
- Carol Cameron, Caroline Harris, George Arnold & Joanne MacKenzie @ MSH
- Eileen Hutton, Elena Neiterman & Rishma Walji @ McMaster
- Sandy Dunn @ BORN
- Melissa Dougherty, Salli Dambrowitz, Liisa Honey @ QCH

- Funding from CIHR
Objectives

- To provide background and context related to the development of the Markham Stouffville Hospital Caesarean-section Reduction Strategy (MSH-CARES)

- To briefly present the components of MSH-CARES

- To describe our planned evaluation (and preliminary results) of MSH-CARES, including a discussion about the potential for CARES to be scaled up to other community hospitals
Development of MSH-CARES

Problem:
- Rising C/S and induction rates (25% in 2005; 29.7% in 2009/10) at MSH (Toronto, Central LHIN)
- Inappropriate inductions
- Very few women choosing VBAC despite high success rate

Context:
- Increasing annual birth volume (10% increase in births from 2004/05 to 2011/12; 3100 births/yr)
- No projected increase in funding
Development of MSH-CARES

- Interdisciplinary task force convened in August 2010
- Developed evidence-based methods of addressing key issues and set performance targets:
  1. Decrease C/S rate to 25%
  2. Decrease labour induction rate to 22%
  3. Increase VBAC rate to 25%
MSH-CARES: Overview

- Peer & Self Rate Feedback
  - Provider Factors
  - Maternal Factors
  - Fetal Factors

- Induction Policy
  - Induction
  - VBAC

- Public Education Campaign
- Birth Options Session
- VBAC Policy

C-Section
MSH-CARES: Patient Education Strategy

- Public campaign to increase awareness of the Strategy through posters located in the maternity care unit
- Caesarean section, vaginal birth after caesarean (VBAC) and induction rates posted monthly
MSH-CARES: Patient Education Strategy

- Birth Options information session providing counselling to women with a previous caesarean birth in a group setting about their options for birth

- Includes a presentation on the evidence and administration of a patient decision aid
MSH-CARES: Care Provider Strategy

- Chief of obstetrics updated clinicians at the start of the strategy, baseline rates, and targets

- Clinicians provided with the unit’s overall and each clinician’s caesarean section, VBAC and induction rates on a monthly basis (blinded for the first three months, then un-blinded among peers)
It’s important for patients to know that having a CS is not a risk free procedure.
MSH, Chief of Obstetrics

Knowing that the women you work with and for actually have a real shot at having their baby their way, getting someone to work with them if they have had more than one Cesarean, being supported to wait for labour is really something, for them and also for us.
MSH, Midwife

We now have increased patient satisfaction because patients are more involved in decisions about their care.
MSH Perinatal Nurse
MSH-CARES: Childbirth Unit Strategy

- Updated VBAC policy to reflect best evidence
- Post-date labour induction policies changed to ensure that post-date inductions only happen starting at 41+0 weeks gestation
  - All induction requests reviewed by the on-call physician and facilitating nurse before booking the patient/client
    - May 2010 (43% of inductions booked between 40-41 weeks)
    - Feb 2011 (14% of inductions booked between 40-41 weeks)
## Evidence Based Interventions

### Summary of MSH-CARES

<table>
<thead>
<tr>
<th>Target</th>
<th>Strategies</th>
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<tr>
<td>Pregnant Woman</td>
<td><strong>Patient Education:</strong>&lt;br&gt;(a) Public Education Campaign to increase patient awareness of the CS reduction initiative through posters located in the maternity care unit. CS, VBAC and induction rates are posted monthly.&lt;br&gt;(b) Prenatal class content is reviewed annually to ensure content is evidence-based and supports normal birth.&lt;br&gt;(c) Patient education booklet (provided to all women at 16-20 weeks gestation) is reviewed annually, is evidence-based and supports normal birth.&lt;br&gt;(d) Options for Birth after Caesarean information session counsels women with a previous CS in a group setting about their options for birth. A presentation on the evidence and a patient decision aid is used to guide discussion.</td>
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<td>Health care Practitioner (HCP)</td>
<td><strong>Audit and Feedback:</strong>&lt;br&gt;(a) The chief of obstetrics updates HCPs on the start of the initiative, baseline rates and targets.&lt;br&gt;(b) Every month, HCPs are provided with the unit’s overall and each HCP’s CS, VBAC and inductions rates (blinded for the first three months, then un-blinded among peers).&lt;br&gt;&lt;br&gt;<strong>Supportive Care in Labour:</strong>&lt;br&gt;(a) HCPs receive education on benefits of supportive care.&lt;br&gt;(b) HCPs are encouraged to use auscultation instead of electronic fetal monitoring.&lt;br&gt;(c) Women receive 1:1 nursing care at least 80% of the time during active labour.</td>
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<td>Maternity Care Unit</td>
<td><strong>Supportive Care in Labour:</strong>&lt;br&gt;(a) A desk and chair is placed in every labour and delivery room to encourage nurses to remain close to labouring women while doing chart work.&lt;br&gt;(b) HPs are given a nurse call system to be able to locate peers while they are in a patient’s room.&lt;br&gt;&lt;br&gt;<strong>Unit Policies:</strong>&lt;br&gt;(a) The Canadian Joint Statement on Normal Birth is adopted as a principle guideline to define and support normal birth.&lt;br&gt;(b) Labour induction policies are changed to ensure that post-date inductions only happen starting at 41 weeks gestation. All induction requests are reviewed by the on-call physician and facilitating nurse prior to booking the patient.</td>
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Evolution of MSH-CARES

- Collaboration between MSH task force members and maternal health researchers to evaluate the strategy
  - Scoping review conducted (CIHR Planning Grant 2010)
  - Multi-method evaluation developed (CIHR Operating Grant 2012, submitted 2013)
## Scoping Review Results

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<tr>
<th>What We Know</th>
<th>Critical Knowledge Gaps</th>
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<tr>
<td>Individual audits and feedback of intervention rates for health care providers in maternity care units are effective in increasing normal birth.</td>
<td>Are shared (peer) audits and feedback practices effective in increasing normal birth?</td>
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<td>Induction of labour in healthy pregnant women at &lt;41 weeks gestation leads to further interventions, such as C-sections.</td>
<td>How can practice patterns be modified to prevent induction of labour prior to 41 weeks gestation among healthy pregnant women?</td>
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<td>VBAC rates are low despite being a safe birth option for the majority of women with a previous C-section.</td>
<td>How can VBAC rates be safely and effectively increased?</td>
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<td>Women who receive midwifery care have higher rates of normal birth.</td>
<td>How does informed choice across all maternity care options affect rates of normal birth?</td>
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<td>Is there an indirect impact of midwifery views/approaches on non-midwifery clients and/or on other maternity health care providers?</td>
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<td>Continuous labour support significantly decreases rates of interventions.</td>
<td>Is the provision of continuous labour support feasible within a community hospital setting among multiple care providers?</td>
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Promising Preliminary Results

Labour Induction Rates (% of births)
Promising Preliminary Results
Induction for Postdates

Total number of postdate inductions

- **Total Post Date Inductions**
- **Appropriate**
- **Not Indicated**
Promising Preliminary Results
Birth Options After Caesarean Section

Preliminary results: TOL rates in %

- 2009/10: 15%
- 2010/11: 29%
- 2011/12: 21.70%
Birth Options Session: Patient Satisfaction

- Participants noted that the information provided was “very useful to me,” and that it is “nice to see all of the info in one place.”
- Additional comments related to participants’ high satisfaction with the instructor and the session: “great instructor”; “the presentation was great”; “knowledgeable instructor with research references.”

![Novelty of information presented](image)

- Not at all new to me: 7.0%
- Somewhat new to me: 11.6%
- New to me: 81.4%

![Satisfaction with the session and presenter](image)

- Very satisfied
- Satisfied
- Neither satisfied nor dissatisfied
- Dissatisfied
- Very dissatisfied
Birth Options Session: Patient Satisfaction

“I was very scared to go through labour again. Lee took great care of me, kept me informed and made me feel safe. Once the delivery was over I couldn’t believe how quick I was able to move around and start caring for my baby. That is what has made me feel so much better about delivering this way. I just feel it is a safer way to deliver and I can care for my baby sooner. I will also get to go home sooner to be with my other child.”

Mother after successful VBAC who had attended Birth Options After CS Session
Promising Preliminary Results

Caesarean Section Rates (% of births)

- Identified need
- Pt Educ materials modified
- Provider feedback / peer review
- VBAC classes
- Poster campaign
- Induction booking policy

Target: Actual 2009-10: Actual 2010-11: Actual 2011-12
Promising Preliminary Results

Annual Caesarean Section Rates (% of births)

- Actual 2009-10: 29.7%
- Actual 2010-11: 26.3%
- Actual 2011-12: 26%
Evolution of MSH-CARES

- Presentations at relevant conferences, meetings
  - AOM, CAM, CMNRP
- Collaboration with BORN Ontario (Dr. Sandra Dunn)
- MSH-CARES adopted by Queensway Carleton Hospital (Ottawa, Champlain LHIN) in 2012 (QCH-CARES)
- MSH-CARES, QCH-CARES → The CARES Evaluation
# The CARES Evaluation Team

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<tr>
<th>Principal Investigators</th>
<th>Investigators</th>
<th>Knowledge Users at MSH</th>
<th>Knowledge Users at QCH</th>
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<tr>
<td>Ivy Bourgeault, PhD</td>
<td>Sandra Dunn, PhD</td>
<td>Dr. George Arnold (Chief OB)</td>
<td>Dr. Liisa Honey (Chief OB)</td>
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<td>Eileen Hutton, PhD, RM</td>
<td>Evelyn Forget, PhD</td>
<td>Carol Cameron, RM</td>
<td>Melissa Dougherty</td>
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<td>Esther Shoemaker, PhD candidate</td>
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<td>Beverly Thornhill</td>
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<td>Elena Neiterman, PhD</td>
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<td>Rishma Walji, PhD, ND</td>
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<td>Sue Eldred, PhD candidate</td>
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The CARES Evaluation

Key objectives are to evaluate & explore:

1. The cumulative effect of MSH-CARES on rates of interventions during childbirth, without compromising health outcomes for women and newborns (clinical outcome evaluation);

2. The experiences of birthing women, care providers and administrators with MSH-CARES (process evaluation);
The CARES Evaluation

Key objectives are to evaluate & explore:

3. Whether MSH-CARES is economically advantageous compared to routine care (economic evaluation);

4. Whether MSH-CARES can be successfully adopted and adapted for use within other hospital childbirth units in Ontario (scaling up).
Clinical Outcome Evaluation

➢ Quantitative assessment of the effectiveness of MSH-CARES in terms of reducing the proportion of births by caesarean section, and use of other interventions during labour and birth

➢ Evaluation of the safety of MSH-CARES for mother and baby (using BORN data regarding maternal and neonatal outcomes)
Process & Economic Evaluation

- Registration and exit surveys provided to all childbirth unit patients to assess their awareness of MSH-CARES

- Evaluation of the impact, effectiveness and acceptability of the Options for Birth After Caesarean Information session for eligible clients with a history of caesarean section birth

- Qualitative interviews with mothers, care providers and hospital administrators about their experiences with components of MSH-CARES

- Costs of implementing MSH-CARES will be assessed, compared to usual care
Scaling up of MSH-CARES

• To assess whether MSH-CARES is feasible and acceptable within other maternity care units
  • Description of contextual differences between MSH and QCH, and their impact on strategy implementation
  • Description of how the strategy is adapted to meet the needs of QCH
QCH-CARES

- MSH-CARES adopted by clinicians at Queensway Carleton Hospital (QCH) in 2012
- Strategies revised to fit the professional and patient context/profile of QCH
QCH-CARES

- Preference for patient information video about birth options (rather than Birth Options Session)
- Online/downloadable content for decision making regarding VBAC
- Alternate VBAC patient decision-aid used
- Currently developing posters specific to the patient population at QCH (ethnicity, etc.)
- Supportive care during labour in-service training delivered
“Our patients are very affluent. They’re very educated. They’re older...we have a lot of infertility patients, women that have delayed childbearing and now they’re in their forties and they’re, like that is our demographic. And these people do not accept risk either. And so my patients come to me and say I want my repeat C-section and I’ll try to talk them into a VBAC and I talk to them about, you know, the risks are low. It’s like, yah, no. I’ve done my reading. I’ve done all my Google searches. I want my repeat section.” (QCH, Chief OB)
Questions

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