

A Needs-Based Approach for Effective Health Human Resources (HHR) Planning in Primary Maternity Care

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Objectives

- Background/Literature
- Theoretical and conceptual approaches
- Design
- Results
- Implications

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Health Human Resources (HHR)

- HHR planning continues to be based on the use of services or workforce supply¹
- Requires health human resources (HHR) planning based on broad definition of health^{2, 3}
- Shortages of providers (relative to distribution & professions/specialities)^{4,5}
- Need to know what and how care will be delivered and who is needed to provide care⁶

HHR and Maternal Newborn Care

- HHR issues have been consistently identified as a priority area for health system planning and research⁴
- Increasing maternal-newborn health challenges^{7, 8, 9, 10}
- No needs-based HHR research in primary maternity health care

Two key strategies for improved HHR planning

- Changing the productivity of care providers
- Efforts to improve and/or address population health needs^{11, 12, 13, 14, 15}

Purpose

To identify the primary maternity health care needs of women and newborns in Nova Scotia



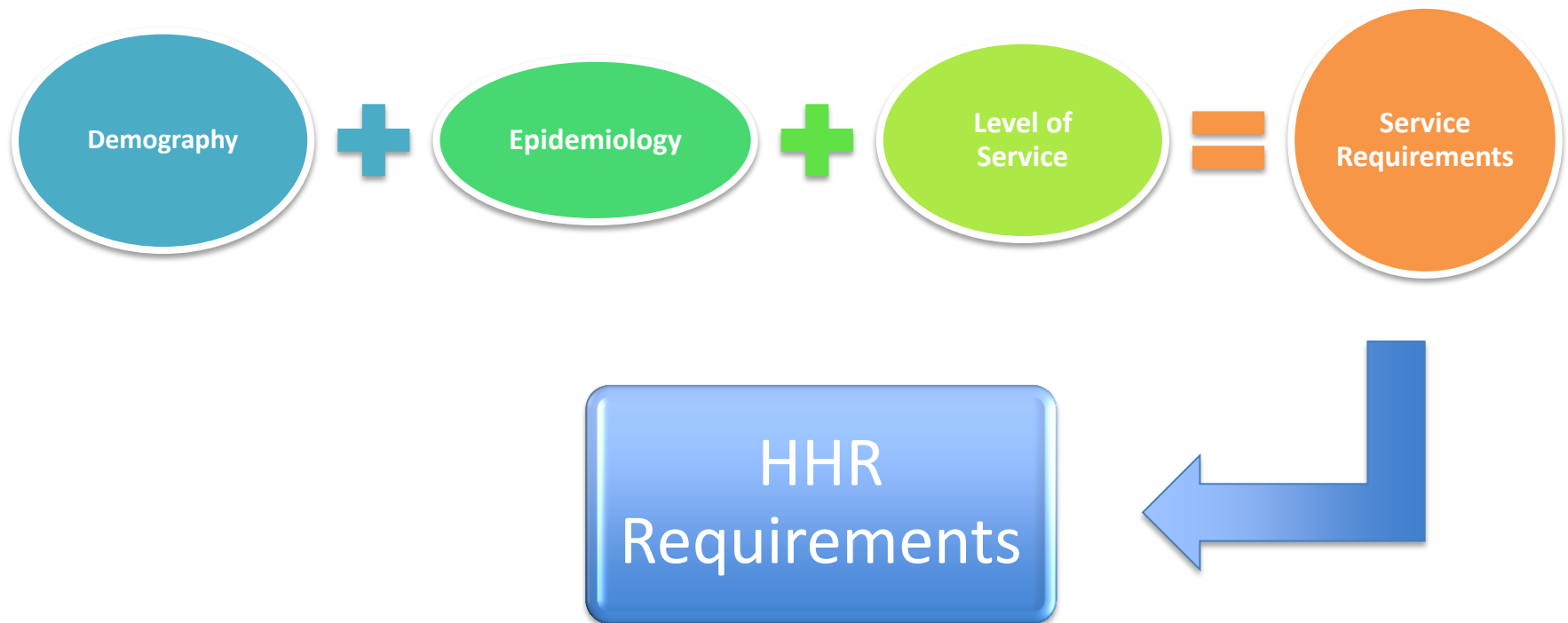
Research Questions

- **Quantitative:** Were there differences between the identified needs of the general perinatal population and sub-populations based on income, area of residence, race/ethnicity, education?
- **Qualitative:** Did women, care providers and/or health leaders identify gaps in services in the current models of primary maternity care? If so, what service delivery approaches can be used to address the gaps in service?

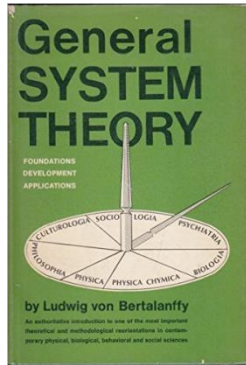
Research Questions cont'd

- **Both Phases:** What were the primary maternity care needs of women and newborns in Nova Scotia? Were there differences in the identified primary maternity care needs between women, care providers and health leaders, and those needs identified using the needs-based HHR frameworks?

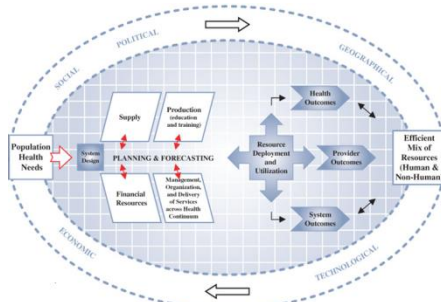
Needs-Based HRH



Theoretical and Conceptual Frameworks

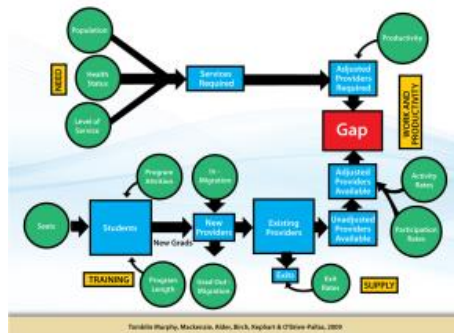


- General System Theory^{17,18, 19}



Tonlin Murphy & O'Brien-Palmer, 2006
Adapted from O'Brien-Palmer, Tonlin Murphy & Birch (2005), O'Brien-Palmer, Tonlin Murphy, Birch & Beaman (2000) and O'Brien-Palmer & Beaman (1997)

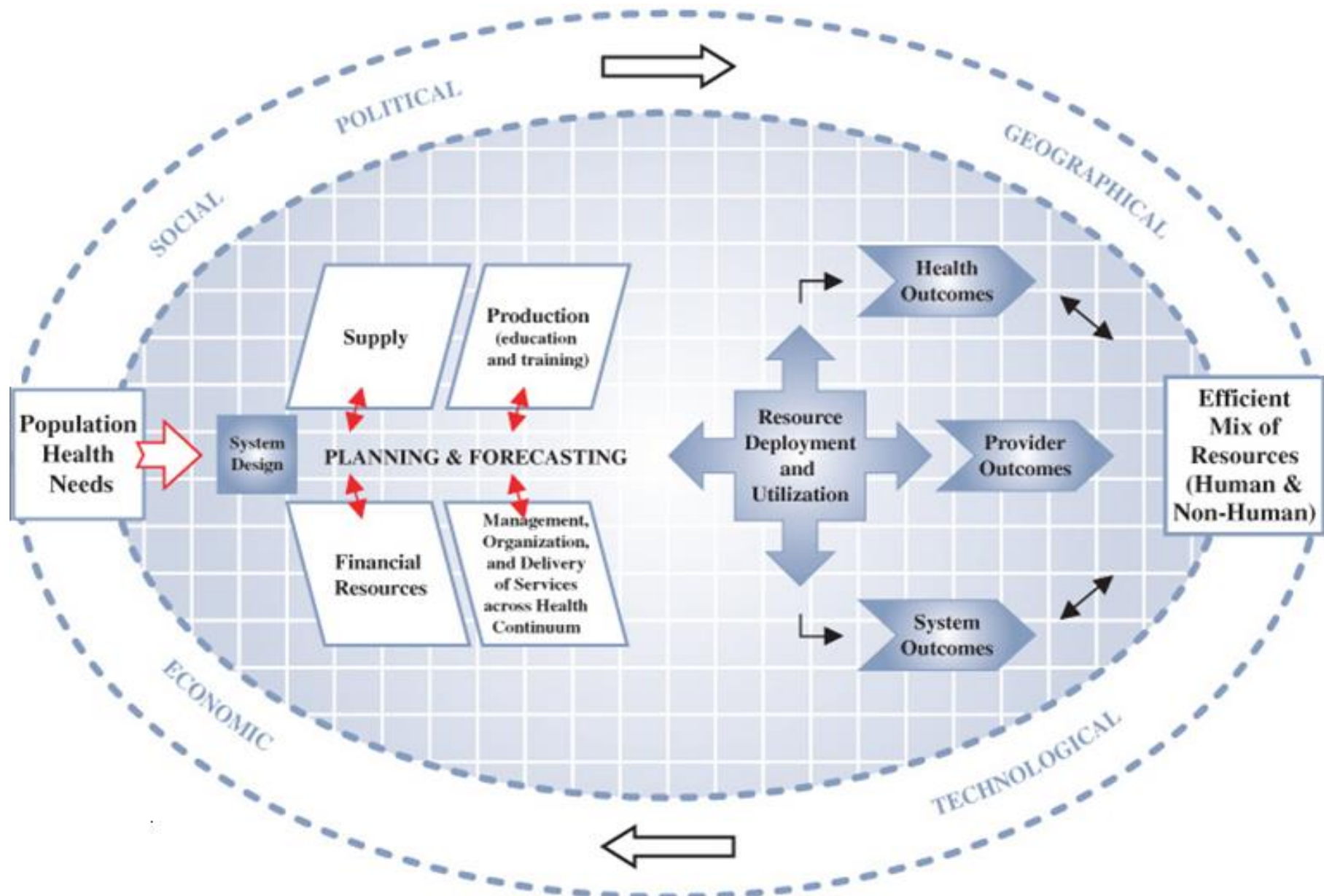
- Health System and HHR Conceptual Framework¹⁶



Tonlin Murphy, Mackenzie, Kuhn, Birch, Reginald & O'Brien-Palmer, 2009

- Analytical Framework^{11,12}

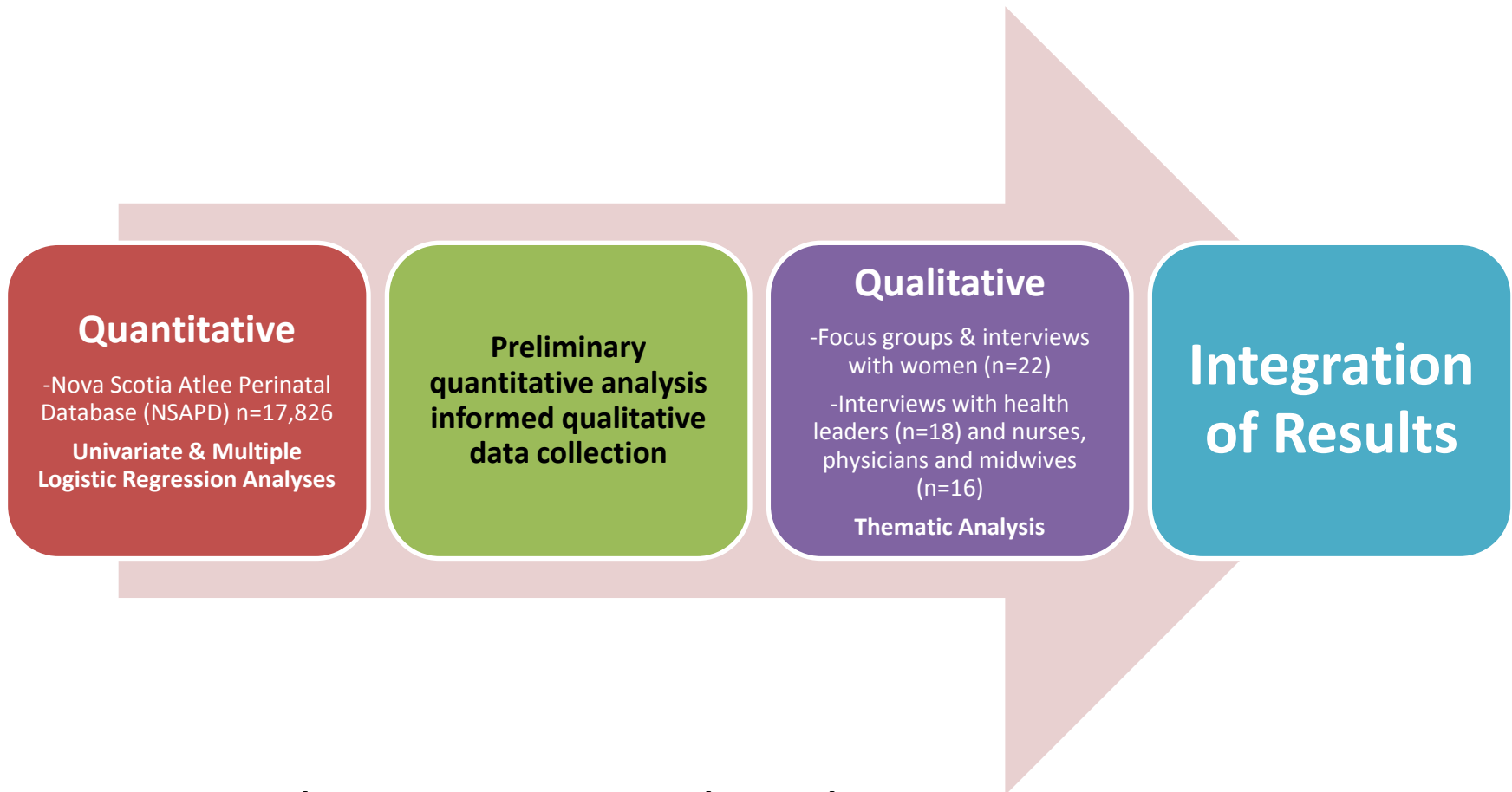
Figure 1: Health System and Health Human Resources Planning Conceptual Framework¹⁶



Tomblin Murphy & O'Brien-Pallas, 2006

Adapted from O'Brien-Pallas, Tomblin Murphy & Birch (2005), O'Brien-Pallas, Tomblin Murphy, Birch & Baumann (2001) and O'Brien-Pallas & Baumann (1997)

Methods & Design



Sequential cross-sectional explanatory quantitative (dominant)→qualitative study^{20, 21, 22}

Maternal-Newborn Health Needs Indicators

	Indicator (Dependent Variables)	Source
Prenatal	Access: GA at 1 st Ultrasound (by 21 6/7 weeks) HIV or MSS Screening discussed or completed	NSAPD NSAPD
	Health Status: Pre-pregnancy BMI Pre-pregnancy smoking	NSAPD NSAPD
Intrapartum	Maternal Morbidity Scoring	NSAPD
	Newborn Age-Weight-Sex Scoring	NSAPD
Postpartum/ Postnatal	Breastfeeding initiation	NSAPD

Control Variables: Age, parity, mode of delivery

Independent Variables: Geography (rural or not), Race/Ethnicity, Income, Education

Quantitative Data and Analysis

- After data cleaning, multiple imputation for missing data and recoding, n=**17,856** from the NSAPD
- SPSS Version 21
- Descriptive statistics
- Inferential statistics
 - Chi-squared tests of association
 - Multiple logistic regression---predictors of health needs using the proxy measures²³



Image from: <http://www.tsncommunications.com/data-analysis-for-communications/>

Key Findings: Multiple Logistic Regression

- **Women living in rural areas of NS**
 - More likely to have increased pre-pregnancy BMI (OR 1.14)
 - More likely to have prenatal screening (OR 0.69)
 - Lower maternal morbidity score (OR 0.69)
 - Less likely to initiate breastfeeding (OR 1.25)
- **Women who identified as not Caucasian:**
 - Less likely to have standard prenatal screening (MSS and/or HIV) (OR 1.28)
- **Women with less maternal income:**
 - More likely to have increased pre-pregnancy BMI (OR 1.11)
 - More likely to smoke in pregnancy (OR 1.93)
 - Less likely to initiate breastfeeding (OR 1.53)

Logistic Regression cont'd

- **Women with less maternal education:**
 - More likely to have a higher newborn morbidity score (higher risk) (OR 1.13)
 - More likely to have increased pre-pregnancy BMI (OR 1.10)
 - More likely to smoke in pregnancy (OR 1.68)
 - Less likely to initiate breastfeeding (OR 1.58)

**Differences in maternal-newborn
health needs in sub-populations of
women**

Reject H_{0_1}

Qualitative Phase: Data Collection

- Purposeful sampling
- 2 Focus Groups + 2 semi-structured interviews for a total of 22 women participants
 - Ages 18-38
 - Different races/ethnicities
 - Parity 1-4
 - Rural and urban
 - High school to graduate school
- Semi-structured interviews with:
 - 16 health care providers (nurses, physicians & midwife); 8-37 years experience
 - 18 health mid and senior care leaders; 10-30+ years experience

Qualitative Analysis Approach^{24, 25}

Phase 1: Becoming familiar with data

Phase 2: Generating initial codes

Phase 3: Searching for themes

Phase 4: Reviewing themes

Phase 5: Defining and naming themes

* NVivo 10 software used for analysis

Qualitative Results: System and Service Delivery

SUB-THEMES
The need for a paradigm shift
Fiscal matters
The 'wicked' social determinants of health
Lack of patient/people centeredness
Interprofessional & Intersectoral collaboration



Qualitative Results: Individual Care Encounters

SUB-THEMES

Relational care

Culturally safe and appropriate

Know me, know my story

Cookie-cutter approach



Summary: Quantitative

- There was a difference in maternal-newborn health needs: lower maternal education, rurality, lower maternal income and identifying as not Caucasian were significant predictors of various maternal-newborn primary health care needs.
- **Therefore, H_{0_1} was rejected**

Summary: Qualitative

- All 3 participant groups identified the social determinants (SDH) of health as prevalent health care needs for women and newborns.
- Participants identified a number of strategies to meet needs:
 - System/Organizational
 - collaborative models
 - introduction of new models
 - closer to home services
 - changes to funding
 - paradigm shift from illness to full definition of health
 - Individual
 - full scope practice
 - enhanced cultural competency
 - relational care
 - informed consent
 - targeted services for breastfeeding

Summary cont'd

- Diverse health care teams working to full scope (and with the competencies to address the social determinants of health) would maximize the potential for meeting women and newborns' health needs. ²⁶

Strengths

- Mixed methods design
- Informed by established conceptual frameworks and theory
- Rigour in each phase
- Extends thinking about measuring needs and the alignment/misalignment with health services delivery

Limitations

- CCHS not used due to:
 - Sample sizes
 - Uncertain perinatal connection
- Missingness in NSAPD
- Additional focus groups with women

Three Key Messages

- Factors related to the social determinants of health increased maternal-newborn health needs.
- There are viable strategies (identified in the study findings) to improve health system and HHR planning and meet maternal-newborn health needs.
- Measuring maternal-newborn health needs and planning for perinatal care without considering a full definition of health may result in increasing health needs and declining health status for women and newborns, particularly those in vulnerable populations.^{27, 28}

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Thank you

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A National Birthing Initiative
for Canada

An inclusive, integrated and comprehensive
pan-Canadian framework for sustainable
family-centered maternity and newborn care.

“Ensuring that the voices of Canadian women are heard about their needs during pregnancy and childbirth [is important], so that we create and deliver maternity care that meets their needs and expectations”

(Society of Obstetricians & Gynecologists of Canada (SOGC), 2008, p. 2)

Image from: <http://sogc.org/wp-content/uploads/2012/09/BirthingStrategyVersionJan2008.pdf>