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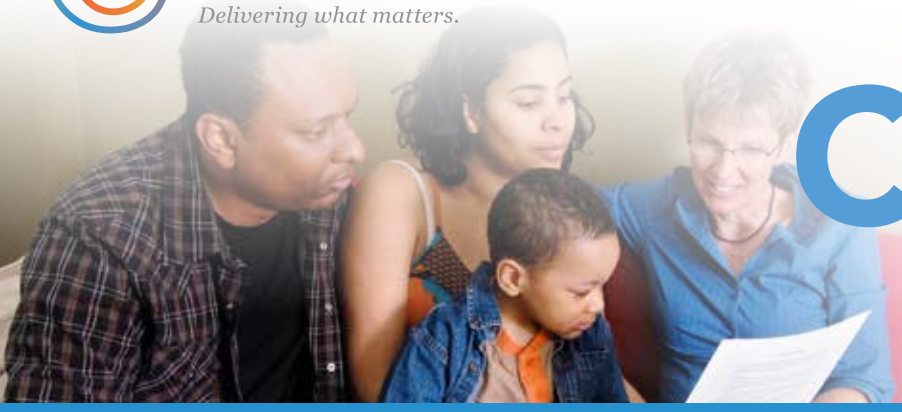

CHOICE of Birthplace

Guideline for discussing choice of birthplace with clients

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INTRODUCTION

Informed choice and choice of birthplace are fundamental principles of midwifery care in Ontario. Midwives facilitate the collaborative process of informed decision-making and recognize clients as primary decision-makers about their care, including where they choose to give birth (e.g., at home, in birth centres, hospitals, midwifery clinics, and remote health centres). The College of Midwives of Ontario (CMO) requires registered midwives (RM) to provide choice of home and hospital birth; Aboriginal midwives (AM) practice under the exception clause in the Midwifery Act and provide choice of home or other out-of-hospital birth. (1,2)

While all midwifery clients in Ontario would ideally have equal access to birth settings, choice of birthplace is sometimes limited. Limitations may be related to local resources (e.g., only three birth centres available in Ontario: Toronto Birth Centre, Ottawa Birth and Wellness Centre and Tsi Non:we Ionnakeratstha Ona:grahsta', the birthing centre located on the Six Nations of the Grand River Territory). Other limitations to choice may be related to inequities due to social determinants of health (e.g., living in shelters, on the street or otherwise under-housed). Midwives develop an understanding of each client and family's social circumstances, and explore out-of-hospital settings for each person; they take into account clients' housing situation, as well as the options and specific resources available locally. Midwives should also advocate for access to choice of birthplace for all clients at both the local and provincial level, as well as for the Aboriginal midwifery scope of practice to include hospital privileges.

When discussing the risks, benefits and alternatives associated with birth settings with clients, midwives should refer to best

available evidence and, when available, should focus on the growing body of robust evidence examining midwife-attended births and the safety of planned home birth in Canada.

The purpose of this document is to provide guidance for midwives when facilitating informed choice discussions with clients on choosing birthplace and it is not intended to dictate a course of action. Inspired by the recommendations on place of birth in the National Institute for Healthcare Excellence (NICE) guidance on intrapartum care, this guideline provides a review of best available evidence relevant to the health-care system in Ontario, Canada. (3) Included studies compare outcomes for midwifery clients who plan to give birth at home or in a birth centre at the start of labour to midwifery clients who plan to give birth in the hospital at the start of labour. For more information on the methodology (GRADE) and the evidence used by Expert Advisory Panel on Choice of Birthplace convened by the AOM to develop this guideline, click here.

Study inclusion criteria

The review of evidence included observational studies (prospective or retrospective cohort studies) conducted in Canada after 1990 that provided outcomes based on intended – not actual – place of birth at the beginning of labour. * Studies were selected for inclusion if: midwifery services were offered in a well-integrated health-care system; the intended place of birth at start of labour was known; there was a planned hospital birth group for comparison with the planned home birth group or planned birth centre birth group; and study participants were considered to be at low risk of complications. †

Research on planned home birth compared with planned hospital birth attended by midwives

The evidence presented below on planned home birth and planned hospital birth attended by midwives is based on research using data from midwifery clients at low risk of complications in two Canadian provinces, Ontario (ON) and British Columbia (BC). (4–7)

Outcomes of midwife-attended births in Canada are consistent with comparable jurisdictions where midwifery and home birth are well-integrated into the health-care system, such as England, (8) New Zealand, (9,10) the Netherlands (11–13) and Norway. (14)

Research on planned birth centre birth compared with planned hospital birth attended by midwives

Given their recent introduction into the Canadian health-care system outside of Quebec, there were no published Canadian studies comparing midwifery clients at low risk of complications planning to give birth in birth centres to midwifery clients planning to give birth in hospitals. A study was conducted to evaluate midwifery services in the Quebec birth centre pilot projects; however, the comparison group was composed of hospital births attended by physicians, not midwives. (15)

Although studies were not yet published at the time this guideline was written, some evidence on outcomes is available about birth centres in Ontario. BORN Ontario completed an evaluation of Ontario's birth centre demonstration project, which includes an analysis of outcomes from the Toronto Birth Centre and the Ottawa Birth and Wellness Centre. These results are not formally included in the outcome tables below, as the numbers are still small; however, outcomes reported in the evaluation are consistent with published research on planned home births attended by midwives in Ontario. (16,17) Because the equipment, services, health-care providers and pain relief options available to clients at home births and in birth centres in Ontario are comparable, midwives can refer to Canadian evidence on planned home birth when discussing outcomes associated with planning a birth centre birth in addition to data from Ontario birth centres and comparable international research such as the evidence below.

In the absence of published Canadian research, the review of birth centres was expanded to include

* Analyzing outcomes based on the intended place of birth at the beginning of labour instead of the actual place of birth is consistent with 'intention-to-treat' analysis, which is commonly used in randomized controlled trials. 'Intention-to-treat' is an important methodological consideration for birthplace research to ensure that outcomes are classified correctly (e.g., if a client has planned a home birth and is then transported to a hospital, any negative outcome would be recorded as an outcome of a planned home birth).

† Clients with one previous caesarean section were included as participants at low risk of complications in all studies. For more information on the definition of 'low risk', consult the studies included in the review. (4–10)

international research from jurisdictions where midwifery and free-standing birth centres are well-integrated into the health-care system. The evidence presented below on planned birth centre birth compared with planned hospital birth attended by midwives is based on research from England. (8) Evidence from New Zealand was also reviewed and summarized to complement results from England, (9,10) and is presented in the supplementary document.

Research from other settings, such as the United States, did not meet study inclusion criteria mainly because they lack comparison groups. Studies with large numbers of participants have demonstrated the safety of birth centres and their association with low rates of obstetric interventions within the U.S. health system. (18–23) Because of differences regarding the integration of midwifery, however, birthplace research conducted in the U.S. may not be generalizable to the Canadian health-care system.

Research on birth attended by midwives in other settings

In addition to homes, birth centres and hospitals, midwives attend births in other settings, such as midwifery clinics and remote health centres. Reviewing evidence on these other settings is beyond the scope of this particular guideline. However, it should be noted that research conducted on out-of-hospital births attended by midwives in Indigenous, rural, remote and northern communities has shown safe outcomes consistent with Canadian and international research on out-of-hospital birth. (24–32) Midwives support and advocate for keeping birth in communities, which provides more client-centred and culturally sensitive care as well as supports the local health-care infrastructure. (33)

DISCUSSING CHOICE OF BIRTHPLACE

1. Advise all clients at low risk of complications that giving birth is generally very safe for both them and their baby.
2. Advise all clients at low risk of complications that they can choose any birth setting available in their community (e.g., home, birth centre, hospital, midwifery clinic, and remote health centre).

Discussing interventions and health outcomes

Research on pregnancy and birth, including the birthplace research summarized below, suggests that obstetric interventions and adverse health outcomes occur more frequently in first-time births. Therefore, researchers sometimes analyze and report results for multiparous and nulliparous clients separately. The evidence below is summarized by parity when relevant and available.

3. Discuss rates of **obstetric interventions and health outcomes** associated with intended place of birth (see results summarized in **Table 1 for nulliparous clients** and **Table 2 for multiparous clients**).

   Inform clients that:

   - Overall, rates of obstetric interventions and negative health outcomes are low for all midwifery clients at low risk of complications in all birth settings. (4–10)
   - Planning birth at home or in a birth centre compared with hospital is associated with a higher rate of spontaneous vaginal birth and lower rates of postpartum hemorrhage, perineal trauma (3rd and 4th degree perineal tears) and of obstetric interventions, such as caesarean section, assisted vaginal birth, episiotomy, augmentation of labour with oxytocin, epidural or spinal analgesia/anesthesia. (4–10)
   - Planning birth at home compared with hospital is associated with lower rates of use of narcotics and nitrous oxide for pain relief. (4–7)
   - Planning birth at a birth centre compared with hospital is associated with a lower rate of blood transfusion and a higher rate of immersion in water for pain relief. (8)

TABLE 1: OBSTETRIC INTERVENTIONS AND HEALTH OUTCOMES FOR **NULLIPAROUS** CLIENTS AT LOW RISK OF COMPLICATIONS BY PLANNED BIRTHPLACE

OUTCOMES	CANADA			ENGLAND		
	Home with MW %	Hospital with MW %	References	Birth centre with MW %	Hospital with MW or other %	References
Spontaneous vaginal birth	79.6	73.1	(4–7)	81.0	62.1	(8)
C-section	12.8	16.3	(4–7)	6.9	15.8	(8)
Assisted vaginal birth	7.6	10.6	(4,5)	5.7 (vacuum) 6.1 (forceps)	11.3 (vacuum) 10.6 (forceps)	(8)
Episiotomy	9.5	12.4	(4,5)	16.5	29.1	(8)
Labour augmentation with oxytocin	20.3	26.9	(5)*	15.1	34.7	(8)
Epidural/spinal	29.2	44.7	(5)*	19.8	41.2	(8)
Narcotic analgesic	3.7	10.4	(5)*	outcome not reported in study		
Nitrous oxide	7.1	18.9	(5)*	outcome not reported in study		
Immersion in water	outcome not reported in studies			52.7	11.7	(8)
Perineal trauma (3rd or 4th degree tears)	3.1	4.7	(5)	4.0	4.5	(8)
Postpartum hemorrhage	3.2	3.6	(5)	outcome not reported in study		
Blood transfusion	outcome not reported in studies			0.8	1.6	(8)

* Unpublished results were provided by the authors of the 2016 Ontario publication included in the review (5)

TABLE 2: OBSTETRIC INTERVENTIONS AND HEALTH OUTCOMES FOR **MULTIPAROUS** CLIENTS AT LOW RISK OF COMPLICATIONS BY PLANNED BIRTHPLACE

OUTCOMES	CANADA			ENGLAND		
	Home with MW %	Hospital with MW %	References	Birth centre with MW %	Hospital with MW or other %	References
Spontaneous vaginal birth	97.4	94.5	(4–7)	97.7	88.8	(8)
C-section	1.9	3.7	(4–7)	0.8	5.2	(8)
Assisted vaginal birth	0.7	1.8	(4,5)	0.4 (vacuum) 0.8 (forceps)	3.7 (vacuum) 2.0 (forceps)	(8)
Episiotomy	1.2	2.4	(4,5)	2.3	7.6	(8)
Labour augmentation with oxytocin	2.5	6.3	(5)*	1.6	10.0	(8)
Epidural/spinal	4.0	16.4	(5)*	3.7	16.3	(8)
Narcotic analgesic	0.5	3.2	(5)*	outcome not reported in study		
Nitrous oxide	2.4	15.8	(5)*	outcome not reported in study		
Immersion in water	outcome not reported in studies			41.5	6.6	(8)
Perineal trauma (3rd or 4th degree tears)	0.3	1.0	(5)	0.9	1.6	(8)
Postpartum hemorrhage	2.1	2.7	(5)	outcome not reported in study		
Blood transfusion	outcome not reported in studies			0.4	0.7	(8)

* Unpublished results were provided by the authors of the 2016 Ontario publication included in the review (5)

TABLE 3: NEONATAL INTERVENTIONS AND HEALTH OUTCOMES BY PLANNED BIRTHPLACE AND PARITY

OUTCOMES	CANADA			ENGLAND		
	Home with MW per 1000	Hospital with MW per 1000	References	Birth centre with MW per 1000	Hospital with MW or other per 1000	References
Intrapartum stillbirth and neonatal death within 28 days	**1.1**	**0.9**	**(4–6)**	**outcome not reported in study**		
Nulliparous clients	1.9	1.9	(4,5)			
Multiparous clients	0.8	0.4	(4,5)			
Intrapartum stillbirth	**0.5**	**0.3**	**(4–6)**	**0.4**	**0.2**	**(8)**
Nulliparous clients	0.8	0.3	(5)	0.2	0.1	(8)
Multiparous clients	0.1	0.1	(5)	0.5	0.2	(8)
Neonatal death (0-7 days)	**0.4**	**0.6**	**(5)**	**0.4**	**0.3**	**(8)**
Nulliparous clients	1.0	1.2	(5)	0.6	0.4	(8)
Multiparous clients	0.1	0.3	(5)	0.3	0.1	(8)
Resuscitation with PPV and chest compressions	**2.7**	**2.8**	**(4,5)**	**outcome not reported in study**		
Nulliparous clients	5.0	4.5	(5)			
Multiparous clients	1.1	1.2	(5)			
NICU admission †	**15.0**	**17.0**	**(4)**	**17.0**	**28.0**	**(8)**
Nulliparous clients	outcome not reported by parity in study			23.0	35.0	(8)
Multiparous clients				12.0	19.0	(8)
Apgar score < 7 at 5 minutes §	**7.0 to 9.0**	**9.0 to 12.0**	**(4–7)**	**8.0**	**10.0**	**(8)**
Nulliparous clients	14.7	13.5	(5) *	10.8	9.5	(8)
Multiparous clients	3.7	7.4	(5) *	5.7	8.4	(8)

† The Canadian study reported NICU stay longer than 4 days (4) while the English study reported NICU admission. (8)
§ Some Canadian studies excluded babies born with serious congenital anomalies, (6,7) while others did not (4,5) when reporting low Apgar scores; thus, results were not pooled. Results from England did not exclude congenital anomalies. (8)
* Unpublished results were provided by the authors of the 2016 Ontario publication included in the review. (5)

4. Discuss rates of **neonatal interventions and health outcomes** associated with intended place of birth (see results summarized in **Table 3 for all newborns and based on parity**).

   Inform clients that:

   - Overall, rates of neonatal interventions and negative health outcomes are low for all midwifery clients at low risk of complications in all birth settings. (4–9)
   - No difference was found in the risk of mortality (intrapartum stillbirth, early neonatal death or neonatal death 0-28 days) when comparing planned home births with planned hospital births, regardless of parity. (4–7) These results from Canadian research are consistent with international research in settings where midwifery is well-integrated into the health-care system, including results from the Birthplace in England study that compared planned home and birth centre births with planned hospital births and from a Dutch study, the largest of its kind to date, that compared planned home births with planned hospital births. (8,11)

- No difference was found in other neonatal interventions and adverse health outcomes, including neonatal resuscitation with positive pressure ventilation (PPV) and chest compressions (4,5), neonatal intensive care unit (NICU) admissions (4,8,9) and Apgar scores (4–8) when comparing births planned at home and in birth centres compared with hospital.
- Because serious adverse neonatal health outcomes are very rare, researchers sometimes combine a number of outcomes together and report a *composite measure of neonatal mortality and morbidity*. Canadian research reporting 2 different composite measures found no difference in neonatal mortality and morbidity when comparing planned home births with planned hospital births, regardless of parity. (4,5) In contrast, research conducted in England with a different composite measure found a small increase in the likelihood of neonatal mortality and morbidity for nulliparous clients who planned to give birth at home compared to hospital. (8) The same study's results found no difference in neonatal mortality and morbidity when comparing planned birth centre births with planned hospital births, regardless of parity. The use of different composite measures across studies makes it challenging to compare results directly and may explain some of the differences observed.

5. **Advise clients at low risk of complications who value low intervention birth that planning birth out-of-hospital is particularly suitable for them because evidence suggests that rates of obstetric interventions and negative health outcomes are lower and neonatal health outcomes are no different compared with planning a hospital birth. (4–10)**

Discussing availability of resources and capacity

6. Discuss the availability of local resources and capacity, such as timely access to emergency services and treatments, collaboration with other health-care providers and pain relief options.

   Inform clients that:

   - The equipment midwives bring to home births and that is available in birth centres is similar to the equipment in a level I community hospital, including oxygen, neonatal resuscitation equipment, medications to treat postpartum hemorrhage and sterile instruments.
   - Midwives are trained to manage emergencies in all settings and undergo regular recertification in neonatal resuscitation (NRP) and managing emergency skills (ESW, ALARM).

Discussing transport and transfer

7. Discuss the possibility of **transport** to a hospital equipped to manage emergencies and consultation and/or **transfer of care** to another health-care provider during labour, birth or immediate postpartum with all clients, regardless of where they plan to give birth (see results summarized in **Table 4 for all clients and by parity**). (4,5,8) [†]

Inform clients that:

- The majority of births occur where clients planned to give birth. Among clients who, at the onset of labour, had planned to give birth at home, nearly 87% of multiparous clients and about half of nulliparous clients gave birth at home. Though it is much less frequent, it is possible for planned hospital births to occur at home or for emergency services (ambulance) to be called to their home and transport them to hospital, especially in the event of a precipitous birth. (4,5,8)

[†] "Transport" refers to the physical movement of a midwifery client from one location to another (i.e. from home or birth centre to hospital), with or without the assistance of Paramedic Services. "Transfer" or transfer of care refers to the transfer of care responsibility from one health-care provider to another (i.e. midwife to physician), where the accepting provider becomes most responsible for the care.

- Most cases of transport to hospital are non-urgent and do not require emergency services or paramedics. At times, an ambulance may be used for transport to hospital because it is the fastest or most appropriate means of transportation even in the absence of a health emergency. At other times, transport to hospital may not necessarily occur despite emergency services being called to the intended birth setting. (4,5) ‡
- The most frequently reported **intrapartum** reasons for transport from home or birth centre to hospital in Ontario include: prolonged labour, pain relief, and fetal well-being concerns such as meconium and fetal heart rate. (17,34,35)
- The most frequently reported **postpartum** reasons for transport from home or birth centre to hospital in Ontario include: postpartum hemorrhage, repair of severe lacerations and neonatal health concerns such as respiratory distress and small-for-gestational age. (17,34,35)
- Discuss travel time from clients' chosen birth setting to a hospital equipped to manage emergencies, taking into account the most appropriate means of transportation and local circumstances that may impact timely transport to hospital.
- Discuss reasons that may necessitate consultation with and/or transfer of care to another health-care provider in accordance with regulatory body standards and local context. (36)

TABLE 4: TRANSPORT AND TRANSFER BY PLANNED BIRTHPLACE AND PARITY

OUTCOMES	CANADA			ENGLAND		
	Home with MW %	Hospital with MW %	References	Birth centre with MW %	Hospital with MW or other %	References
Birth occurred where client planned to give birth at the onset of labour	**76.2**	**96.7**	**(4,5)**	**83.5**	**outcome not reported in study**	**(8)**
Nulliparous clients	54.4	96.6	(5)*	70.4		(8)
Multiparous clients	85.7	96.8	(5)*	94.7		(8)
Transport by emergency services from home to hospital during or right after birth	**5.4**	**0.7**	**(4)**	**outcome not reported in study**		
Nulliparous clients	8.2	0.6	(4)			
Multiparous clients	3.9	0.7	(4)			
Emergency services called to the home during or right after birth	**8.8**	**1.7**	**(5)**	**outcome not reported in study**		
Nulliparous clients	8.5	1.3	(5)			
Multiparous clients	7.9	1.9	(5)			
Transfer of care to another provider during labour	**12.5**	**19.0**	**(4)**	**outcome not reported in study**		
Nulliparous clients	27.8	34.7	(4)			
Multiparous clients	4.5	10.7	(4)			

* Unpublished results were provided by the authors of the 2016 Ontario publication included in the review (5)

‡ For instance, emergency services may be called in cases of a client's precipitous birth before the midwives arrive at the intended birth setting.

RISK SCREENING

Discussions with clients about risk screening for choice of birthplace are informed by evidence as well as midwifery standards from regulatory bodies, such as the CMO, or professional associations. (2,36,37) There is limited evidence to guide discussions on choice of birthplace with midwifery clients who have conditions or factors that may increase risk of adverse health outcomes. Best available evidence related to birthplace is informed by studies that involve participants at low risk of complications (defined similarly in different jurisdictions).

It should be noted that clients with one previous caesarean section were included as low-risk participants in all studies reviewed for this guideline. (3–10) In the particular case of clients considering choice of birthplace for a vaginal birth after caesarean (VBAC), midwives may also refer to the AOM's Clinical Practice Guideline No. 14: Vaginal Birth after Previous Low-Segment Caesarean Section and results from secondary analyses of the Birthplace in England study. (38,39)

CONCLUSION

Canadian research examining outcomes of midwife-attended births in different settings is consistent with findings from studies looking at comparable health-care systems, such as England, New Zealand, the Netherlands and Norway. In jurisdictions where midwifery services are well-integrated into the health-care system, evidence shows that planning to give birth at home or in a birth centre is as safe as planning to give birth in a hospital for midwifery clients at low risk of complications. It is also associated with a decreased need for obstetric and neonatal interventions.

The AOM is committed, through our statement on Gender Inclusivity and Human Rights, to reflect and include trans, genderqueer and intersex communities in all aspects of our work.In this document, there are references to sources that use gendered language to refer to populations of pregnant and birthing people. In order to accurately represent these sources, we may have maintained gendered language. We support research and knowledge translation that engages and reflects the entire childbearing population.

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