
ARTICLE

Perinatal Outcomes for Four Toronto Midwifery Practices: Exploring Best Practices for Normal Birth

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ABSTRACT

This study explores outcomes from four Toronto midwifery practices from 2003 to 2007, using data from the Midwifery Outcomes Database to look at similarities and differences between the practices and with provincial averages. The goals of our project included establishing a university/community partnership with the participating practices, which included Ryerson and McMaster University faculty members; improving capacity among midwives with using a provincial database; and producing a comprehensive perinatal outcomes report for midwifery practices that could be used for internal review and for presentation at interprofessional forums such as hospital rounds and interprofessional conferences.

A comparative analysis between the practices and with the provincial midwifery data showed several trends, including an increased incidence of late maternal age, low rates of intervention, and high rates of home birth. Our research raises questions about scope of practice and best practices for supporting normal birth.

KEYWORDS

midwifery, community midwifery, midwifery-led care, normal birth

This article has been peer reviewed.

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ARTICLE

Issues périnatales au sein de quatre cabinets de pratique sage-femme de Toronto : Évaluation des pratiques optimales en ce qui concerne l'accouchement normal

par Vicki Van Wagner RM, PhD; Mary Sharpe RM, PhD; Judy Rogers RM, MA; Elizabeth Brandeis RM, BHSc; Andrea Levy RM, BHSc; Tia Sarkar RM, BHSc; Bridget Lynch RM, MA; Kristen Dennis RM, BHSc; Leah Klein RM, BHSc; Jenna Robertson RM, MA

RÉSUMÉ

La présente étude s'est penchée sur quatre cabinets de pratique sage-femme de Toronto entre 2003 et 2007, et s'est servie de données issues de la Midwifery Outcomes Database pour examiner les similarités et les différences entre les résultats obtenus au sein des cabinets et les moyennes provinciales. Les objectifs de notre projet comprenaient, entre autres, l'établissement d'un partenariat entre les universités, la collectivité et les cabinets participants (lesquels comptaient des membres du personnel enseignant des universités Ryerson et McMaster), l'amélioration de la capacité des sages-femmes relativement à l'utilisation d'une base de données provinciale et la rédaction d'un rapport exhaustif sur les issues périnatales (à l'intention des cabinets de pratique sage-femme) qui pourrait être utilisé à des fins d'examen interne et de présentation dans le cadre de forums interprofessionnels, comme les visites de patients et les conférences interprofessionnelles.

Une analyse comparative des données des cabinets et des données provinciales sur la pratique sage-femme a révélé plusieurs tendances, notamment une incidence accrue de la grossesse à un âge avancé, de faibles taux d'intervention et des taux élevés d'accouchement à domicile. Notre recherche a soulevé des questions quant au champ d'activité et aux pratiques optimales visant à appuyer l'accouchement normal.

MOTS CLÉS

pratique sage-femme, pratique sage-femme en milieu communautaire, soins menés par des sages-femmes, accouchement normal

L'article a été soumis à l'examen collégial.

INTRODUCTION

In 1997, the World Health Organization (WHO) stated, “Midwives are the most appropriate primary health care provider to be assigned to the care of normal birth.”¹ The Royal College of Midwives in Britain stated, “All women need midwives and some women also need doctors.”² Although midwifery in Canada is growing, the majority of Canadian women receive primary maternity care from obstetricians. We hope our study will add to an emerging body of research that can: (1) inform policy decisions about maternity care, human resource planning, and the role of midwives in addressing rising rates of obstetric intervention, and (2) address questions about scope of practice and place of birth. From 2003 to 2012, the Ministry of Health and Long Term Care (MOHLTC) routinely collected data on perinatal outcomes of every client receiving midwifery care in Ontario, using the Midwifery Outcomes Report (MOR) database. Using the MOR database predefined reports that are accessible to all Ontario midwives, we conducted formal research on the outcomes of four midwifery practice groups (MPGs). Although the database provided provincial, practice-based, and individual practitioner data that are accessible to all Ontario midwives, both the internal use of the reports by practices and published work based on these outcomes appeared to be limited. The goals of our project included (1) establishing a university-community partnership with the participating practices, which included Ryerson University and McMaster University faculty members; (2) improving the ability of midwives to use a provincial database; and (3) producing for midwifery practices a comprehensive perinatal outcomes report that could be used for internal review and for presentation at forums such as hospital rounds and interprofessional conferences. The objectives of this article are to present the findings of a comparative analysis of the outcomes of four midwifery practices and to share some of our participants’ reflections on what can be learned about normal birth from their outcomes and practices.

Since regulation, midwifery in Ontario has been characterized by rapid growth. One consequence is that although the total number of home births in the province has increased, the demand for midwifery care in hospital has grown quickly, and the proportion of home births per midwife has on average decreased. Given that in some jurisdictions (particularly the United Kingdom) home birth has been supported as a strategy to increase rates of normal birth,³⁻⁶ there is a debate among Ontario midwives about how best to promote choice of birth place and home birth

in particular.

There are also debates about the scope of practice for midwives in Ontario. For example, the legislated scope of practice for midwives in Ontario includes maintaining primary care for clients who require medical interventions such as epidurals, inductions, and augmentations. However, not all practices provide primary midwifery care for such clients. Other examples in which scopes of practice may vary are the provision of midwifery care for first-trimester loss or genetic terminations, for women hoping for a vaginal birth after a cesarean section, having a breech baby or twins. Variations in scope of practice may be based on the preference of the midwives or on restrictions by hospital policy. There is a debate among Ontario midwives about whether midwifery-led care for common interventions is supportive of normal birth. Advocates of a broad scope of practice for midwives have pointed to the potential benefits of increased continuity of care, midwifery autonomy, and informed choice when midwifery care continues rather than care being transferred to medicine and nursing. Others express concerns that the focus of midwifery practice should be on normal birth and that taking responsibility for interventions will result in the increased “medicalization” of birth.

METHODS

Four years of aggregate data from the MOR database were retrieved for the specified MPGs, along with provincial values for the same years (2003 to 2007). The Ontario Ministry of Health and Long Term Care (OMHLTC) cleans all data before the data are entered into the MOR database. The data were validated by the OMHLTC through a chart audit.

The research team included a Midwifery Education Program faculty member and a practice group collaborator from each practice. The practice group collaborator provided information about the practice group and facilitated review and reflection on our findings by each practice.

We used predefined reports prepared by the Ministry of Health rather than raw data. The only exception was for perinatal mortality. To examine perinatal mortality, we retrieved the rates of stillbirth and neonatal and postneonatal death from the MOR, and a practice group collaborator from each practice reviewed clinical records and reported anonymized information about each case in a standardized format. Ethics approval was obtained from Ryerson University.

RESULTS

Practice Group Characteristics

The four MPGs included in this study are located in Toronto and have privileges at advanced Level II or Level III hospitals (Table 1). The midwives included in this study attended 4%–14% of their hospitals' births despite a very high demand for their services, which they were unable to meet. The midwives are a diverse group, reflected in the fact that they serve women in 15 different languages. In each practice, the midwives come from a variety of background experience, including preregulation practice, the Ontario Bachelor of Health Sciences in Midwifery program, and education and practice in another country. Midwives in the four practice groups have taken on leadership roles in their hospitals and community health care organizations; in the Midwifery Education program, the College of Midwives of Ontario, and the Association of Ontario Midwives; and in the international midwifery community. The size of each practice group ranged from eight to twelve midwives during the study period.

Like all midwifery practices in Ontario, all four practices attend births in both home and hospital. The Riverdale Community Midwives (RCM) also attended an increasing number of births in their clinic—about 4% of their total

births during our study period. During that period, both the Midwives Collective of Toronto (MCT) and Midwifery Care-North Don River Valley (MC-NDRV) maintained primary care for labour induction, labour augmentation, and epidural analgesia. The RCM and Community Midwives of Toronto (CMT), which have privileges at the same hospital, both transferred care to physicians for these interventions during the study period. However, in the last year of our study (2007), midwives at RCM (followed by CMT midwives in 2009) began providing primary care for augmentations.

The outcomes of 3,860 births attended by midwives in the participating practice groups and 36,358 total births attended by midwives in Ontario between 2003 and 2007 were reviewed in this study. Birth numbers per practice are shown in Table 1.

Client Demographics

Table 2 provides a demographic profile of the practices. More than 99% of all births attended by midwives in our study and across the province were singleton pregnancies. At all four practices, approximately 75% of the clients were older than 30 years, and a high number of clients were older than 40 years. The MCT and MC-NDRV had a higher proportion of multiparous clients than primiparous clients

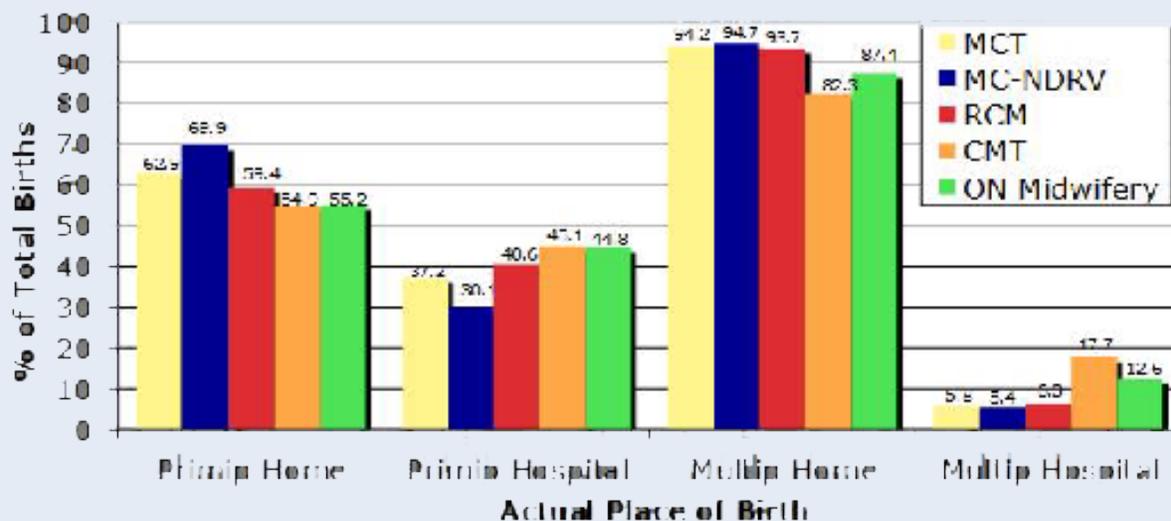
Table 1. *Demographic Profile of Study Practices*

Demographic	MCT	MC-NDRV	RCM	CMT
Location in Toronto	West	North York and York Region	East	West
Births/year	319	230	215	199
Births/study period	1,275	928	860	797
Hospital	Mount Sinai	North York General	St. Michael's	St. Michael's
Hospital Level	III	II	II	II
% of hospital's births	4.9% of 6,500	3.8% of 5,900	7.2 % of 3,000	6.6% of 3,000
Languages of care	Cantonese, Dutch, Flemish, French, Mandarin, Spanish	Cantonese, Mandarin, French	Afrikaans, Bengali, French, German, Portuguese, Spanish, Tagalog, Tamil	Farsi, French, German, Italian, Spanish

CMT, Community Midwives of Toronto;
MC-NDRV, Midwifery Care-North Don River Valley;

MCT, Midwives Collective of Toronto;
RCM, Riverdale Community of Midwives

Figure 1. Planned home births by parity.



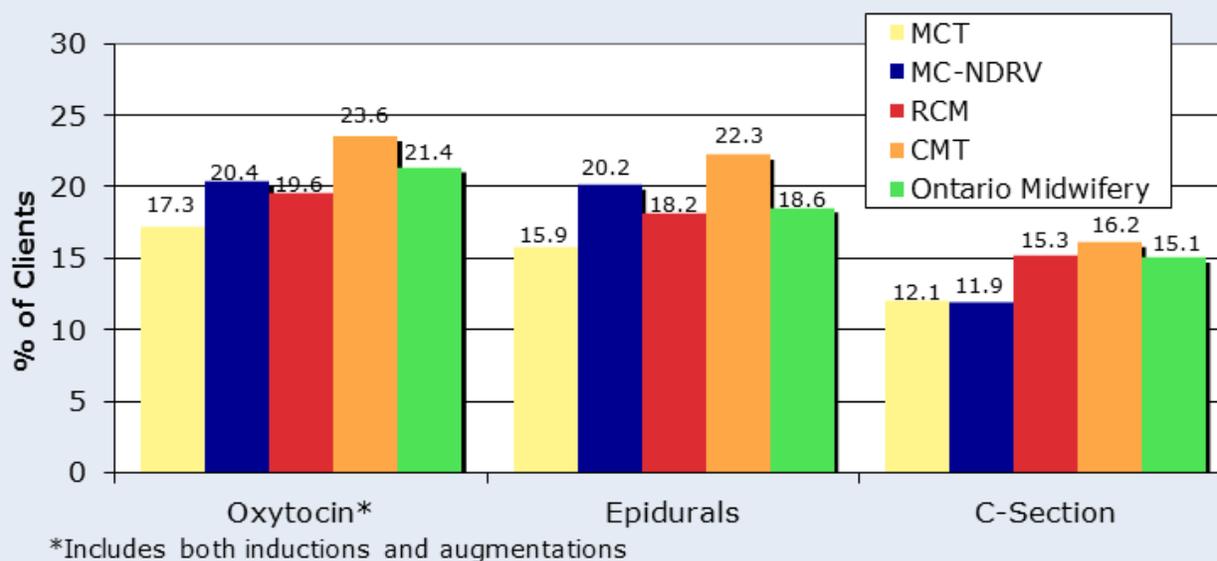
CMT, Community Midwives of Toronto;
 MC-NDRV, Midwifery Care-North Don River Valley;
 MCT, Midwives Collective of Toronto;
 Multip, multiparous;

ON, Ontario;
 Primip, primiparous;
 RCM, Riverdale Community of Midwives.

Table 2: Demographics

	MCT n=1275		MC-NDRV n=928		RCM n=860		CMT n=797		ON Midwifery n=36358	
	no.	(%)	no.	(%)	no.	(%)	no.	(%)	no.	(%)
Maternal Age										
<14	0	0.0	1	0.1	0	0.0	0	0.0	8	0.0
14-17	6	0.5	1	0.1	4	0.5	1	0.1	158	0.4
18-19	17	1.3	3	0.3	11	1.3	3	0.4	424	1.1
20-24	63	4.9	54	5.6	56	6.4	47	5.5	3734	9.7
25-29	201	15.5	210	22.0	142	16.3	181	21.2	10744	27.8
30-34	462	35.6	400	41.7	345	39.3	367	42.3	14871	38.4
35-39	414	32.0	250	25.9	246	28.1	221	25.4	7117	18.4
>40	132	10.1	41	4.2	68	7.7	45	5.3	1512	4.0
Parity										
Primiparous	517	39.9	288	30.3	483	55.1	519	519	16977	43.9
Multiparous	780	60.1	673	69.7	394	44.9	273	273	21717	56.1
Non-OHIP Average # of Visits										
Primiparous	18.4	-	18.2	-	18.5	-	18.5	-	18.7	-
Multiparous	17.9	-	17.3	-	17.1	-	18.1	-	17.8	-
Gestational Age at Booking										
<12 weeks	909	70.1	665	69.3	578	65.9	608	69.7	25211	65.0
13-28	292	22.6	249	26.0	234	26.7	220	26.0	11434	29.7
29-35	76	5.9	37	3.7	46	5.3	27	3.2	1608	4.2
36 weeks+	20	1.5	10	1.1	19	2.2	10	1.2	434	1.1

Figure 2. *Intrapartum interventions.*



CMT, Community Midwives of Toronto;
MC-NDRV, Midwifery Care-North Don River Valley;
MCT, Midwives Collective of Toronto;

C-Section, cesarean section;
RCM, Riverdale Community of Midwives.

and a higher proportion of multiparous clients as compared to the provincial average. The RCM and CMT had a higher percentage of primiparous clients as compared to the other participating practices and to the province. The MOR data showed that midwives in the four practices served a growing proportion of women who were without health insurance during the study period. In 2006 and 2007, rates of such clients in the four practices were approximately double that of the province as a whole (9.9%–11.8% versus 5.4%). Most clients made an average of 18 visits over their course of care (i.e., from early pregnancy to six weeks post partum). The majority of clients came into care at 12 weeks' gestational age or sooner. Both of these findings are consistent with provincial statistics.

Place of Birth

Table 3 provides details about planned and actual place of birth. All of the practices had home birth rates equal to or higher than the provincial rate. The home birth rate for the RCM was twice the provincial average. At all four practices and in the province overall, the majority of clients who planned births at home gave birth at home. Primiparous clients were more likely than multiparous clients to transfer to hospital from a planned home birth

(see Figure 1) Three of the participating practices had rates of ambulance transport (for fetal, maternal, and infant complications) lower than the provincial average.

Intrapartum Care

Figure 2 summarizes intrapartum outcomes and interventions. More than 90% of births occurred between 37 and 41 weeks' gestational age at all four practices and in the province. The majority of clients had spontaneous vaginal births. The practices and the province as a whole had low rates of instrumental birth, and rates of forceps delivery were generally lower than rates of vacuum-assisted deliveries. During the study period, the provincial midwifery cesarean section rate was 15.1%. The four practices in the study had rates lower than or consistent with the provincial average. As would be expected, rates of spontaneous vaginal birth for multiparous women were higher than those for primiparous women.

Three of the four practices had higher rates of vaginal breech deliveries than the provincial midwifery average. The rates of induction of labour (i.e., any type of induction, including the artificial rupture of membranes and induction by nonpharmacologic methods) for the four practices were lower than or consistent with the provincial midwifery

Table 3: *Place of Birth*

	MCT n=1275		MC-NDRV n=928		RCM n=860		CMT n=797		ON Midwifery n=36358	
	no.	(%)	no.	(%)	no.	(%)	no.	(%)	no.	(%)
Place of Birth										
Home	378	29.6	215	23.4	374	43.6	174	21.7	7750	21.5
Hospital	890	69.9	709	76.2	451	52.4	622	78.2	28418	78.0
Other Location	7	0.5	4	0.5	35	4.0	1	0.2	174	0.5
Planned Home Births										
Actual birth at home	358	80.0	206	87.2	338	75.4	154	65.1	7119	76.2
Actual birth in other location	90	20.0	30	12.8	110	24.6	84	34.9	2223	23.8
Primiparous actual birth at home	128	62.9	46	69.9	142	59.4	76	54.9	1797	55.2
Primiparous actual birth in other location	76	37.2	20	30.1	97	40.6	62	45.1	1459	44.8
Multiparous actual birth at home	230	94.2	161	94.7	196	93.7	81	82.3	5319	87.4
Multiparous actual birth in other location	14	5.8	9	5.4	13	6.3	18	17.7	767	12.6
Planned Hospital Births										
Actual birth at hospital	791	97.5	675	98.1	321	90.8	523	97.0	25940	97.6
Actual birth in other location	20	2.5	13	1.9	33	9.2	16	3.0	631	2.4
Primiparous actual birth at hospital	293	97.6	212	99.1	292	90.5	356	96.2	12196	97.7
Primiparous actual birth in other location	7	2.4	2	0.9	20	9.5	14	3.8	287	2.3
Multiparous actual birth at hospital	498	97.4	463	97.6	130	91.7	167	99.1	13743	97.5
Multiparous actual birth in other location	13	2.6	11	2.4	12	8.3	2	0.9	345	2.5

average of 14.8%. The rate of augmentation (any type) for all four practices was lower than the provincial average of 33.1%. The rate of pharmacological pain relief for all four practices was lower than the provincial rate. The epidural rate was lowest for the MCT (15% of vaginal births), where women also had access to nitrous oxide.

The intrapartum interventions summarized in Figure 2 are oxytocin induction and augmentation, epidurals, and cesarean sections. The provincial midwifery rate of episiotomy was 7.5%; rates at the study practices were consistent with or lower than the provincial rate.

Maternal Postpartum Outcomes

Table 4 details postpartum maternal outcomes and length of stay. Practices reported first- and second-degree perineal tears in 33% to 65% of vaginal births. The provincial midwifery average for any perineal trauma was 52.1%. Rates of episiotomy, postpartum hemorrhage, and maternal re-admission were low. In all four participating practices, the majority of clients who had vaginal births in hospital were discharged less than six hours after the birth, whereas provincially only 33.8% of vaginal-birth clients were discharged in less than six hours. Across the province, most clients who had vaginal births were discharged between six and 24 hours (34.6%) after giving birth. The

majority of clients who had cesarean sections at all four participating practices were discharged from hospital 25 to 60 hours after giving birth, whereas the provincial majority stayed in hospital longer than 60 hours after having a cesarean section.

Perinatal Outcomes

Preterm births occurred at lower rates in the four practices than in the province as a whole. The majority of babies born under midwifery care during the study period were of normal birth weight (2500–3999 g). An average of 3.5% of infants born at participating practices weighed 2499 g or less, while the provincial midwifery average was 2.8%. On average, 16% of infants born at the participating practices weighed 4000 g or more, which was consistent with the provincial midwifery average of 17.6%.

The rate of admission to a neonatal intensive care unit was less than 10%. Most infants requiring resuscitation received only oxygen. Rates of positive pressure ventilation (PPV) or PPV with cardiac compression (CC) were low. The rate of infants who received both PPV and CC was less than 1.0% for the study MPGs and for the province. In three of the four practices, the rates of re-admission (for babies born at home) or re-admission (for babies born in hospital) to hospital following birth were lower than those of the

article continued on page 32...

Exhibiting Representations of Pregnancy and Birth

The course *Birth and its Meaning* was founded in the first years of the Midwifery Program at the University of British Columbia, and was adopted and modified by the Ryerson University Midwifery Education Program in 2009. While the course varies at the two sites, fitting into the curriculum of each school, both explore the ways in which experiences related to the childbearing year are represented in culture. In the Ryerson course, there is almost no form of cultural expression we're unwilling to delve into, from painting and poetry, to new media and online gaming worlds, from cinema to sculpture. What we find is perhaps not surprising; on the one hand some rich, meaningful and complex ways in which these experiences of pregnancy, birth, loss, parenthood and breastfeeding, are represented. Predictably however, we sometimes also find absence or silence – little said or represented about experiences of pregnancy and birth – and very often we find both stereotypes and reflections of the same relationships of power that exist in most societies. We often don't see the diversity we see in our communities, reflected in art and cultural expression of these experiences: we rarely see midwives as birth attendants; we don't often see a pregnant woman with a disability; women in hospitals pushing babies out are often screaming, usually at husbands, rarely at female partners. And so the 'picture' that is painted for us in many forms of cultural expression from poetry to reality tv, often does not capture the incredible diversity of who births, how they birth, and who stands by their side while they birth.

The final assignment for *Birth and its Meanings* at Ryerson is to create a 'representation' of some kind. Some of the pieces created are more directly intended to 'correct' or fill in some of the absences we have identified, others are simply created through

the incredibly moving process of grappling with loss, birth, new motherhood – as student midwives think increasingly about moving into the role of primary health care providers. Some of the student's works are reflections on their own personal experiences, and some are a kind of imagining forward to the work they will be doing as midwives.

In 2013 we held an art exhibit, in which we exhibited 26 student works that have been submitted in the course over the last four years. The pieces collectively offer us a glimpse into the diverse and complex ways in which birth and related experiences may be understood. Student artists have used the exploration of cultural expression to see the world through different lenses, to understand the ways in which representations often replicate existing relationships of power in a society and also have the potential to challenge and upset the status quo.

In university settings we don't often get the chance to produce something creative as a way of talking about what we have learned. It is a tremendous honour and privilege to teach a course where students are given this opportunity, and each year as the final projects roll in, I am amazed by the thoughtfulness, creativity, the variety, and the richness of the pieces themselves. The end result is always a gift – a kind of tapestry of representations that reflect the diversity of who we are, and the richness of the experiences students bring to the course and to their future midwifery practice.

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“Annak Silami Apipsutuk Gudimuk Pigumajuk Nalligitsaminik” (“Woman Standing Outside Asking God For Someone To Love”)

By Tracy Pittman



“I do not feel alone here, my baby. I do not feel sad here. The beauty of this northland is my comfort. The sky and the water and the earth. I am more alive than before, my baby. I am home. Our mothers are here, grandmother, grandfather. And I am now a living piece of mother earth. Her natural world moves me in every way. My body has grown and changed. I am taken up with the tide just as my hair lifts up and blows in the north wind. I breath in the misty air, and feel one, calm, with the warm rains and blowing grass, like a child is one with her mother, brought forth from the waters of her body. I can smell the fresh earth all around me, the summer berries and their flower. The moss damp on the bog sends up a warm, sweet and musky aroma. I am comforted by the smells of the earth, as a child is soothed by the scent of its mother. The moon is blue and rising overhead, the hills too are a deep blue. I must say a prayer for myself and my people, my family, to feel the dreams of happiness and contentment children bring in our hearts. ‘Great Spirit send me someone to love’. Keep the child always beside me. Ancestors, protect the child forever. Please let this child be born on these lands, and together we will grow strong. Our people will grow strong too. Let this child bring a sweet love to my life, a love of my own, and meaning. And let our lands and traditions, our way, give a good life to this child. I can be a good mother here. The land will keep you, my child. The land will save you.”

It is in the spirit of longing for my northern home and respect for my own Inuit Great Grandmother, to thank my ‘White Eskimo’

Grandfather and his Inuit-Grandmother, my Mixed Blood Inuit culture and my northern homeland that I do this artwork. I create this image of birth and its meaning for Inuit and Inuit-Metis women and mothers. The image emerged in my mind’s eye from these connections, a mother’s connection, to my home and the ways of Inuit and Mixed Blood women in Labrador and Northern Newfoundland. And to the pieces of Inuit culture and ancestry that guide many of our lives and raises our children to be strong peoples with proud roots and cultures.

“Ripped in Two”

By Sarah Chisholm

This dress represents my conflicting feelings surrounding body image and the transition from maiden to motherhood as I begin my journey of trying to conceive. The little black dress represents my maiden years of care-free youth, as well as both an empowering image of women’s sexuality since the little black dress can make a woman feel sexy and confident, but also represents the pressures and confining definition of what is considered beautiful by our society and the pressure on all women to fit into this mould.

The maternity portion of the dress represents some of the darker issues surrounding becoming a mother. The red swaths represent the messy, bloody, parts of birth that are considered unpleasant and taboo topics. The skeleton in the back represents the vulnerability and exposure one feels during pregnancy. In our body obsessed culture, many comments during this time have to do with size and how you look, where even strangers will approach you and comment/ make suggestions about your lifestyle and body.

Lastly the “tiger stripes” in the front represent two ideas. Firstly, stretch marks, which I try to put front and centre, because they are something so many women try to conceal and avoid. I try to reframe them by calling them tiger stripes and seeing them as badges of honour because they can also represent the huge achievement that is becoming a mother. Secondly, they represent my interpretation of “maternal instinct,” which counters society views of a self-sacrificing soft demeanoured mother who knows what her children want and how to do it without guidance. No, I look at maternal instinct as the scariest phenomenon one can come across in the wild, a vicious animal protecting her cubs from all the dangers and evil in the world that we bring them into. For humans, not only do we have to protect our children from physical dangers, but also the psychological ones that can arise growing up in a culture that values superficial and confining ideas of beauty and success.



Imaging the Fetus

By Tarah Hoag



My piece looks at the routine use of fetal sonography and its implications for bodily integrity, embodied pregnancy, and discourse regarding the fetus as a person. I chose to create a textile piece because of its association with domesticity and women's work. Furthermore, my choice to create a plush toy brings our interaction with the fetus past the use of ultrasound and into the realm of imaginative play. This interactive aspect encourages viewers to question the ways that medicine and technology may shape and overshadow our own sensory experiences of the fetus and pregnancy, as well as reflect on what or who we regard the fetus to be.

The Ins and Outs of the Pregnant Body

By Sarah Davies

This piece draws on feminist Helene Cixous' metaphor of "writing the body" to literally mark this pregnant body with images and phrases that represent both dichotomy and complex multiplicity. It is an attempt to communicate the importance, in providing midwifery care, of both attending to detail and of the inseparableness of the parts from the whole

The crisp, clear, black and white, paper and ink anatomical and physiological images which coat the belly's surface are immobilized with acrylic sealant and represent medicalized thinking about the female body. They convey a sense of the unchanging, knowable aspects of pregnancy—symbolizing a clarity of conviction in the truth of a socially constructed ideology. The volume of detailed imagery represents the perceived need to have specialists to interpret our bodies for us and the disjointed separation of parts exemplifies the objectification implicit in this way of understanding the body. Yet, overlap in the images and gaps in the smooth surface of our knowledge peek through. They serve as a reminder of the depth of meaning with the body which is inevitably revealed through the cracks in our clinical understanding. The plaster cast is suspended and sways and bounces to remind us that our understanding is not as fixed as we may like to believe.

The inner surface is layered in free hanging fabric decorated with vibrant illustrations whose blurred and intermingled colours represent the ambiguity of subjectivity. They spill from the body, attached by Velcro tabs to the interior and to each other creating a tangled, interconnected, and changeable flow of thoughts and feelings that must be explored with the hands and heart as well as the mind.

The placement of the piece behind a sheer curtain, a threshold, which observers need to be thoughtful about entering, expresses the importance of the grave and joyful responsibility in accepting an invitation from a woman and her family to share in the experience of bringing new life into the world.



Relinquishment

By Karyn Mierau



For some, birth is loss. My art image depicts a young woman's relinquishment of an infant at birth for the purpose of adoption. I have tried to highlight (or more accurately, "dim-light") a juxtaposition of emotions contained within one life-changing event. The crude tableaux depicted on the column lamp represent these four images:

The pregnant body, a Goddess, squatting and holding all life within symbolizes pregnancy and childbirth as the woman's first identification as mother. Shown in her two hemispheres, she feels torn - split about the decision she is making about the life inside of her. Yet, this is a strong and empowered image.

The meeting of mother and child, portrayed in the style of the Madonna and Child is pure and private. Mother and child are central, and the setting is idyllic. History and the future have no impact or measure on the import of this moment. Love is born.

A baby alone, depicted with her umbilical cord still attached to her body, is, in fact, unattached, naked and floating, with no awareness of how her life might unfold. She floats in an atmosphere that is not yet defined. Her own physical definitions are rough, as if still developing. The mother will forever hold on to this memory of her child as a newborn infant having just emerged from her body - and in future moments of longing and regret, she will wonder if she did the right thing.

A woman with empty arms, portrayed as a dark silhouette placed against a patterned background indicates arms reaching, grasping - a broken heart, and the suggestion of that heart taking flight away from her - or perhaps being reclaimed. There is much to be sorted in the context of loss and learning, and a hope of restoration through that very pain.

I wanted to illuminate and honour this young woman's story, for it may be the story of many. I wanted to portray the warmth of the experience, which is why I chose to use reclaimed sweater patches. I was drawn to the idea of comfort with the use of inner light, even through this experience of loss and darkness. The tableaux represent a complicated range of experiences within a single experience, pieced together crudely with large, loose stitches, creating contrasting images through which one seeks to synthesize overall meaning.

poetry

Elegy for a still-born child

by Seamus Heaney

from "Poems: 1965-1975"
pp 61-62

I

Your mother walks light as an empty creel
Unlearning the intimate nudge and pull

Your trussed-up weight of seed-flesh and bone-curd
Had insisted on. That evicted world

Contracts round its history, its scar.
Doomsday struck when your collapsed sphere

Extinguished itself in our atmosphere,
Your mother heavy with the lightness in her.

II

For six months you stayed cartographer
Charting my friend from husband towards father.

He guessed a globe behind your steady mound.
Then the pole fell, shooting star, into the ground.

III

On lonely journeys I think of it all,
Birth of death, exhumation for burial,

A wreath of small clothes, a memorial pram,
And parents reaching for a phantom limb.

I drive by remote control on this bare road
Under a drizzling sky, a circling rook,

Past mountain fields, full to the brim with cloud,
White waves riding home on a wintry lough.

ABOUT THE POET

Irish poet Seamus Heaney was born into a farming family, one of nine children. He knew from an early age that a pen rather than a spade was to be the instrument he was drawn to: "Between my finger and my thumb/The squat pen rests./I'll dig with it." His poetry, nonetheless, is steeped in themes and images from his early rural life. Heaney is considered to be one of the great poets of the 20th century in the English language. He received the Nobel Prize for Literature in 1995. He died in 2013 at the age of 74.

The harshness of life for women and children living in Ireland is the subject of several of his poems. In the poem "Mother" the woman expresses her exhaustion at repeated pregnancies and family responsibilities. Other poems courageously address the situation of women facing the consequences of religious prohibitions against sexual relationships outside of marriage. Some women are led to extreme actions in order to survive the consequences of unintended pregnancy. The poem "Limbo" is about an anguished unmarried mother drowning her baby in the sea to avoid inevitable censure not only for herself but of her child for being born a bastard. An alternative response by the unwed mother in the poem "Bye Child" is to hide her child from public view by confining him in the hen house. Despite these dire circumstances, a note of tenderness is expressed toward the "little moon man" who somehow transcends the lack of human love he has experienced. These stories can be viewed as those of the individuals involved or seen as parables for Ireland's "moral paralysis". Ireland continues to be known as a country which severely limits women's reproductive freedom; abortion is illegal except in extreme cases and contraception was completely illegal until 1980.

The poem reprinted here, "Elegy for a Still-born Child" is a reflection on loss itself, in this case loss of a wanted first child. It beautifully describes the parents: the mother "heavy with the lightness in her", the father's experience moving him "from husband to father" for the six months until the loss of the pregnancy. The third section of the poem presents the narrator reflecting on this past experience of his friends' loss – a lonely drive evokes memories which show how deep such a loss can be, even over time and even for those once-removed: the parents' friends and family.

All of these poems can be found in the books: *Door into the Dark* (1969), *Wintering Out* (1972) and in collections of poetry by Heaney.

Chris Sternberg

Table 4: Postpartum Maternal Outcomes

	MCT n=1275		MC-NDRV n=928		RCM n=860		CMT n=797		ON Midwifery n=36358	
	no.	(%)	no.	(%)	no.	(%)	no.	(%)	no.	(%)
Perineal Trauma (vaginal births)										
<i>Any perineal trauma</i>	647	58.8	372	45.9	390	54.0	449	67.5	15956	52.1
<i>1st degree tear</i>	143	13.0	219	27.2	128	17.7	117	17.5	5346	17.4
<i>2nd degree tear</i>	480	43.6	148	18.0	243	33.7	317	47.8	9796	32.0
<i>3rd degree tear</i>	20	1.8	3	0.4	18	2.5	15	2.2	673	2.2
<i>4th degree tear</i>	5	0.5	2	0.3	1	0.1	0	0.0	143	0.5
Episiotomies (vaginal births)										
<i>Episiotomy performed</i>	54	5.0	58	7.1	54	7.4	61	9.3	2301	7.6
Hemorrhage (2003-2006) (live births)										
<i>Vaginal birth 500-1000mL</i>	6.2	7.6	26	4.4	47	8.5	24	4.9	1339	6.2
<i>Vaginal birth >1000mL</i>	1.1	1.3	3	0.4	9	1.6	1	0.2	222	1.1
<i>C-Section >1000mL</i>	2.6	9.8	2	2.7	3	2.7	1	1.2	102	2.6
Ambulance Transports (03-06) (total births)										
<i>Maternal complication</i>	9	0.9	4	0.6	11	1.6	12	2.0	287	1.1
Ambulance Transports (03-06) (total births)										
<i>Maternal complication</i>	27	2.8	7	1.0	15	2.3	14	2.2	450	1.8
Length of Stay										
<i>Vaginal <6 hours</i>	435	60.2	306	51.2	192	62.2	342	69.6	7642	33.8
<i>Vaginal 6-24 hours</i>	160	22.0	208	33.9	69	21.5	76	15.4	7784	34.6
<i>Vaginal 25-60 hours</i>	98	13.6	78	11.8	41	12.6	54	10.5	6008	26.2
<i>Vaginal >60 hours</i>	32	4.4	22	3.2	12	3.8	22	4.6	1287	5.5
<i>C-Section <6 hours</i>	1	0.5	0	0.0	1	1.1	1	0.9	26	0.5
<i>C-Section 6-24 hours</i>	4	2.4	3	3.3	0	0.0	4	3.0	72	1.3
<i>C-Section 25-60 hours</i>	87	55.0	73	72.8	77	58.5	70	54.6	2505	47.0
<i>C-Section >60 hours</i>	72	42.2	27	23.9	50	40.5	51	41.5	2827	51.3

province. For home births, the provincial rate was 5.8%; for hospital births, the provincial rate was 3.7%. The rates of major and life-threatening anomalies were less than 1.0% for all four practices and the for province as a whole.

Perinatal mortality data are summarized in Table 5. It is important to note that the MOR includes genetic terminations in its perinatal mortality reports. In the 3,860 births attended by the study practices, there were 14 fetal deaths, eight neonatal deaths, and one postneonatal death. Part of our project involved the practices' collecting detailed data for each perinatal loss to better describe these cases. Of the 1,275 births attended by the MCT, there were two stillbirths between 21 and 27 weeks of gestation and one stillbirth in early labour at 40 weeks. The three neonatal deaths were respectively from one case of a rare metabolic disorder, one case of brainstem cancer, and one case of sudden infant death syndrome at 10 days of age. The one neonatal death occurred 29 days following birth asphyxia

after a 42-week oxytocin induction. At MC-NDRV, there were six fetal deaths among 928 births and no neonatal or infant deaths. Three fetal deaths were stillbirths that occurred before 29 weeks; one of these was a fetus with triploidy. Three unexplained stillbirths occurred between 38 and 41½ weeks. Among the 860 births at RCM, there were two fetal deaths that occurred between 37 and 41 weeks of gestation; one was associated with a congenital heart anomaly, the second with osteogenesis imperfecta, a rare anomaly incompatible with life. There were no infant deaths after 28 days. Of the 797 births attended at CMT, there were three fetal and three neonatal deaths. Two of the fetal deaths were stillbirths occurring between 20 and 23 weeks, and one was a medical termination performed between 34 and 36 weeks, due to a genetic anomaly incompatible with life. The three neonatal deaths were those of twins who were born prematurely at 23 weeks and that of a baby who died because of pulmonary hypertension as a result of placental

Table 5: Perinatal Outcomes and Breastfeeding

	MCT n=1275		MC-NDRV n=928		RCM n=860		CMT n=797		ON Midwifery n=36358	
	no.	(%)	no.	(%)	no.	(%)	no.	(%)	no.	(%)
Gestational Age at Birth (Live Births)										
20-36 weeks	33	2.6	30	3.2	27	3.1	29	3.7	1528	4.2
37-41 weeks	1208	95.2	875	94.9	807	94.1	742	93.5	34009	94
42+ weeks	28	2.2	17	1.9	24	2.8	23	2.8	603	1.7
Birth Weight (Live Births)										
<1500g	1	0.1	0	0.0	2	0.3	4	0.5	79	0.2
1500-2499g	26	2.1	30	3.1	28	3.3	19	2.5	950	2.6
2500-3999g	1014	80.1	759	82.1	657	76.6	672	84.8	28863	80.0
>4000g	212	16.7	145	15.9	167	19.5	109	13.5	6330	17.6
Infant Interventions										
NICU Admission	62	4.9	75	8.1	57	6.7	65	8.0	3069	8.5
Resuscitation with Oxygen	147	11.6	242	26.3	96	11.2	152	19.4	6124	17.2
Resuscitation with PPV	69	5.4	45	5.0	31	3.6	54	6.8	1855	6.5
Resuscitation with PPV and Chest Compressions	3	0.2	1	0.1	3	0.4	3	0.4	114	0.3
Anomalies (Total Births) (2003-2006)										
Life-threatening anomalies	1	0.1	0	0.0	0	0.0	0	0.0	64	0.2
Major anomalies	8	0.8	5	0.8	3	0.5	1	0.3	166	0.6
Ambulance Transports (2003-2006)										
Fetal complication	8	0.1	0	0.0	0	0.0	0	0.0	0.0	0.2
Infant complication	1	0.8	5	0.8	3	0.5	1	0.3	0.3	0.6
Infant (Re)Admissions to Hospital (Live Births)										
Home Birth (out of infants born at home)	20	5.3	13	5.6	21	5.9	16	8.9	444	5.8
Hospital Birth (out of infants born in hospital)	28	3.2	33	4.8	14	3.2	27	4.4	1090	3.7
Apgar Scores (Live Births)										
SVD Home <7 at 5 minutes (of all home)	1	0.30	0	0.0	2	0.6	1	0.5	28	0.4
SVD Hospital <7 at 5 minutes (of all SVD hospital)	4	0.50	2	0.3	4	1.3	5	1.2	219	1.0
Instrumental <7 at 5 minutes (of all instrumental)	0	0.00	1	2.8	1	2.8	0	0.0	48	2.5
C-Section <7 at 5 minutes (of all C-Section)	2	1.10	1	1.0	3	2.0	1	0.7	88	1.7
Perinatal Mortality										
Fetal deaths	3	0.2	6	0.6	2	0.2	3	0.4	211	0.6
Neonatal deaths	3	0.2	0	0.0	2	0.2	3	0.4	65	0.2
Infant deaths	1	0.1	0	0.0	0	0.0	0	0.0	2	0.01
Breastfeeding (03-06)										
Any BF 1 week postpartum	940	99.4	651	98.8	651	98.9	595	99.3	25502	97.4
Any BF 4 weeks postpartum	907	96.7	635	96.7	625	97.6	581	97.7	25117	93
Any BF 6 weeks postpartum	887	95.8	629	96.1	604	96.9	576	97.0	24628	91.5

insufficiency and chorangiomas.

Exclusive breastfeeding rates were not reported in the MOR database. These rates are for any breastfeeding, and all four practices in the study had breastfeeding rates that were higher than the provincial midwifery averages at one week, four weeks, and six weeks post partum.

DISCUSSION

Conclusions from our study are limited because it is a small descriptive study. In some areas, the MOR database

allowed direct comparison by parity (e.g., mode of birth). However, not all relevant outcomes are separated by parity. The understanding of rates of induction, augmentation, and pain relief would be enhanced if the rates were broken down by parity. For these outcomes, comparison between practices and with provincial rates is limited. Lack of data about women with previous cesarean sections in the predefined reports also hampers analysis. Although data on the number of women who have a vaginal birth after cesarean section are available, access to data about how

many women who have had a previous cesarean section chose to attempt vaginal birth after cesarean section would improve the interpretation of the rate of cesarean section in multiparous women. Our study should be considered a preliminary exploration at a practice level. Although we cannot draw conclusions, our research raises questions for further research, identifies trends requiring further evaluation, and suggests improvements for future provincial data collection.

Our findings about the demographics of the population served by the study practices, including older women and women without health insurance, challenge the view of midwifery clients as a homogeneous group of “low risk” women and remind us that the populations served by practices may vary. The aging childbearing population has been cited as one of the factors in the increase in cesarean sections. Although the MOR’s standardized reports do not allow stratification by age, our findings support the hypothesis that midwifery care can provide a safe, low intervention model of care for “older” women. Further

There is no evidence that midwives’ maintaining primary care for induction, augmentation, or epidurals increases rates of intervention.

analysis of midwifery outcomes by maternal age would help to clarify the issue of whether the higher rates of intervention with increasing maternal age that are reported in the literature may be mitigated by midwifery care.

The study allowed us to gain some insights into outcomes for midwifery-led care in the Ontario midwifery system. Rates of intervention in the study MPG were low when compared to the provincial midwifery average. Rates of home birth were higher than the provincial average in all of the practices in our study, and given the evidence that home birth generally contributes to fewer interventions,^{1,2,4,8-11} this may be an important factor in the observed rates of intervention. The rate of home birth was highest for the practice that reported discussing the option of home birth at several points in pregnancy with all clients. The practice also offered labour assessments at home, providing the opportunity to make the choice of birthplace at that time. In

both popular and scholarly literature, advocates for normal birth have expressed concerns that midwifery integration into hospitals might undermine midwifery advocacy for out-of-hospital birth specifically and for normal birth more broadly.^{12,13} The practices we studied demonstrate that choice of birthplace and low rates of intervention can be achieved by community-based midwives who are integrated into the hospital.

The findings also contribute to the debate about scope of practice and best practices for supporting normal birth. As indicated by the outcomes for the study practices in which midwifery-led care includes common obstetrical interventions, there is no evidence that “medicalization” increases when midwives are able to provide primary care for common interventions rather than transferring it to medical and nursing staff. Our findings suggest that midwifery-led care for inductions, augmentations, and pain relief may contribute to midwifery autonomy and could make an important contribution to lowering the rate of intervention. Further research stratified by parity and other risk factors would help to clarify the role of scope of practice in keeping birth normal.

Our findings reinforce the results of other research on midwifery-led care and home birth, research that concludes that safe outcomes can be shown for midwifery-led care both in and outside of hospital settings when midwifery care is well integrated into the health care system.^{1,2,4-7,10,11} The finding that both home birth and midwifery-led care for common interventions may act to support normal birth may seem contradictory to those who dichotomize medical and midwifery models or who see integration into hospital as necessarily disempowering midwifery. These two aspects of care, however seemingly opposed, may be complementary and can be used to strengthen midwifery-led care. Hutton et al. point to midwife autonomy as one of the factors that may contribute to lower rates of intervention in home birth settings.¹⁰ Hatem et al. make the same point about caseload practice compared to team midwifery.⁷ Increased autonomy through midwifery-led care for common interventions may also be significant and should be further explored.

Specific findings in our study point to the potential significance of institutional and interprofessional environments in supporting normal birth. One example is the significantly higher rates of vaginal breech birth in the study practices as compared to provincial midwifery outcomes, particularly at one practice that had access to an expert consultant who was on call to support vaginal

breech births during the study period. The lower rate of use of epidural pain relief at the one practice that had access to nitrous oxide suggests that for women who hope to give birth without epidural analgesia, access to nitrous oxide may support that goal. The low proportion of the hospitals' total births attended by midwives in each of the privileging hospitals (4%–14% [see Figure 1]) despite unmet client demand for midwifery care indicates the ongoing challenges of establishing a strategy for the growth of midwifery in large Level II and Level III centres. All four practices reported that they are “capped” by their hospitals, either by total birth numbers or by numbers of midwives.

CONCLUSIONS

Each of the practices in the study had low rates of intervention in birth. Rates were generally lower than or consistent with midwifery outcomes in the province and in keeping with international evidence about midwifery-led care and home birth. Through our study, all four practices discovered areas in which practice could be improved and that merit further evaluation. Our research adds to the body of work showing safe outcomes and support for normal birth through midwifery-led care. It addresses concerns that some critics of midwifery “professionalization” expressed about the integration of midwifery into the health care system in Canada and shows that midwives who are well integrated can maintain choice of birth place for clients and autonomy for themselves while still supporting normal birth. Our research also contributes to ongoing discussions about scope of practice. Among the practice groups we studied, there is no evidence that midwives' maintaining primary care for induction, augmentation, or epidurals increases rates of intervention. Both maximizing the scope of practice (and therefore midwifery-led care) and promoting home birth may play important and perhaps complementary roles in supporting midwives to support normal birth.

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