BORN ONTARIO PROVINCIAL ROUNDS

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CONTACT US:
www.BORNOntario.ca
info@BORNOntario.ca
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Better Outcomes Registry & Network (BORN) Ontario
Choosing Where to Give Birth: Results of the Ontario Choice of Birthplace Study

Beth Murray-Davis RM PhD

Angela Reitsma RM MSc
Objectives

- Review BORN data on place of birth in Ontario
- Present findings from the Ontario Choice of Birthplace Study (OCBPS)
- Discuss the study findings in the context of other literature on place of birth
Background

- Ontario has had regulated midwifery since 1994.
- Choice of birthplace is a central tenet of the model of practice of Ontario midwives.
  - All Ontario midwives offer choice of birthplace.
  - The College of Midwives of Ontario (CMO) demands ongoing competency in providing both home and hospital birth.
- Two birth centres opened in Ontario last year, providing a third choice for birthing women.
Background

- Integrating home birth services into the healthcare system improves choice for women and is safer than home birth as a fringe option.
- In places where home birth is not integrated, some women still choose to give birth at home.
Hospital Birth in Ontario

HCP Attending Hospital Birth 13/14
N=135,894

- Obstetrician n=112,197
- Midwife n=9,234
- Family Physician n=11,805
- Other n=905
Midwifery Births in Ontario

Actual Place of Birth for Women under Midwifery Care 13/14
N=19,357

- Hospital: 81.20% (n=15,726)
- Home: 17.90% (n=3,473)
- Birth Centre: 0.20% (n=42)
Home Births in Ontario

% of HB by LIHN 2013/2014
N=3473
Number of live infants born to women by planned and actual place of birth for midwifery clients 2012/2013

<table>
<thead>
<tr>
<th>Planned/Actual</th>
<th>Location of Birth</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned</td>
<td>Home</td>
<td>3,859</td>
</tr>
<tr>
<td></td>
<td>Hospital</td>
<td>13,427</td>
</tr>
<tr>
<td>Actual</td>
<td>Home</td>
<td>3,232</td>
</tr>
<tr>
<td></td>
<td>Hospital</td>
<td>14,098</td>
</tr>
<tr>
<td>All live births</td>
<td></td>
<td>139,599</td>
</tr>
</tbody>
</table>
## Birth in Ontario: Birth Centres

### Actual place of birth & planned place of birth

<table>
<thead>
<tr>
<th>Category</th>
<th>Ottawa BC</th>
<th>Toronto BC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Registration at Birth Centre</td>
<td>584 (104)</td>
<td>748 (87)</td>
</tr>
<tr>
<td>Admission to Birth Centre</td>
<td>227</td>
<td>314</td>
</tr>
<tr>
<td>Actual Location: Birth Centre</td>
<td>181</td>
<td>235</td>
</tr>
<tr>
<td>Actual Location: Hospital</td>
<td>230</td>
<td>317</td>
</tr>
<tr>
<td>Actual Location: Home</td>
<td>69</td>
<td>109</td>
</tr>
<tr>
<td>Notes</td>
<td>Change of birthplace of registered clients = 51% Transfers for admitted clients = 23% (only 2.5% urgent)</td>
<td>Clients from priority populations = 53% Transfers for admitted clients = 25%</td>
</tr>
</tbody>
</table>
Home Birth Outcomes

- Retrospective cohort studies conducted with Ontario home birth data have demonstrated that home birth is safe.
- New manuscript under review (2006-2009)
Hutton, et al., 2009 was a matched cohort study comparing 6692 planned home births with 6692 similarly low-risk women planning hospital birth. The groups were matched on parity and previous caesarean section.

Of all the planned home births, 78% actually delivered at home, (22% transfer rate), and 5% had an ambulance transport.
Home Birth Outcomes

- There was no difference between home and hospital for the primary outcome: a composite of neonatal/perinatal mortality or serious morbidity
  - RR 0.83, 95% CI 0.67-1.02

- Women who planned home were less likely to experience serious morbidity
  - RR 0.77, 95% CI 0.67-0.87
Women planning home birth were less likely to experience obstetric interventions:

- Episiotomy
- Assisted vaginal delivery
- Caesarean section
- Labour augmentation
- Pharmaceutical pain relief
Rationale for the Ontario Choice of Birthplace Study

- Choice and autonomy are significant factors in maternal satisfaction with childbirth
- Little is known about the decision making process for choice of birthplace
- Factors influencing women’s decisions are poorly understood
Rationale for the Ontario Choice of Birthplace Study

- Existing literature did not consider factors for choosing hospital birth as well as home
- Focused on maternal satisfaction with birth experience
- Limited Canadian data
OCBPS - Methods

- **Aim:**
  - Understand why women in Ontario decide to give birth at home or hospital

- **Design:**
  - REB approval from McMaster FHS REB
  - Quantitative survey design

- **Data collection:**
  - Jan 20 2012-July 31 2012
  - Self-administered paper & online survey
  - Likert scales, some open-ended questions

- **Data analysis:**
  - Descriptive statistics, thematic analysis
Sample

- Midwifery practices as recruitment sites
  - 85 practices - 6 geographical regions in Ontario
  - 9 practices randomly selected per region, approached to be recruitment site → resulted in 4 practices per region
  - Posters, survey packages to be given to all eligible women

- Women
  - >24 wks pregnant
  - >16 yrs old
  - Equal opportunity to give birth at home or hospital
  - No contraindications for vaginal birth

- Anticipated Sample Size
  - 600 surveys distributed (100 per region)
  - Aim for 20% response rate for surveys = 120
Findings

- 219 surveys returned
  - 5 excluded – 4 postpartum, 1 twins
- 214 eligible participants
  - 36% response rate
  - 122 paper (57%)
  - 92 online (43%)
- 36.4% (n=78) Planning home birth
- 57.5% (n=123) Planning hospital birth
Participants

General Description:
- Age 30-34
- Married
- College/University educated
- Middle Income
- Caucasian

<table>
<thead>
<tr>
<th>Parity</th>
<th>Total</th>
<th>Home</th>
<th>Hospital</th>
<th>Undecided</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nulliparous</strong></td>
<td>39%</td>
<td>35%</td>
<td>40%</td>
<td>46%</td>
</tr>
<tr>
<td><strong>Multiparous</strong></td>
<td>61%</td>
<td>65%</td>
<td>60%</td>
<td>54%</td>
</tr>
</tbody>
</table>
Place of Birth – Sources of Information

- Research: 71%
- Books: 53%
- Videos: 64%
- Family/Friends +ive HB: 60%
- Family/Friends -ive HB: 79%
- Previous hosp experience: 25%
- Discussion with MW: 27%
- HB info session: 34%
General Rationale - Home

- Involved in decisions: 100%
- Comfortable/Relaxed at Home: 88%
- Freedom of Movement: 86%
- Partner involvement: 96%
- Control over environment: 89%
- Avoid interventions: 96%
General Rationale - Hospital

- Involved in decisions: 89%
- Comfortable at hospital: 78%
- Pain relief: 64%
- Partner involvement: 65%
- Partner wants hospital birth: 70%
- Avoid mess: 60%
General Rationale - Undecided

Freedom of Movement: 99%
Partner involvement: 90%
Avoid interventions: 100%
Beliefs about Birth

<table>
<thead>
<tr>
<th></th>
<th>Home</th>
<th>Hospital</th>
<th>Undecided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth is natural</td>
<td>99</td>
<td>94</td>
<td>100</td>
</tr>
<tr>
<td>Labour progress</td>
<td>65</td>
<td>8</td>
<td>92</td>
</tr>
<tr>
<td>faster in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>comfortable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recovery</td>
<td>82</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td>easier in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>comfortable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>environment</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Perceptions Risk/Safety- Home

Participants **strongly agree or agree** with the following:

- Trust midwife’s skill (100%)
- Feel safe at home (96%)
- Home birth is safe for mothers/babies (94%, 95%)
Perceptions Risk/Safety- Hospital

Participants strongly agree or agree with the following:

- Trust Midwife’s skills (99%)
- Feel safe in hospital (89%)
- Hospital birth is safe for mothers/babies (80%)
- 41% Neither agree nor disagree that hospital birth provides opportunity for better health for mother/baby
Perceptions Risk/Safety - Undecided

Participants **strongly agree or agree** with the following:

- Trust midwife’s skills (100%)
- **Agree** that:
  - Hospital is safe for mothers/babies (61%, 54%)
  - Home is safe for mothers/babies (77%, 38%)
  - Provides opportunity for better health for mothers & babies
    - Hospital 54%
    - Home 30%
Undecided about place of birth

Which statements best reflect the factors that are important to you as you try to decide where to have your baby?

**Mixed responses** to the following statements:

- I want pain relief options
  - Strongly agree=15%
  - Agree=23%
  - Neither agree nor disagree=39%
  - Disagree=23%

- I feel more comfortable….
  - At **home**= 61% agree, 31% neither agree or disagree
  - At **hospital**= 54% neither agree or disagree, 30% disagree

- I feel more relaxed….
  - At **home**= 77% strongly agree or agree
  - At **hospital**= 46% agree, 31% neither agree or disagree
### Open-Ended Responses

<table>
<thead>
<tr>
<th>Home</th>
<th>Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital birth risky due to higher intervention rates</td>
<td>Desire to have access to OB care or emergency services</td>
</tr>
<tr>
<td>Negative aspects of hospital environment (noise, interruptions, light, clock)</td>
<td>Seen as best of both worlds (midwife in hospital)</td>
</tr>
<tr>
<td>Want water birth</td>
<td>Home unsuitable for birth</td>
</tr>
<tr>
<td>More opportunity to bond with baby after birth</td>
<td>Fear of complications</td>
</tr>
</tbody>
</table>
Decision-Making Priorities

Asked to identify 3 most important reasons for their choice

- Most common reasons for all participants:
  - Feel safer in chosen location
  - Feel more comfortable
  - See birth as natural process

- Home birth group
  - Birth as natural process
  - Want to avoid intervention

- Hospital birth group
  - Feel safer in hospital
  - Want access to pain medication
Discussion

- WHY do women choose their place of birth?
- WHO are the women who make these decisions?
- WHEN do women decide?
WHY?

- The OCBPS helps to answer the “WHY?”
- All women in study have a high priority for safety, and see birth as a natural process
- Safety is strongest determining factor for women choosing hospital birth
- Women choosing home view home birth as a safe option
- Women desire to be in environment where they feel safe and comfortable → defined differently by each group
OCBPS results indicated that a higher proportion in “undecided” group were nulliparous.

Birthplace study in UK indicates that first birth experience impacts future choices.

Even those with an uncomplicated first birth were more likely to choose hospital a second time because it becomes the “known experience”.
WHO?

The characteristics of women who choose home or hospital birth may be changing:

- Older research indicated that women choosing HOME were: older, multiparous, had a higher education level, had less traditional attitudes, and rejected technology (Kleiverda et al., 1990; Soderstrom et al., 1990; Bastian, 1993; Viisainen, 2001)

- New research showed that women choosing HOSPITAL were: older, had a higher income, have had assisted reproduction, have had a previous pregnancy loss, have depressive disorders, and are worried about health issues (Van Haaren-ten Haken 2012)
WHO?

- OCBPS may be representative of the midwifery population, but not of the overall birthing population in Ontario.
- Study participants were on average: age 30-34, married, college/university educated, middle income.
- Only midwifery clients have access to home birth and birth centre birth.
Many women have a preference for place of birth at beginning of pregnancy

“Undecided group” may represent women who are keeping options open or exercising flexibility in birth planning

Onset of labour provides the most information about eligibility for home birth
WHEN?

- Study in Netherlands looked at 529,688 women in midwife-led care at end of pregnancy
  - 321,307 (60.7%) planned home birth
  - 163,261 (30.8%) planned hospital birth
  - 45,120 (8.5%) unknown (included missing values and those who decided in labour)

Baseline characteristics for unknown group were in between planned home/planned hospital groups (age, ethnicity, income). Their outcomes were different than other two groups…but why would this be?

(de Jong, 2009)
Future research

- Understanding changing population of who chooses home/hospital/birth centre in Ontario
- How parity impacts decision-making
- Is there a benefit to being flexible about place of birth? Do “undecided” women reflect greater self-selection?
References


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Kukulu K, Oncel S. Factors influencing women’s decisions to have a home birth in rural Turkey. Midwifery 2009;25:32-38.


