2-24-2023 1:00 PM

The Attainment of Obstetrical Competency in Postgraduate Family Medicine Training: A Qualitative Study

Nisha Arora, *The University of Western Ontario*

Supervisor: Brown, Judith B., *Western University*
: Koppula, Sudha, *University of Alberta*

A thesis submitted in partial fulfillment of the requirements for the Master of Clinical Science degree in Family Medicine

Abstract

Aims: This study explored the Family Medicine resident experience in working towards their obstetrical competencies from the perspectives of residents and educators.

Methods: Using a qualitative descriptive design, semi-structured interviews were conducted with second-year Family Medicine residents and obstetrical supervisors from one Family Medicine program in Ontario, as well as key informants of Canadian Family Medicine maternity education. Interviews were audio-taped and professionally transcribed. Transcripts were coded and interpreted for common themes.

Findings: There was a disconnect between the intent of the College of Family Physicians of Canada Key Features document, and how it is applied at the ground level. Residents are graduating competent but are not confident in their skills. This is influenced by factors at micro, meso, and macro levels. Resident career decisions are most influenced by fulcrum points pre-residency.

Conclusions: This study offers insight to potential areas of intervention to improve the training experience in maternity care.

Keywords

Family Practice; Perinatal Care; Maternal Health Services; Medical Education; Competency Based Education; Medical Residency

Summary for Lay Audience

Family doctors providing pregnancy care through to delivery have become less common in Canada, although their role is vital. One potential reason is that resident doctors training in Family Medicine are not comfortable with their skills after their two-year training program. This study sought to understand what the Family Medicine resident experience is working towards their pregnancy and delivery care skills, from the perspectives of the residents and their teachers. The goal was to understand how the residency experience may shape a resident's decision to provide pregnancy care in their Family Medicine career. This study interviewed those involved in creating the national pregnancy care requirements (the Key Features of The College of Family Physicians of Canada) for the training programs to understand what the requirements are and how they came to be. Family Medicine residents in their final year of training at one program in Ontario along with their teachers were interviewed to understand what their experience was working toward their required pregnancy skills. The interviews were reviewed by the researchers for common themes.

The Key Features document is often mistaken by learners and teachers as a checklist of skills. The intention was to use the document as a guide to understand the resident's skills as a doctor at a more general level. Most participants felt that Family Medicine residents should focus on the skills surrounding delivery, such as fertility, early pregnancy, after the pregnancy, and newborn care. They did feel however, that all residents should and are graduating able to deliver a baby when it is very straightforward and in an emergency setting. Although residents knew how to perform pregnancy-related skills, this often did not mean that they were confident in their skills. This was affected by different levels of factors including the learner themselves, their training program, and the overall landscape of Family Medicine. Residents also made career decisions about pregnancy care before they started their training. Understanding these factors influencing their learning experience can be helpful to know where we can improve pregnancy care training and ultimately increase the number of family doctors comfortable delivering babies.

Co-Authorship Statement

The research for this thesis was conceived, planned, and conducted by the author. This thesis was written solely by the author.

Dr. Judith Belle Brown and Dr. Sudha Koppula provided their expertise and insight throughout this study from its conception to the report. They were vital to the interpretation of the qualitative data obtained from the in-depth interviews.

Acknowledgments

I would like to extend gratitude to those who have helped me through my master's thesis journey.

I would like to thank Dr. Judith Belle Brown and Dr. Sudha Koppula for their time and expertise to guide me through the entire process, answering many emails, and reading many drafts of this paper. I have wanted to understand what it meant to be a "researcher" for a long time, and with their inspiring enthusiasm and mentorship, I can say that I am very fortunate to have them both as my research role models.

I would also like to thank Liz McInnis for coordinating the progress of my graduate degree and reliably answering all of my technical questions.

Furthermore, I am appreciative of the Postgraduate Medical Education Office in the Department of Family Medicine at Western University and the regional hospital administrative staff for their help with recruiting participants.

I would like to thank The Centre for Studies in Family Medicine at Western University for providing financial support for the research conducted in this thesis, via the Graduate Student Research Fund. I would also like to thank the Graduate Program Office in Family Medicine for their financial support throughout my graduate studies, including the Martin J. Bass PSI Foundation Bursary and the Dr. Wm. Victor Johnston Award in Family Medicine. I would also like to thank the Citywide Department of Family Medicine for the Dr. Keith Johnston Scholarship to support my graduate studies.

My sincerest thanks to the participants, for taking the time out of their busy schedules, especially during a pandemic, to share their thoughts with me.

Finally, I would like to thank my family for their loving support and encouragement to prioritize this thesis.

Table of Contents

List of Figures

List of Acronyms

CanMEDS	Formerly known as Canadian Medical Education Directions for Specialists
CBME	Competency based medical education
CFPC	The College of Family Physicians of Canada
COVID-19	Coronavirus disease 2019
EPA	Entrustable professional activities
FP	Family physician
GP	General practitioner
IUD	Intrauterine device
KI	Key informant
MI	Myocardial infarction
OB	Obstetrician
OR	Operating room
PGY	Postgraduate year
RES	Resident
SVD	Spontaneous vaginal delivery

List of Appendices

Chapter 1

1 Introduction

In Canada, pregnant patients can receive maternity care from a midwife, family physician, or obstetrician-gynecologist and this is in part influenced by the patient's risk for adverse perinatal outcomes determined by a variety of baseline medical information. Canadian midwives provide care to low-risk pregnant patients through to six weeks postpartum, including care of the newborn, offering deliveries in the home, birthing centre, or hospital setting. The obstetrician-gynecologist provides care in the hospital setting, with the specialized skillset to offer high-risk care including surgical options and advanced operative deliveries. Family physicians are trained to adapt to the needs of their community and to provide care based on their level of comfort within their individual skillset. What the family physician offers can vary across the country depending on the resources of their community, training, and availability of other providers. For example, some family physicians have trained to perform caesarean sections to provide this service where an obstetrician is not otherwise available. Pregnant patients can be considered to have certain risk factors for complications, and the individual family physician may determine the appropriateness to care for such a patient in their setting depending on their resources. For the most part, family physicians provide care to lower-risk pregnant patients, delivering in the hospital setting and can care for the whole family at all stages of life though there may be variations across the country.

Although the options for maternity care are as outlined, unfortunately, Canada is in a maternity care crisis and pregnant patients do not always have a choice of where they deliver and who their maternity care provider will be.[1] The number of Family Medicine maternity care providers has been steadily declining,[2] and this is bringing about a crisis in maternity care provision, especially in our rural and remote communities.[3] Labour and delivery rooms across the country have had to shut down due to staffing shortages, resulting in pregnant patients needing to seek care outside of their communities,[4–9] which has an especially negative impact for Indigenous women.[10] There is danger in a pregnancy or labour quickly developing a critical condition without a readily available

provider to care for the pregnant patient. Indeed, it is recognized that “pregnant women and their babies are increasingly put at risk because access to appropriate care is compromised.” (page 1)[11] Supporting ongoing Family Medicine maternity care is critical and requires immediate attention.

With fewer Family Medicine maternity care providers available to teach, some have called into question whether Family Medicine residents should still be required to learn these skills.[12] However, this thought process is a dire mistake. The urgency of the maternity care crisis emphasizes that further support should be given to train more Family Medicine maternity care providers to fill this need. Family Medicine maternity care improves access to obstetrical care options for patients especially in rural and remote communities[13] and decreases costs to Ministries of Health as provision by specialist obstetricians are more costly than services provided by family physicians.[14] The College of Family Physicians of Canada (CFPC) is the national licensing body overseeing the training of Family Medicine residents. Maternity care training including obstetrical procedures have been a published requirement of Family Medicine residents since 2005 and reiterated by the maternity care education working group of the CFPC in 2012, indicating it as a continued essential skill.[12] Despite this, residents are disinclined to include maternity care in their future practices, and a significant proportion who initially plan to include maternity care change their mind by the end of their training program.[15] Given the changing landscape of Family Medicine resulting in a crisis of fewer maternity care providers, it is imperative to understand the Family Medicine resident experience working toward their obstetrical competencies as one of the chief influencers of their career decisions.

1.1 Thesis Overview

1.1.1 Thesis Purpose

The intent of this thesis was to describe the Family Medicine resident experience as they work toward their obstetrical competencies to better understand what impacts a resident’s decision to include or not include maternity care in their future practices. The objective was to first determine how attainment of the obstetrical competency is defined from the

perspective of residents, their supervisors, and key informants who created the national guidelines. Using this information as a starting point, the second objective was to understand the resident and supervisor perspective on what processes, factors, or barriers are influencing the resident attainment of obstetrical competencies in their training environment.

1.1.2 Thesis Structure

This thesis is presented in six chapters.

Chapter one reviews the existing literature on Family Medicine maternity care in Canada, beginning with a description of the history of maternity care from the 18th century onwards, the role of family physicians in the provision of maternity care including how Family Medicine maternity care and education of the same has evolved over time. It ends with focusing on the current evidence of Family Medicine resident education and assessment in maternity care. This chapter sets the stage for the study in question – to understand the resident experience in working toward their obstetrical competencies.

Chapter two outlines the qualitative methodology used to conduct the study.

Chapter three presents the analysis of the key informant data to garner a higher-level understanding of the background information on the intentions of assessing competency in maternity care in Family Medicine training in Canada.

Chapters four and five describe the analysis of the data from the front line - looking at what is actually happening on the ground level from the perspective of residents and supervisors. Chapter four specifically focuses on expectations of the residents, while chapter five focuses on the factors influencing the resident experience and decisions to include maternity care in their practice.

Chapter six offers a synthesis to integrate the findings and makes suggestions for future study.

1.2 Literature Review

1.2.1 History of Maternity Care in Family Medicine

The practice of maternity care was initially an area confined to midwifery, with births occurring in the home and surgeons only occasionally consulted to assist in an obstructed labour.[16] In Britain, the study of "midwifery" became mandatory for medical students in the mid-1800s and by 1902, the practice of maternity care was regulated.[17] By the end of the 18th century, about half of the women of England were choosing to have deliveries in the home by general practitioners, at the time known as "man-midwife" or "accoucheur".[16] While general practitioners at the time felt that home births were time-consuming relative to other elements of medicine, participating in the childbirth created a bond that led to having the family's business for life.[16]

The first medical schools in Canada were established in the 1820s, and essentially every doctor was a general practitioner until the early 20th century, which included provision of intrapartum care.[18] As medical technology improved in the 1930s, including the availability of antibiotics for managing intrapartum fever and ergometrine for managing postpartum hemorrhage, the Western world saw an increase in hospital deliveries.[16] After World War II, with ongoing clinical advancements, there was a rapid growth in specialty careers, and general practice was declining.[16] In response to this decline, the College of General Practice in Canada was established in 1954.[19] The discipline of Family Medicine was later recognized as a specialty in its own right, with the College changing its name to the College of Family Physicians of Canada (CFPC) in 1967 and establishing Family Medicine training programs at all Canadian medical schools by 1974.[19] Within the CFPC, the National Obstetric Interest Group, later formalized as the Section of Family Medicine Maternity Care, was established in 1987 to promote Family Medicine obstetrical practice, education, and research.[20] In a gradual, province-by-province process, the junior rotating internship ended in 1992, thereby removing this alternative route to general practice and also shortening the postgraduate Family Medicine training program to two years from three.[21] Within the program, family doctors were expected to provide "cradle to grave" care – maternity care provision was established from the outset (A. Spence, personal communication, April 2, 2022).

1.2.2 The Role of Family Medicine in Providing Maternity Care

In Canada, pregnant patients may have their obstetrical care provided by a midwife, family physician, or obstetrician-gynecology specialist, and the availability and scope of each profession depends on the community in which the patient resides or plans to deliver. In general, patients benefit from having access to Family Medicine maternity care providers as it provides a unique opportunity for continuity of care within a holistic and comprehensive framework.[12] Many studies have looked at the role family physicians play in providing maternity care from various perspectives.

Kidd et al. from Newfoundland conducted a survey in 2013 to measure differences in patient satisfaction with maternity care.[22] They compared satisfaction with Family Medicine maternity care provided by their own family physician, with Family Medicine maternity care provided by a group of family physicians sharing on-call duties, with care provided by house-staff obstetrical specialists. The study showed that low-risk maternity patients have greater satisfaction with the obstetrical care provided by family physicians compared to that provided by a specialist, even when the family physicians were providing care in the group model.

Further to patient satisfaction, Family Medicine maternity care improves access for patients especially in rural communities.[13] As noted by the Joint Position Paper on Rural Maternity Care published in 2012, maternity care in rural communities is often characterised by care provided primarily by family physicians, midwives, and nurses, sometimes without specialized obstetrical backup available within the community.[23] Without the provision of rural maternity care services, women would have to travel long distances, sometimes in critical condition, outside of their community to give birth which has social, psychological, and financial costs.[23] As such, family physicians play a vital role in allowing people to complete their pregnancies within their home communities.

Family physicians not only decrease costs to Ministries of Health by allowing more patients to deliver within their rural communities, but also by generally being more cost-effective than specialist obstetricians in the provision of low-risk obstetrical care.[14] A retrospective cohort study analysed the cost-effectiveness of low-risk obstetrical care in

hospital as provided by a midwife, family physician, or obstetrician from the perspective of the Ontario Ministry of Health.[14] The criteria for what was considered high-risk, as opposed to low-risk, in the study were: pre-existing hypertension or diabetes, gestational hypertension or diabetes, a multiple pregnancy, a previous caesarian section, placental abruption or placenta previa after 28 weeks' gestational age, or malpresentation of the baby at the time of the delivery. Costs were attributed to the admitting provider even if there was a transfer of care and were measured according to length of hospital stay, transfer of the newborn to the intensive care unit, and obstetrical interventions. Because patients of family physicians were less likely to receive induction, augmentation, or caesarean section, and were more likely to experience vaginal delivery, while being equally likely to avoid neonatal transfer to the neonatal intensive care unit, family physicians were more cost-effective than obstetrician-gynecologists. In this study from 2015, the cost of each delivery provided by a midwife was found to be $5102, family physician $5116, and obstetrician $5188. Not only did this study demonstrate that family physicians are more cost-effective in managing low-risk pregnancies, but reiterated findings from older studies that Family Medicine maternity care is equally safe[24] while involving less interventions[25], even when adjusting for pre-delivery population risk[26], in comparison to low-risk maternity care provided by obstetrician specialists. This is the case despite changes in the characteristics of the pregnant patient population since the early 1990s.

A retrospective chart review from 1989 of patients from three teaching hospitals in Toronto showed that pregnant patients of family physicians were more likely to have a spontaneous vaginal delivery managed expectantly, while those in the obstetrician group were more likely to have interventions such as artificial rupture of the membranes, induction, augmentation, low forceps plus vacuum extraction, episiotomy and epidural anesthesia.[27] Despite the differences in intervention, there was no significant difference in the rates of maternal or neonatal complications. A retrospective chart review from 1995 of nearly 5000 patients across five sites in the United States similarly showed that maternity care by family physicians resulted in fewer interventions without any impact on neonatal outcomes, despite adjustment for potential confounders.[25] Of note, fewer

patients had a caesarean section attributed to a decreased frequency in the diagnosis of cephalopelvic disproportion compared to obstetricians.

One might wonder whether these findings may be due to differences in the Family Medicine patient population from the low-risk obstetrician specialist population. A retrospective cohort study from 2010 compared the pre-38 week of gestation risk of caesarean delivery in the patients cared for by family physicians and by obstetricians at an urban teaching hospital and did not find a statistical difference between the two groups.[26]

While no difference was found in maternal or newborn outcomes between obstetrical and Family Medicine care providers in the care of low-risk patients, Klein et al. performed chart analyses in 2002-2004 to determine if there were differences dependent on the volume of births attended by an individual family physician.[28,29] These studies found that maternal and newborn outcomes were similar for physicians with high and low delivery volumes, supporting the notion that there is no minimum number of births recommended to maintain competency.[28] Specifically, the researchers found that years in practice, rather than delivery volume of the individual family physician may influence maternal and infant outcomes.[29]

With the advantages of having experienced family physicians providing obstetrical care to patients determined to be at lower risk for complications at delivery, it is imperative to support their ongoing practice.

1.2.3 The Changing Landscape of Family Medicine Maternity Care in Canada

While general practitioners and family physicians had once routinely provided intrapartum care in Canada, there has been a steady decline despite the previously outlined advantages of Family Medicine maternity care.[30,31] This is contributing to a crisis in maternity care, where hospitals across the country are needing to shut down their labour and delivery wards.[8] One Canadian study looked at vaginal births attended by family physicians in 1984-1985 to be between 40-80% depending on the province, and this declined to 23-54% in 1994-1995.[31] By 2001, the National Family Physician

Workforce Survey by the CFPC showed that only 18% of family physicians were providing intrapartum care, many of whom were providing assisted deliveries in both urban and rural communities.[32] Specifically, among those who were providing intrapartum care in 2001, 94% were using vacuum extraction, 50% were using forceps and two-thirds of family physicians using forceps were aged 45 or older.[32] In the late 1990s, Health Canada instituted warnings regarding the risks of instrumental deliveries, and the Society of Obstetricians and Gynecologists of Canada published guidelines on their use.[32] With instrumental deliveries being labelled as a high-risk procedure, it became more commonplace to consult the specialist obstetrician for its potential use and fewer family physicians were trained in these procedures. The change in scope of practice of family physicians providing intrapartum care as well as the decline in providers are important aspects of the changing landscape of Family Medicine maternity care.

Indeed, the solo comprehensive, general practitioner who will care for the family from birth to death, in the home, hospital, nursing home, and through labour is a vanishing breed. Questionnaires completed by family physicians in London, Ontario between 1974 and 1994 showed that there was an attrition of family physicians caring for patients in hospital, making home visits, providing intrapartum care, or practicing solo.[33] This trend continued to be shown over a period of a decade, from 1990 to 2000, as the number of Canadian family physicians providing office-only care rose to 24% from 14%.[34] A Quebec qualitative study published in 2017 described the decline in family physicians practicing low-risk obstetrics as a well-documented, multi-factorial concern that includes increased liability, remuneration issues, discouraging hospital policies and specialists placing caps on the number of deliveries performed by family physicians, emotional consequences of poor outcomes, and work-life balance.[35] The decision to continue or discontinue practice is a constant balance between personal, family, and organizational pressures.[35]

A survey study conducted by Smith et al. in 2009 reported that 25% of family physicians would not consider providing intrapartum care in any circumstance, whereas others preferred models that would reduce the risk of litigation including adequate on-call arrangements with medical and obstetrical back-up to continue providing maternity

care.[36] Another survey study in British Columbia in 2002 showed that family physicians choosing to leave intrapartum care were more likely to have missed personal life events due to prioritizing maternity patients.[37] In response to this, the landscape of Family Medicine maternity care has changed to establish alternative models of practice that are more sustainable. Price et al. (2005) surveyed family physicians in Canada to describe the various structured sign-out models of maternity care they provide to sustain a rewarding maternity practice and reduce the attrition of intrapartum providers.[38] Many of these are collaborative groups that will take on the care of pregnant patients who are otherwise under the care of a different family physician outside of pregnancy.

Programs, such as the Maternity Centre in Hamilton, Ontario, that allow for interdisciplinary collaboration and shared call-arrangements have become more commonplace and encourage family physicians to continue providing intrapartum care.[39] A similar program was established in Calgary in 1997.[40] A study examining the impact of a novel, collaborative maternity program involving a team of family physicians, midwives, doulas, and community health nurses in British Columbia found that patients were less likely to have a caesarean delivery and were more likely to have a shorter hospital stay than those who received usual care from any individual low-risk maternity care provider.[41] While these collaborative programs are becoming increasingly popular, it is reassuring to find that patients were equally satisfied with their Family Medicine maternity care when received through a shared group-call setting or by their own sole provider family physician in a study conducted in Newfoundland[22] as well as in Brampton, Ontario[42]. This is especially important as the attrition of obstetrical care providers overall is leading to concerns about a looming maternity care crisis and limited options for pregnant people to receive care.[43]

1.2.4 The Landscape of Family Medicine Residency Training in Maternity Care

There are currently 17 universities offering Family Medicine residency training programs in Canada and these programs are two years in length.[44] The CFPC defines the standards for accreditation of Canadian Family Medicine residency training programs and sets the aim “to train residents who are competent to enter and adapt to the independent practice of

comprehensive Family Medicine anywhere in Canada" (page 1).[45] The governing document for Family Medicine program accreditation is known as *The Red Book*, which is published by the CFPC.[46,47] The document outlines the national standards that must be met by accredited Family Medicine programs to ensure the quality of residency education.

An earlier version of *The Red Book*, from 2016, made two specific comments in relation to maternity care training in Family Medicine.[47] For example, "The overall educational experience must provide an adequate patient volume and variety to allow residents an opportunity to experience all aspects of family practice, including *intrapartum care*." (page 15)[47] It further describes the following expectation of Family Medicine residents as it pertains to maternity care:

> "Maternity care (antepartum, intrapartum, postpartum)
>
> The resident must gain confidence and competence in maternity care by following pregnant patients and conducting deliveries with family physician role models. Competencies include the common procedures during labour and delivery that permit the resident to complete low-risk deliveries independently. Residents must be competent in managing obstetrical emergencies." (page 21)[47]

In fact, even prior to this, *The Red Book* from 2006 required that Family Medicine residents follow 6 patients through their pregnancy until delivery, emphasizing the continuity of care.[48] However, Macdonald provided a commentary noting how this prevents residents from seeing other models of providing Family Medicine maternity care that may better role model sustainability and therefore discourages them from adding obstetrics to their careers.[49]

The Red Book has since been updated, with the most recent publication from 2020 providing more general statements and flexibility for individual resident career aspirations and variations in expected competencies of individual residency programs.[46] For example, "The educational experiences provide opportunities for the development of competence in comprehensive care." (page 13), and "The residency program has the clinical, physical,

technical, and financial resources to provide all residents with the educational experiences needed to acquire all competencies and/or objectives." (page 17)[46]

It is unclear what impact this change may have made to the curricula of Canadian Family Medicine residency programs. Although the specifics of maternity care were removed from the latest *Red Book* publication, these skills are outlined in CFPC documents elsewhere. Unlike *The Red Book,* these documents are supplemental and are intended to help inform the design of learning experiences in the training program, but are not actually used for accreditation purposes.[46] One such document includes the CFPC Working Group on Procedural Skills that provides a list of 65 core procedures for which there is an expectation that family physicians entering independent practice should be able to competently perform.[50] While the list continues to be re-iterated, it was originally published in 2005 after a consensus was obtained from the ratings by experienced family physicians in various practice settings of what a graduate should be competently able to perform in their own community.[51] Obstetrical procedures are included on this list, including normal vaginal delivery, episiotomy and repair, and artificial rupture of membranes.

Due to program challenges in providing training in these procedures, some educators have proposed removing this requirement altogether and instead they have suggested streaming residents into obstetrical training for those who would prefer it and not require it of those who do not plan to practice obstetrics.[12] In response, the CFPC 2012 report from the Maternity Care Education Working Group analyzed the suitability of maternity care training in Family Medicine programs and concluded that it should be retained in the educational standards expected of all residents.[12] Facing a looming crisis in maternity care provision in the country, it is imperative now more than ever to respond to program challenges with plans to correct them and support maternity care education for our Family Medicine residents, rather than removing the requirement. Thus, it is important to research and understand how Family Medicine residency programs can meet this expectation.

From 2011 to 2012, Biringer et al. performed semi-structured interviews of key Canadian program leaders to identify factors that led to success in Family Medicine maternity education.[52] Success was measured by number of residents achieving competency in

intrapartum care, number of graduates including intrapartum care in their practices, and the program being able to retain Family Medicine maternity care providers as faculty. The identified factors were sufficient clinical exposure, the presence of Family Medicine role models, a Family Medicine–friendly hospital environment, a supportive community of Family Medicine maternity care providers and support for the education program. A qualitative study from Quebec in 2011 also showed that role models early in medical training influenced their decision to pursue obstetrics[35]

These themes were also found in the United States. An American study in 1997 showed that perceived factors influencing the success of Family Medicine maternity programs were role models on the faculty, obstetrical training volume, and support for Family Medicine maternity care from both the community and in the learning environment – that is the nurses, obstetricians, and administrative staff.[53] A survey of American Family Medicine Program Directors in 2013 also felt that promoting continuity of care in obstetrics and focussing on fostering independence in the resident was important to promoting maternity care after graduation.[54] The survey revealed that residency programs that were community-based and with greater Family Medicine maternity care supervisors providing autonomy during decision-making on obstetrical rotations were more likely to produce trainees that would continue obstetrics after graduation. As demonstrated by the above-described studies, the theme of providing Family Medicine maternity care role models for residency program success is pervasive across decades and across North America.

In 1993, when Sakornbut et al. demonstrated that Family Medicine supervision of high volume obstetrics increased the likelihood of graduating Family Medicine residents to provide obstetrical care[55], it was made a requirement for residencies in the United States to have at least one family physician who provides intrapartum care supervising Family Medicine residents in the program. A follow-up study showed that the number of graduating residents including maternity care in their practice increased by about 16% since the implementation of this requirement suggesting that increased Family Medicine maternity care role models succeed in increasing Family Medicine maternity care providers.[56] With the importance of Family Medicine maternity care role models well

established, it is important to understand how to increase role models or Family Medicine maternity care teachers in Family Medicine residency training programs.

A qualitative study from 2014 by Koppula et al. in Alberta studied family physician perspectives on teaching primary care obstetrics.[57] Barriers to teaching included having limited confidence in their teaching abilities and finding the procedural work and decision-making to be too intuitive to know how to explain to their learners. The presence of learners was sometimes found to interfere with the patient-physician relationship and having learners who are disinterested in obstetrics was challenging. On the other hand, participants found it gratifying to teach an interested learner and the reciprocal learning relationship meant that the trainee helped to keep the supervising physician current with new information. They felt that learners were less likely to be interested in including maternity care in their careers due to the lack of early exposure during medical school and their perceptions of lifestyle interference. Family physician maternity care teachers believed learners would be more likely to continue maternity care if they had exposure earlier in their training when making career decisions.[57] Understanding the barriers faced by Family Medicine maternity providers can help programs to target their concerns, such as by providing training to physicians to be teachers, thereby increasing the number of available role models.

Without adequate teaching resources, including fewer Family Medicine maternity care role models, there is a long-standing debate whether the Family Medicine training program length is adequate. This inadvertently results in fewer Family Medicine graduates feeling confident in providing full-scope, comprehensive care and more graduates signing up for extra months of training via enhanced skills programs.[58] A cross-sectional survey of Canadian Family Medicine graduates of enhanced skills programs in obstetrics between 2004 and 2014 showed that the extra training allowed for a statistically significant increase in the graduates perception of their maternity care competencies, and 82% of them felt that the ability to access such a program allowed them to include obstetrics in their careers.[59] More than two-thirds of the respondents took the enhanced skills training to increase their experience, while some also cited it as a requirement for hospital privileges or an academic

position. Thus, we are seeing a shift in the landscape of Family Medicine resident maternity education, where the obstetrical competencies are attained in an enhanced skills program.

The CFPC engaged in "The Outcomes of Training Project" and confirmed that while Family Medicine residents were graduating competent, they were not practicing as comprehensively as they were 10 years ago, in part because they did not feel confident to work in certain clinical areas after completing their training.[60] The CFPC iterates that "the scope of residency training must extend beyond [primary care] to include hospital, emergency, and *intrapartum care* to support and enable family physicians providing comprehensive health care delivery across diverse communities" (page 11). The project provided education recommendations to help prepare family physicians to meet complex health needs within the patient medical home. Within the four major recommendations includes the pursuit of a three-year length of training, increasing it from the current two years of training, to enhance preparedness for a broader scope of practice.

To better understand the shift to needing a longer training program to feel comfortable practicing intrapartum care, it is important to explore the resident experience with their obstetrical training within the core two-year Family Medicine program.

1.2.5 Family Medicine Resident Experiences with Maternity Care

Family Medicine graduates are increasingly disinclined to include maternity care in their practices and the overall provision of obstetrical care provided by primary care physicians is declining.[30,31,61] The number of family physicians providing maternity care is also declining in the United States, where one survey showed a 40.6% decline from 2003 to 2009.[62] Amongst other reasons such as increased liability and the impact on work-life balance, one reason cited by residents for not pursuing obstetrics is that their residency did not provide adequate preparation to provide intrapartum care.[15] Indeed, a survey of Family Medicine residents enrolled in an enhanced skills obstetrical program demonstrated that 69% enrolled in the program because they did not feel ready to practice obstetrics without supervision.[59] This is not a new problem, and research has shown this spanning over decades. As an often cited barrier to practicing obstetrics is feeling unprepared after

residency[15,63,64], it is important to understand what helps a graduating resident feel competent to include obstetrics in their careers.

Family Medicine residents from The University of Western Ontario were surveyed between 1987 and 1991 for their reasons to not provide intrapartum care.[65] At this time, their training entailed of 3 months with the obstetrical specialty service either at the teaching hospital or in the community, as well as 1 year with their Family Medicine training site where there was a Family Medicine maternity care provider. There were only 3 teaching sites in London and 1 regional site thirty minutes outside of London at the time. The most common reasons for not performing deliveries in practice were the interference with both lifestyle (83%) and office work (62%), insufficient training (39%) and the cost of malpractice insurance and fear of litigation (36.4%).

Around this same time period, Reid et al. performed a rich mixed quantitative and qualitative survey study with Family Medicine residents from the University of Toronto graduating in 1990 to document how these residents reached a decision to include or not include obstetrics in their careers.[66] A significant factor was the level of autonomy experienced by the residents. The theme of feeling "ignored" or not being allowed to participate meaningfully in decision-making, management, or procedures was discouraging. Residents felt that having more Family Medicine maternity care role models and Family Medicine deliveries helped residents to experience more responsibilities in patient care. In fact, training sites that included full-time Family Medicine maternity care faculty reported 72% of their graduates had incorporated obstetrics into their careers.

While these two older studies looked at reasons why residents were not including obstetrics in their careers, Ruderman et al. added to this research by looking more closely at who was choosing to practice obstetrics.[67] This survey study of Family Medicine residents at the University of Toronto from 1991-1996 showed that the intent to practice obstetrics was most closely linked to being a woman, planning to practice rurally, and having an interest in obstetrics prior to residency. In fact, 70% of the residents developed their interest in obstetrics during medical school. However, only 60% of residents who started residency intending to include obstetrics in their careers actually maintained that intent upon

graduation. This highlights the role of the fulcrum point of deciding to include obstetrics in practice which occurs even before the residency training program, and how experiences in a residency training program may deter previously interested learners. In this particular instance, the concern was not the amount of exposure to obstetrics in the program. Residents cited they needed a mean of 68 deliveries in their residency to be comfortable to practice obstetrics, and they were attaining a mean of 56 deliveries each. Despite this volume, residents had already made up their mind about practicing obstetrics prior to their residency program in part due to their "desire to participate in a happy family event" (page 643), while others cited compensation and impact on lifestyle as influencing their decision to not include obstetrics.

The finding of residents losing interest during their residency program was replicated by Godwin et al. who followed a cohort of Ontario Family Medicine residents in 1994 and 1995.[15] In this study, 52% planned to include obstetrics in their careers when they started residency, and this dropped to 17% at the end of residency, with only 16% actually practicing intrapartum care, suggesting that there may have been experiences within the residency training that led to this negative impact on the decision to practice intrapartum care. Residents who did choose to retain obstetrics in their careers were practicing in areas with a smaller population.

With the mounting evidence showing the positive impact of Family Medicine maternity care role models, the University of Alberta introduced a core primary care obstetrics rotation in 2006 with the goal to increase exposure to sustainable models of Family Medicine group obstetrical care.[68] Koppula et al. conducted focus groups to ascertain the resident experiences with this model.[68] Facilitators to the learning experience and decision to include obstetrics in their careers were having supportive preceptors, adequate back up from obstetrical consultants, adequate support for compensation and liability, and a shared call system that would limit the level of disruption to their lives. Residents found the patient population, the event of birth, the continuity of the patient-physician relationship, and procedures to be enjoyable along with the ability of being the most responsible provider in this important life event. Residents were deterred by the inherent unpredictability of obstetrics including bad outcomes, as well as the impact on lifestyle including interrupted

sleep. What is notable in this study is that specific experiences in the primary care obstetrics rotation, such as a joyful delivery while being the most responsible provider, could serve as a fulcrum point for residents deciding to include obstetrics in their practice.

A very recent study by Marshall et al., explored the Canadian Family Medicine resident intent to practice obstetrics and the factors influencing their decision.[64] Residents were interested in providing obstetrical care but were choosing not to include it in their practice for various reasons. It re-iterated findings from previous studies that influencers were beyond individual factors, but also fit a socio-ecological model, at the public policy, community, organizational, and interpersonal levels, which would be important areas for intervention.

Except for Koppula et al.'s study, which took place in 2009, and the recent paper published in 2022 by Marshall et al.[64], the majority of research exploring the Canadian Family Medicine resident experience with maternity care training occurred in the 1990s as outlined above. There is a gap in the literature exploring the resident perspectives in at least the past decade while the landscape of Family Medicine maternity care and training has continued to change.

1.2.6 Assessing Family Medicine Resident Competency

Family Medicine residency training in Canada uses a "Triple C" competency-based curriculum, where the three components are comprehensive education and patient care, continuity of education and patient care, and is centered in Family Medicine.[69] The goal is to ensure that all Family Medicine graduates are competent to provide comprehensive care in any Canadian community, are prepared for the evolving needs of society, and educated based on the best available evidence on patient care and medical education. The curriculum is based on the CanMEDS Family Medicine framework and the Assessment Objectives for Certification in Family Medicine.

The CanMEDS Family Medicine Competency Framework developed by the CFPC was originally derived from the Royal College of Physician and Surgeons CanMEDS 2005.[70] These include the physician roles as a Family Medicine expert, collaborator,

communicator, health advocate, leader, scholar, and professional, with a special emphasis on the generalist ability to adapt competence to meet the needs of the physician's community.

The Assessment Objectives for Certification in Family Medicine were originally created in 2010 and revised in 2020 for a total of 105 essential topics to define the observable competencies that are expected of Family Medicine residents at the end of their training, guiding both their assessment in training and the content of the Family Medicine certification exam.[71] Each of the 105 essential topics are further delineated by a list of observable skills and key features. These observable skills and key features are specific to the clinical encounter but are linked back to assessing the Family Medicine resident's overall competence in the six skill dimensions of the patient-centered approach, communication skills, clinical reasoning skills, selectivity, professionalism, and procedural skills.[71] The preface of the document describes that the key features are meant to assess for higher levels of competence that can allow the assessor to make inferences about overall competence. Within the domain of procedural skills, the competency being assessed is the individual's self-awareness of their competence in performing specific procedures and respecting their limits with some expectation to be able to perform 65 core procedures at the start of independent practice. Similarly, with respect to the 105 topics and their associated key features, the primary goal is assessing the skills used to deal with the problems within the topic, rather than the specifics of the topic themselves.[71] In this way, the assessment of competence via the key features outlined by the CFPC has subtle differences from the competency based medical education (CBME) model set out by the Royal College of Physicians and Surgeons of Canada. The CBME model lists explicit, observable competencies that can be measured and assessed, thereby providing an outcomes-based approach for the design of postgraduate medical education programs to ensure the progressive development of trainees through the achievement of milestones.[72] At the program level, the theory of CBME is translated into entrustable professional activities (EPAs) to assist with assessment in clinical practice. These EPAs are the "professional activities that together constitute the mass of critical elements that operationally define a profession" (page 544) and are entrusted to the physician to complete unsupervised once competence in the EPA

has been achieved.[73] Similar to the expectations laid out by the Key Features document, the EPAs are not intended to be used as a checklist but to infer the presence of multiple competencies from several observed key clinical activities.

There is ongoing study if Family Medicine residents in Canada are better served by the shift to the Triple C curriculum under the model of CBME. One study within the Queen's University Department of Family Medicine found that it resulted in increased direct observation with documented feedback allowing the identification of outliers and earlier individualized modifications to the training program.[74] Due to studies showing the more timely identification of residents having difficulty, and the ability of the program to address these before graduation, it was thought that residents may be graduating feeling more competent than prior to the implementation of CBME. A retrospective study over a nine year period found that the proportion of Canadian Family Medicine residents applying for enhanced skills programs decreased with the implementation of CBME, despite the previously well-established trend of increasing enhanced skills enrolments and subspecialisation over a longer period.[75]

1.2.7 Assessing Competency in Maternity Care

Within the *Assessment Objectives for Certification in Family Medicine* Key Features document, there are appendices that further delineate the key features in specific areas of medicine, including mental health, rural and remote Family Medicine, and intrapartum and perinatal care.[71] The *Priority Topics for the Assessment of Competence in Intrapartum and Perinatal Care* was published by the CFPC in 2017.[76] It provides a sample of 24 key topics derived by a modified Delphi approach that help to distinguish those who are competent from those who are not and inference for overall competence can be made if a trainee is attaining the majority of the key features from these priority topics. Within the document, it is explained that maternity care is unique in providing a rich milieu for direct observation and assessing total physician competence within the six skill dimensions, the patient-centered approach, communication skills, clinical reasoning skills, selectivity, professionalism, and procedural skills. The list of topics in the form of the table of contents can be found in Appendix A.

1.3 Summary and Research Objectives

As the landscape of medicine appears to be shifting away from generalism towards increased subspecialisation, there has been a steady decline in family physicians providing maternity care.[30,61] Due to this shift, some have questioned the inclusion of maternity care competencies in Family Medicine programs, however, it rather emphasizes the urgency to fill the need as we approach a crisis in maternity care. The CFPC re-iterated that obstetrical skills are indeed a core procedure that should be retained in the educational standards of all Family Medicine residents.[12] As an often cited barrier to practicing obstetrics is feeling unprepared after residency[15], it is important to understand what helps a graduating resident feel competent to include obstetrics in their careers. Hence, this thesis sought to study, first, how attainment of the obstetrical competency is defined from the perspective of the key informants who played a role in the development of the national objectives, as well as perspectives from the front line, that is residents and their supervisors. Secondly, this study explores the resident and supervisor perspective on what processes, factors, or barriers are influencing the resident attainment of obstetrical competencies in their training environment.

Chapter 2

2 Methodology

2.1 Qualitative Descriptive Methodology

The nature of the research question, to understand the experiences of Family Medicine residents working towards their obstetrical competencies, an area that requires further exploration in the current context, lends itself to a qualitative methodology rather than a quantitative one. Quantitative methodology would have limited what could be learned of participant experiences to pre-set variables, what is previously known or suspected to be important.[77]

Qualitative descriptive methodology was chosen specifically since the objective of this research was to summarize a surface level description of the events and phenomena.[78] Other qualitative methodologies, such as phenomenology, ethnography, and grounded theory, are more interpretive with the data intended to create a theoretical construct.[79,80] Qualitative description still requires interpretation by the researcher but it is more "data-near" or close to the data at hand.[80] In this area of research, a phenomenologic study would look at the essence of the lived experience to understand deeply why Family Medicine residents experienced their obstetrical training a specific way. Ethnography would have required an observational approach, becoming immersed on the labour and delivery unit and making notes of the beliefs, values, and practices of Family Medicine residents working toward their obstetrical skills. Grounded theory involves the production of a theoretical construct to understand how, in this case, one becomes a competent Family Medicine resident. Although these are worthwhile approaches, it is beyond the scope of the present study that seeks to understand and describe what are the experiences of residents in working toward their competencies. Qualitative descriptive methodology best fits this research question.

2.2 Participant Recruitment

Participants were recruited in accordance with the ethics approval obtained from The Western University Health Sciences Research Ethics Board, and this is outlined in further

detail in the following subsections. A letter of information and consent form were provided during recruitment (Appendix B and C). An interview was scheduled with interested participants meeting the inclusion criteria at a mutually convenient date and time using Western University's licensed version of *Zoom*.

2.2.1 Residents

A purposive sample of Family Medicine residents enrolled in their second postgraduate year (PGY2) at an Ontario training institution was used to achieve a maximum variation sample representing key demographic variables. This included age, gender, and training location (rural, regional, or academic health centre). PGY2 Family Medicine residents were selected to ensure adequate opportunity for exposure to the program training environment, as well to facilitate insight into their path to future competency as they were nearer to graduation. The Family Medicine program has 3 urban Family Medicine academic health centres in the primary city, 5 rural centres, and 4 regional centres.[81] It was important to capture samples of obstetrical experiences from each of these settings.

Residents were invited to participate by e-mail, social media, and via an announcement at an academic half day session (Appendix D). Reminder invitations were sent up to three times, several months apart.

2.2.2 Supervisors

Supervisors were physicians who supervised the Family Medicine residents as they worked toward their obstetrical competencies. These were family physicians who provide maternity care and obstetrician-gynecology specialists. As these physicians worked directly with the Family Medicine residents, it was expected that they would offer an important perspective on the resident attainment of obstetrical competency. To achieve a maximum variation sample, purposive sampling was used to select a diverse group of supervisors according to the following key demographic variables: age, gender, number of years in education and practice, and practice location (rural, regional, or academic health centre).

Supervisors were invited to participate by e-mail and social media (Appendix D). Reminder invitations were sent up to three times, several months apart.

2.2.3 Key Informants

The key informants were national leaders in Family Medicine maternity education who have been involved in either curriculum development or defining the competencies at the College level that are to be expected of trainees in Family Medicine residency programs. Their perspective was sought to understand the intention of the obstetrical competencies as it pertains to resident education from a higher level. Because there were a limited number of physicians involved in this area, each of them was invited personally by e-mail. Reminder invitations were sent up to three times, several months apart.

2.3 Data Collection

Data was collected using a semi-structured in-depth interview guide and conducted on Western University's licensed version of *Zoom* by the primary researcher, NA. The coronavirus disease 2019 (COVID-19) pandemic was occurring at the same time as the data collection, which precluded the ability to conduct interviews face-to-face. Interviews were audiotaped and transcribed verbatim using a professional transcription service. The semi-structured interview guide consisted of demographic questions as well as open-ended questions (Appendix E). These questions were chosen to understand what constitutes fulfilling the obstetrical competencies in the Family Medicine residency program from the perspective of each group, that is residents, supervisors, and key informants, and to elicit what may be influencing the Family Medicine resident's experiences towards these obstetrical goals. The interview guide was slightly refined throughout the study based on participant feedback and preliminary data analysis. Family Medicine residents were interviewed between October 2020 and January 2022. Interviews of Family Medicine supervisors took place between September 2020 and December 2020. Key informants were interviewed between January 2021 and March 2021. The interviews lasted on average 40 minutes.

2.4 Data Analysis

The data collection occurred concurrently with the data analysis. As each interview occurred, the transcripts were reviewed first by each of the three investigators individually, and then together at meetings following each interview, in an iterative fashion. Initially, the investigators independently noted key words and phrases within the transcript. The three investigators then met to share their findings to make note of all potential emerging themes. Data was analysed inductively with the codes arising from the analyses rather than deductively.[82] These were used to create a coding template to assist in the organization of the data. The coding template was fluid to accommodate new themes arising from subsequent interviews. Data from each group, the residents, supervisors, and key informants, were analyzed separately. In the next stage of the analysis, the researchers met to review the coding template and reflected on the interviews to make note of overarching themes and the most representative quotes for each theme. The researchers noted by the fourteenth interview that no new codes were being generated even after continuing to extend the demographics of the purposive sample to a total of nineteen participants, which served to increase the development and support for the themes already identified. At this point where they had informational redundancy, the researchers determined that they had sufficient data to provide a thorough understanding and description of the themes.[83,84] Data was integrated to create a robust framework for understanding the resident experience toward fulfilling their obstetrical competencies from each of the three perspectives, that is the residents, supervisors, and key informants.

2.5 Trustworthiness and Credibility

The trustworthiness and credibility of this study were enhanced by multiple methods using the Standards for Reporting Qualitative Research as a guide.[85] The accuracy of data collection was assured by having records professionally transcribed verbatim. After each interview, the interviewer reflected and recorded field notes and memos of sentiments shared by the participant to enhance the richness of the transcription, as well as to draw comparisons between previous participants. The analytic process was completed in an iterative process with the three members of the research team independently examining

the transcripts, followed by team analysis to triangulate and combine their analyses. They discussed the findings to make modifications on the coding template with each subsequent interview. Quotes are provided to substantiate the main findings.

Reflexivity is acknowledging the influences caused by the relationship the researcher can have with the researched and the effect this can have with the conduct of the study and the interpretation of the data.[77,86,87] The primary researcher, NA, is a Family Medicine maternity care provider herself, completed her training in Family Medicine in a rural site within the same institution that the residents were training, as well as her enhanced skills in obstetrics at the same institution in 2017. She is now an adjunct professor at the same institution. This familiarity influenced the production of the interview guide; however, the interview guide was also compared against existing literature and reviewed by other members of the research team to ensure fulsome data collection. Purposive sampling with this bias was mitigated by inviting all residents and faculty involved broadly with the assistance of administrative staff. NA was careful to set aside her personal experiences and ask questions for clarification despite feeling aware of some of the intricacies of the subject under study. Furthermore, given the iterative fashion of the data analysis, gaps were found with each cycle of data analysis to allow for purposive sampling to achieve as many perspectives as possible. The other two researchers include SK who is a family physician educator with experience in maternity care and working in a different province from the studied training program and JBB who is an experienced academic qualitative researcher at the same training institution with a background in social work. The variation in the research team background helped to mitigate biases in interpreting the research. At the research meetings, the team members acknowledged how their personal experiences, roles, and biases may be influencing the coding and analysis of the data.

2.6 Final Sample and Demographics

2.6.1 Residents

Two cohorts of PGY2 Family Medicine residents were contacted from one Ontario training program, which was approximately 170 residents. Eight trainees expressed interest and ultimately seven were interviewed. Residents represented six different

teaching sites of which there was a mixture of rural, regional, and urban experiences. Six identified as female and one as male.

2.6.2 Supervisors

Supervisors were affiliated with the residents' training institution. Family Medicine maternity care providers from six centers were contacted by email. Five family physicians were interviewed. They represented three training centers, including a small rural community, larger rural community, and a tertiary academic center. All were female and had been in practice for 3 to 33 years.

Obstetrical staff from six centers were contacted by email. Four obstetricians expressed interest, and ultimately three were interviewed. Their time in practice ranged from 4 to 10 years. Two were female and working at the same tertiary academic centre and one was male working in a community hospital. At the tertiary academic centre, there are two obstetricians on call at one time, each supervising a team of obstetrical residents. A group of medical students and Family Medicine residents would be on call and shared between the two teams. Family Medicine residents also attend the obstetrical outpatient clinic settings. At the regional community hospital, the obstetrician supervises one or two residents during their call shift.

2.6.3 Key Informants

Eight key informants were contacted, five expressed interest in participating, and ultimately four were interviewed. Key informants were family physicians who were involved in a leadership capacity with respect to Family Medicine resident education in maternity care. Specifically, three of the four participants were directly involved with the creation of the CFPC Key Features document and the fourth is a lead in maternity care Family Medicine education at their institution. Three of the four continued to practice Family Medicine obstetrics at the time of their interviews. They reflected a breadth of diverse experiences from rural settings to urban academic settings, each affiliated with a different training institution, and each actively supervising Family Medicine residents. Three were female, one was male. Their time in practice ranged from 21 years to 44

years. None of the key informants worked in the same training institution as the setting from which the Family Medicine resident participants were recruited.

2.7 Ethics Approval

This study was approved by the Western University Health Sciences Research Ethics Board, project identification number 116194 (Appendix F), as well as the Lawson Health Research Institute, approval number R-20-370 (Appendix G).

Chapter 3

3 Key Informants: Defining the Intended Competencies

The key informants were national leaders in Family Medicine maternity education who had been involved in either curriculum development or defining the competencies expected of trainees in Family Medicine residency programs by the CFPC. This study begins with understanding the obstetrical competencies from their perspectives.

The analysis of the key informant interviews identified four major themes. The first was the development of the CFPC Key Features document. Key informants described what was the intended purpose of the Key Features document and what they felt were the obstetrical competencies to be expected by graduating Family Medicine residents. Lastly, key informants described how they perceived the document currently being used in residency training.

3.1 Development of the Key Features Document

Key informants described how the first step in the creation of the Key Features was a survey sent to family physicians who had a special interest in maternity care. The goal was to produce a list of skills that should be expected of a graduating Family Medicine resident. This list was then reviewed by a seven-member panel, each of whom came from different practice settings, and they used their expertise to modify the list of topics. *"We had a group of seven of us who were working on this who looked at those topics and brought to it that lens saying is there anything that we are missing that would not have necessarily been on the list." (KI3)*

The key informants explained that guidance was provided by the CFPC to focus on the intrapartum event. *"We were confined to the intrapartum event largely." (KI4)* Thus, the section in the Key Features document on obstetrics focuses primarily on the intrapartum period and does not include other important obstetrical competencies that are expected of every Family Medicine resident. *"We truly often focus on intrapartum learning and intrapartum demonstration of competency at the expense of competencies that are really important and used by family doctors. Prenatal care almost every family doctor does,*

deliveries most of us don't." (KI4) However, the normal vaginal delivery as an intrapartum event was considered to be a high-level process. *"[We] were really vocal that normal delivery is not a lower-level competency. It is a higher-level competency, and this was designed to look at high-level competency, so it got in there." (KI4)* They decided to call this skill a "key feature" or high-level process, because if a resident can attain this competency, they presumably will have competency in other areas. *"If I've watched someone deliver a baby I know a whole bunch of their technical skills, their medical skills, their communication skills, their consulting skills, their understanding of their limit skills." (KI3)* Some key informants expressed a wish that the document could have been more encompassing of the general maternity care skills and knowledge. *"I think there's regret that we were pinned into a narrow spectrum of time." (KI4)*

3.2 Key Informant Competency Expectations

The key informants unanimously felt that there is a baseline skillset that should be expected of all Family Medicine residents. These include completing an uncomplicated normal vaginal delivery, differentiating the abnormal from the normal, recognizing their limits in order to ask for assistance appropriately, and being comfortable with antenatal, postpartum, and newborn care.

> I think they should be able to deliver a baby in a low-risk situation or in a situation where they are the only ones there. I think they should be able to manage a course of low-risk labour. Whether they end up doing that is another story in their life and obviously, ten years later they may or may not remember all the nuances, but yes, I think they should graduate competent to be able to do that. (KI1)

Participants explained how there is not a specified number of times a resident should complete a procedure, such as a vaginal delivery, in order to be competent. *"I don't think we even said that in the Key Features document, because one resident might be competent after 30 and another won't be competent after 50." (KI2)*

With regards to the depth of knowledge and skill expected of residents, the key informants expected that residents only need to achieve a conscious level of competence rather than an unconscious level.

> I tell them that the levels of competency, of being consciously competent versus unconsciously competent, they should be at the conscious competence level. In other words, with the help of their team, what needs to be done. They won't be able to do it in their sleep. (KI2)

This was elaborated further by another key informant who explained the difference in the level of skill required to perform a delivery in an emergency setting as opposed to a routine care setting. *"I think they need to be able to deliver a baby on an airplane. But does every resident coming out need to be able to join my [maternity care] group and provide the skills and services that our group provides? No." (KI4)*

Key informants observed that much of medicine is "afraid" of pregnancy. Physicians are uncomfortable providing care to pregnant women because their medical knowledge base does not include the impacts of pregnancy. "*Like 50% of medicine, 80% of medicine, I don't know how much it is, are scared of pregnant women. And then stupid things get said like 'it's probably just safest if', right, based on lack of knowledge." (KI4)* Key informants stated that physicians will encounter pregnant patients in all areas of medicine, and so the training is relevant to everyone.

> You do get those learners who are like, "Why do I have to do this, I am never going to do it." And medicine has evolved to somehow view as if pregnancy is something we can just pull out of life and all of the rest of medicine can happen without knowledge of pregnancy... all of this knowledge is relevant to wherever they're going to go. (KI4)

They explained that since family physicians are generally the first point of contact for patients, every resident should be prepared to perform these skills if the situation presents itself, whether or not a resident chooses to formally include obstetrics in their practice.

Essentially, it is not a matter of if the resident plans to provide maternity care, but if it presented itself, would they be able to do so.

> We need to be preparing Canadian family physicians where if someone comes in and they're pregnant, the answer isn't before they even get [started] is, "Go away and find someone else to look after you" it's, "I can manage enough of this to actually say, "Yes, I think you should call your maternity care provider or do you want me to call you a taxi or ambulance to get you to the hospital". (KI3)

Participants noted that some of the obstetrical skills are especially important because the issues arise even before a patient has been referred to their obstetrical provider.

> In fact, some of these are more important for people who don't do intrapartum care. You need to be able to recognize antenatal conditions that merit close attention, early in pregnancy, so you need to be able to identify things at the first prenatal visit. You need to be identifying when someone is in preterm labour and be able send them in appropriately and safely. (KI3)

Thus, their expectation, at minimum, is to ensure that family physicians know enough about maternity care that they understand how pregnancy is impacted by the care they are providing.

> It is essential that all residents have sufficient knowledge within reproductive health and maternity care and that they are not scared of pregnant women, that they are able to give appropriate treatment advice and appropriate assessment of all elements in a pregnant individual. And be able to understand where that person being pregnant has an impact on the presenting issue and when it doesn't. (KI4)

3.3 Intentions of the Key Features Document

From the perspective of the key informants, the Key Features document was intended as an educational tool to help assess a resident's abilities at a holistic level. It is not an all-inclusive list of objectives or competencies, rather it is a framework for assessing competency. *"When it comes to interpreting and applying that document, this is a way of*

looking at it and evaluating skill, but it is not an exhaustive list of the exposures of the skills that we're hoping residents achieve. (KI4) The key informants explained that as an assessment tool, the document includes only a selection of key, higher-level competencies that, if attained, can help an educator extrapolate that a resident is likely achieving an overall competence. *"This is the top of the scope and if I see this happening, then I can feel pretty comfortable that they can do a lot of other things that I may not necessarily have seen them doing." (KI3)*

The key informants explained that it is not intended to be used as a checklist since a resident is not expected to have direct experience with each key feature on the list in order to be considered competent. *"I can't guarantee that every learner has a postpartum hemorrhage. If I did, it would be horrific, right... our goal is no one hemorrhages but you know how to treat them." (KI3)* Rather, they can use the Key Features document as a framework to form learning objectives, and then the learner can find alternative ways to develop competence on the topic and demonstrate their skills in other related areas.

> If they know where the information is and they have a sense of understanding the issue, that may be all they need. Maybe they don't have to attain all of the competencies that are defined and the key features and principles that we've got in the document. (KI2)

The obstetrical key features are not only an educational tool for assessing obstetrical competence, but they can be used to assess transferable skills to other areas of medicine. The key informants re-iterated that the obstetrical skills are only one aspect of a well-rounded resident. *"Using that competency list is not just about demonstrating competency in maternity care but demonstrating competency in family practice and demonstrating competency in medicine more broadly." (KI4)* The key informants described that maternity care is particularly unique in providing the milieu for direct observation of their general skills, *"…because for the most part most learners desperately do not want the attending physician to leave the room, it's observed… I don't get that the same way when I'm sitting in a precepting room..." (KI3)* They opined that having maternity care key features offers opportunities that are all-encompassing and

informative of the resident's total competence in the essential skill dimensions, such as communication skills and professionalism.

> They're doing this in real-time with me watching them and managing a variety of complexities…And for me, it's one of the best arguments as to why maternity care must continue to be included in Family Medicine residencies because it's one of the best places to assess that sort of total competence. (KI3)

For example, managing a high-stakes obstetrical situation involves knowing your limits, collaborating with a consultant, communication with the patient and interdisciplinary team, and would be reflective of one's overall skill as a physician.

> A great example is management of a postpartum haemorrhage. That's also demonstrating to me your ability to remain calm in an emergency scenario, your ability to recognize and manage an unstable patient, your abilities for team communication, for system knowledge in terms of what are the resources and who do I call into the room, right? (KI4)

The key informants believed that because of the transferability of skills attained through maternity care, if a resident is not attaining the maternity care competencies, it is likely that there are gaps in their skills as a physician in general. *"If you're not competent based on achieving a number of the competencies in Family Medicine obstetrics, there are probably some significant gaps in other parts of your Family Medicine knowledge that probably we just haven't been able to document." (KI3)*

3.4 Perceptions of the Application of the Key Features Document

The key informants perceived that the Key Features document is not well understood by their colleagues or Family Medicine residents at the ground level. *"I don't think it's being used properly, or even that people are aware of it." (KI2)* Further, they questioned if residents were actually receiving the document during their maternity rotation and whether preceptors reviewed them with their residents. *"We published them, we promoted them, but I would suspect that most residents in Canada, when they do the maternity rotation, aren't provided with a copy of them and have their preceptors review*

them as they go through." (KI2) They believed that the Key Features document is mistaken as a checklist of experiences that must be achieved to be competent. *"I think a lot of people look at it as a checklist of here are the things you have to be able to demonstrate or here are the things you need to learn and if it's not on this list you don't need to learn." (KI4)*

Some key informants were concerned that this might be the case especially when residents are supervised by maternity care providers who are not trained in Family Medicine, such as obstetricians and midwives, due to the lack of familiarity with the assessment methods.

> My concern is that programs aren't using this with the same intent that it was designed, and that Key Features are unique to Family Medicine and I'm not certain how well they translate for some of the others, for midwives and obstetricians who are not used to the CFPC framework and are more used to the Royal College framework which is structured a bit differently. (KI3)

It was for this reason that many of the key informants felt that assessment and teaching of Family Medicine maternity care should be led by Family Medicine maternity care providers.

> I think it speaks to the critical importance that Family Medicine maternity care be led by family physicians. And because again understanding the nuanced difference between competency-based objectives in the traditional sense and the Royal College's move to competency by design is a little different than key features and missing that nuance [is] probably a gap that needs filling. (KI3)

Some noted that the intrapartum competencies outlined in the Key Features are not always taken seriously because of a "hidden curriculum" that these skills are not important. *"Regardless of what's written as a guide I think, as I said, in OB in particular, I think we're very lax with how we apply those competencies in terms of successful completion." (KI1)*

The key informants felt that on the ground level, it was not appreciated how the assessment of maternity care skills is transferable to understanding the resident's skills as a physician in general.

> I think there's a tendency to think well it's just maternity care and they won't be practicing maternity care and therefore they don't need to do it. I think that's a critical mistake. I've long believed that there are certain clinical skills that we perform as the family physician that if we're seen to do them well suggests that we're good at other things, and I think maternity care is one of them. (KI3)

While they perceived some resistance to maternity care training, the key informants appreciated that the training environment is not always conducive to supporting the attainment of this competency. *"But I think expectations of what the residents can do in each site probably differs a little bit, even though we have common competencies and standards." (KI1)* This variability in the training environment was impacted by several issues ranging from the residents' own skillset and exposure to births to investment at an organizational level to ensure opportunities to attain competency in maternity care. *"Part of it is the opportunities that they are provided given the volumes where they work, part of it is their own skillset, part of it is how much the program and the site invest in the learning opportunities." (KI1)* As a result, despite their strong belief in the importance of the obstetrical skills: *"I don't think you are a family doctor without it…it is a fundamental skill." (KI2),* the key informants did support that residents should still be allowed to graduate without achieving them. *"No, because then we'd have fairly few graduating Family Medicine residents." (KI4)*

They believed that despite the key features outlined in the document, many residents are not achieving the obstetrical competency. *"I think that the current situation we have, which is that it's a stated competency, it's a competency that we strive to achieve and in many cases don't achieve, is probably acceptable." (KI4)*

However, the key informants re-iterated that we must continue to list obstetrical competencies as a requirement to ensure efforts continue to be made in promoting maternity education.

> I think removing it as a core competency, saying it isn't something we're striving to achieve, is really dangerous because if when we say you have to do it we're not able to give people enough exposure and knowledge. The risk if it's not a competency, if it's not considered a core portion of the skill set, is that we'll be doing far, far worse than we currently are on educating around reproductive health in general and maternity care specifically. (KI4)

Participants relayed that there are efforts that a residency program can make to support the attainment of the competencies outlined in the document. *"It's providing infrastructure support, positive environments and then of course the actual core curriculum and teachers, so there's a lot that a program can do." (KI1)*

Chapter 4

4 Front Line: Expectations of the Residents

Having described the expectations of Family Medicine maternity care training from key informants who were national experts, we now examine the experiences of residents and supervisors to understand what their interpretations of the obstetrical competencies are at the ground level. Specifically, the residents and supervisors described what was expected of the residents at the program level and within the direct training environment, which may or may not have coincided with the College's nationwide expectations.

This section describes the residents' and supervisors' perceptions of what is expected of the residents. This is further subdivided into how the expectations are interpreted and enacted by the residents and supervisors, followed by their reflections and feelings about these expectations, which includes whether they feel the expectations are appropriate. Finally, we describe the participants' perspectives on resident attainment of competence and how it fits into their future practices.

4.1 Resident Perception of Expectations

4.1.1 Excel at Antepartum, Postpartum and Newborn Care

On their rotations, the residents felt that they were expected to excel at managing postpartum and well newborn care, both in the hospital and outpatient setting. *"Because we are the baby doc as well, recognising newborn wellness. And then post-partum care is certainly something that there's an expectation for residents to know while they are in hospital…and also the six-week postpartum visit." (RES3)* In particular, when working with Family Medicine obstetricians, residents were expected to continue postpartum and newborn care after participating in the delivery. *"With a family OB, it's not set in stone, but generally speaking we know that they like us to round on the baby and the mum after if we're part of the delivery itself." (RES1)*

In the antepartum hospital setting, a resident explained that they were expected to share their thought process on common obstetrical triage issues and be able to present a

management plan. *"They want us to be able to assess a patient and make a plan…Is it labour?... Is (their water) broke? Those types of triage assessments." (RES3)*

4.1.2 Simply Participate in Intrapartum Care

Once a patient was admitted, the focus shifted to differentiating the abnormal from normal rather than managing the intrapartum issues. *"Managing labour is something that we need to be able to recognise the bad things, recognise when things are not normal or going as planned." (RES3)* The participants described that they were not expected take the reins on acute management, such as managing an abnormal fetal heart or deciding if it is time to suggest a caesarean section. Rather, they were expected to make an effort in demonstrating their thought process. *"It's okay if we don't know the answer to 'they had this many decels, do I give a fluid bolus or do I call a section?' They want to see our thought process, but we don't have to have the answer." (RES3)* With respect to procedural skills, every rural resident explained that they were expected to *"be able to deliver a baby independently vaginally and the placenta appropriately and then recognising the repair." (RES3)* Several residents, all of whom trained outside of the urban centres, described the expectation of being able to perform a normal vaginal delivery and repair, although they did not describe this to be a remarkable or complicated skill.

> "I don't think that their expectations were different from that of a general clerk…In terms of the actual delivery process, I don't think that they ever expected me to take the forceps or the vacuum. It was more so like you can do the SVDs [spontaneous vaginal deliveries] and then basic episiotomies with associated repairs, but the more involved ones it was like they took the reins and then I took more of an observational role." (RES8)

All of the residents working in the urban settings found that there were not any specific skills expected of them other than general participation.

> It's almost similar to being a senior medical student where the expectation is really to be keen and to make yourself involved and want to learn, but not really

> tangibly to walk away with skills in artificial rupture of membranes or putting a scalp clip on or whatever. (RES5)

Some participants thought the expectation for the rotation was relatively simple. *"They just really expect us to show up and be interested." (RES7)*

Despite the residents perceiving that they only needed to participate in intrapartum events, residents had clear guidance from the program that they must have 3 vaginal delivery experiences with a family physician. However, how they achieved this was their responsibility: *"I know it's mandatory for us to gain hands-on experience with three vaginal deliveries with a family OB throughout our two years of residency where we're told we have to figure it out somehow." (RES1)* Residents described that the level of involvement required to obtain the three required vaginal deliveries was *"a little bit loosey goosey" (RES1)* because getting exposure to the experiences was challenging. Residents explained that the level of involvement in a delivery could range from being present in the room, delivering the placenta, writing a reflection, or showing initiative on the general rotation. *"I think I only got two with my family doctor, but that's fine. As long as you show initiative, they'll say, 'Okay, you got your three, that's fine.'" (RES6)* Another resident described that they could still log completion of the vaginal delivery procedural competency if the patient went to a caesarean section. *"And if you followed the patient throughout their labour but this patient ended up going C-section at the very end, that still was logged and counted." (RES1)*

Residents explained that since not all of the required procedures can be experienced, then there were alternative ways involving self-learning to log competency of the procedure. Examples of these methods to log completion of a competency included *"observation, by simulation, by reading about them, and by doing videos…" (RES8)* Participating in these alternative learning opportunities could allow time for the acquisition of what were viewed as more relevant knowledge and skills.

> In the case of doing a vacuum delivery, I don't ever see that I would need that skill, so potentially doing that directly myself versus just reviewing and reading about it.

> And knowing about…the complications for the baby might be more important to know about than the delivery itself. (RES8)

In short, the residents explained that the important expectation was that they were active participants in their learning performing at their level of competency, rather than having an expectation to attain a specific skill.

> A lot of the deliveries, I wasn't doing them 100 percent on my own. But some of them I certainly was. I think it's as long as you're in the environment, and working to increase your skill set, and working at your current level of competence, then that's considered a delivery. (RES6)

4.2 Supervisor Perception of Expectations

4.2.1 Unclear Program Expectations

Obstetrical supervisors endorsed not receiving specific guidance from a program level. *"Not that I'm aware of; I mean it's entirely possible that there was at one time an e-mail that got sent out that said, 'These are the objectives.'" (OB3)* This was also the case for Family Medicine maternity care supervisors. *"I don't think I've ever been told like, "This is what an R2 needs to be able to do" but it's more so based on my reflection of what my competencies were at that stage." (FP2)*

4.2.2 Expectations Based on their Personal Experiences

The Family Medicine maternity care supervisors explained that they based their expectations on their personal experiences. This was especially the case if they were a "near-peer", who had recently graduated from the program and had an intimate understanding of what a Family Medicine resident needs to learn. *"My suspicion of what they should be doing is probably based on the fact I just finished residency. So, I kind of have a bit of a sense of what needs to happen." (FP3)*

The obstetrical supervisors described arranging their expectations based on the objectives of their learner, which was in keeping with what the residents' experienced. For example,

they may provide more outpatient gynecologic experiences rather than labour and delivery experiences if that was more in keeping with the resident's goals.

> If they aren't going to provide obstetrical care... I'll have them go and see the gyne patient who needs a pap smear and an endometrial biopsy. I'd rather they develop that skill and know how to put in an IUD [intrauterine device] than have them see the late third trimester patient who is not sure she's in labour yet. (OB1)

4.2.3 Expect General Engagement

Supervisors described that the resident's engagement with the rotation and demonstration of higher-level thinking was more representative of their competence as a physician than expecting any specific procedural skill.

> It's not the resident necessarily that knows the most or is the best at suturing or whatever. It's the resident that is the most engaged in the actual function of being a physician…they're actually thinking about what's happening. You just don't collect a history and then shrug your shoulders. (OB2)

Supervisors expected residents to demonstrate general engagement by actively thinking upon and reflecting on their training. *"I expect them to write a short blurb describing the experience they had and then a short reflection on what they feel they did well and what they feel they could improve on." (FP2)* They looked at the resident's performance as a whole, assessing how they care for patients in general. *"Usually, I can get a feel for who you are within one clinic day. And, I look at your hands, I look at how you place your hands on people, I listen to your interaction." (FP1)*

4.3 Resident Reflections on Expectations

4.3.1 Focus on Experiences Penumbral to Intrapartum Event

All residents felt that expectations should place a greater emphasis on the surrounding skills, such as preconception, prenatal, postpartum, and newborn care. *"I think it's pretty important to be able to manage a normal low-risk pregnancy… I think we should be able to manage prenatal care." (RES4)* Residents explained that family doctors often provide

continuity of care to their patients and will be the first to identify when their patient is pregnant. Since important issues can arise in early pregnancy, such as *"first trimester bleeding, abdominal pain, nausea" (RES8)*, it is imperative to focus on this competency of being able to identify the normal from the abnormal and when a referral might be needed. *"I mean family physicians are expected to follow their patients along – at the beginning of their pregnancy, they should be able to pick up on when things are normal in pregnancy and recognise when they might be referred." (RES7)*

Residents who did not plan on practicing intrapartum care decided to tailor their obstetrical experiences to focus their learning objectives on important penumbral issues.

> Primarily my objectives were…having a grasp on contraception, dysmenorrhea, postmenopausal bleeding, pelvic pain…what they do need before they can actually get to the specialist. All of my goals were focussed on the fact that I ultimately would not be the one delivering the baby. (RES8)

4.3.2 Mixed Views on Intrapartum Competence

The residents reflected on two conflicting viewpoints on the importance of attaining competence in intrapartum care. First, that intrapartum competence should not be expected of the residents, given the lack of Family Medicine maternity care role models. Second, that a minimum expectation should be to perform an emergency, spontaneous vaginal delivery.

Some residents who did not plan to practice intrapartum care believed it should not be an expectation to be competent in late pregnancy and intrapartum care at all. *"The third trimester and delivery part, I think is more important if you're planning on going into that field. I think it's less important at that point for physicians that have no intention of doing future deliveries." (RES4)* Residents who did not have Family Medicine maternity care role models perceived that their training was adequate with their obstetrician specialist supervisors with whom they had the majority of their training. They did not understand the basis of the program requirement with Family Medicine providers. *"I didn't really understand the point of three [vaginal deliveries] with a family doctor,*

because I definitely learned more complicated deliveries with the obstetricians…we spent so much time with [them]." (RES6) Residents who were exposed to an abundance of family physician role models not practicing intrapartum care felt that these role models were an example of why Family Medicine residents should not be expected to be competent with managing a spontaneous vaginal delivery upon graduation. These residents believed that since it was uncommon for family physicians to provide intrapartum care, it should not be listed as a requirement in either the program or CFPC documentation. *"I don't really see that it's a good use of time or efforts to have those competencies to the list when the vast majority of GPs [general practitioners] don't do that on a regular basis." (RES8)* Although they didn't feel it should be required to graduate competent in obstetrics, residents did feel it was important for the program to provide exposure to the field in case the resident has not yet decided if they wanted to include obstetrics in their career. *"Even doing it as a simulation would be a good place to start in terms of if they aren't sure that they have an interest and want to further pursue competencies and practice." (RES8)*

In contrast, other residents, even those not having a plan to practice obstetrics in their careers, emphasized that every resident should graduate being able to complete a low-risk spontaneous vaginal delivery. These residents believed that the ubiquitous and normal, everyday nature of pregnancy meant that it should be an essential skill for family doctors. They felt that obstetrical competencies were more essential than other required competencies that are not as commonly experienced.

> There's a lot of things we're supposed to be competent in. I think that labour and delivery is a fairly common thing that happens literally every day, so it would make sense for us to be competent, or even just for our exam purposes – there's a lot of other things we're competent in that we probably won't actually be (seeing). (RES7)

These residents emphasized that the unpredictable nature of pregnancy meant that physicians may encounter it in almost any work setting, and that family doctors need to be prepared to care for these patients. *"Just to be able to do a low-risk obstetrical*

delivery is a good skill to have as a family physician …they should feel comfortable with it – you never know what's going to come through the door." (RES7)

These residents clarified that the resident does not have to be confident in all aspects of pregnancy and intrapartum care, but just competent enough to provide the required care in an emergency setting. *"Not that you have to be super confident in doing all the complicated deliveries, but at least sort of knowing what to do and when to call for help." (RES3)* Another resident reflected that he formed his learning objectives based on wanting to be prepared for an emergency setting, including knowing how to identify and manage urgent pregnancy issues. *"One of my motivators was…if I'm on an airplane, and need to deliver a kid, am I going to be able to do this?" (RES6)* The emphasis was on how a resident should not have to be skilled with every possible complication of intrapartum care but rather have the basic knowledge of the procedural skill in order to maintain the comprehensiveness of Family Medicine as a specialty.

> If we want to maintain this culture of seeing Family Medicine as being comprehensive…then labor and delivery is part of that and while I wouldn't think that any family med resident should know what to do when things get complicated, I do think that having some competence in delivering a baby in a low-risk setting should be an expectation. (RES5)

4.4 Supervisor Reflections on Expectations

4.4.1 Competency is Not Defined by a Certain Number of Deliveries

Family Medicine maternity care supervisors were aware that residents in their program were required to have three vaginal deliveries with a family physician. Supervisors felt that this program requirement was important for having exposure to the field. "*I do agree that all Family Medicine residents should at least see three deliveries and maybe do those things so that they have that experience." (FP4)* However, they clarified that attaining these three deliveries is not enough to establish competence. *"That minimum will not prepare you to deliver when you're done." (FP3)* A rural supervisor felt that this is especially the case in their setting, where requiring only three deliveries is inadequate

to graduate a competent rural family physician. *"I do feel that three deliveries as a rural physician is highly inappropriate to only ask for that much." (FP4)*

Supervisors explained that although the minimum requirement is certainly not enough, competency is not defined by a particular number and will vary between individual trainees depending on their experiences and personal initiative.

> If you're just getting the minimum deliveries, then I don't know that you would be graduating with the competency to be able to do that on your own. But if you're getting more than the minimum, then probably, but I think that varies from person to person depending on their interest and initiative and being able to take that stuff on. (FP5)

4.4.2 Family Physicians Expect at Minimum, Be Able to Perform an Emergency Vaginal Delivery

Family Medicine maternity care supervisors described similar expectations as those expressed by many of the residents, in that there should be a minimum expectation to be able to perform a low-risk, uncomplicated, spontaneous vaginal delivery. *"An R2 should be comfortable with a normal vaginal delivery that does not have any complications associated with it." (FP2)* Family Medicine maternity care supervisors explained that Family Medicine residents need to be prepared to see pregnant patients delivering in unexpected settings. *"Everybody needs to have the most minimal, basic, you're a doctor, you're a family physician, you're expected to be able to deliver in the emerge or whatever; I think that needs to be the case for a straightforward delivery." (FP3)*

Beyond the procedural skill of a spontaneous vaginal delivery, Family Medicine maternity care supervisors felt that residents need to be able to differentiate the normal from abnormal in terms of labour progress and fetal heart rate interpretation. *"…assessing just the basic things with the delivery like is the head down? And some basic interpretation of fetal heart rates…just recognizing what's normal and what would be abnormal." (FP5)*

Rural Family Medicine maternity care supervisors explained that they expect every resident planning to practice in a rural setting to be fully competent in low-risk obstetrical care. They do not hold the same expectation of urban physicians. *"I think all rural Family Medicine residents should be competent to deliver in low-risk obstetrics and provide low-risk obstetrical care from conception to delivery and postpartum. But I do not feel that way about urban." (FP4)*

Although all of the Family Medicine maternity care supervisors felt that performing a normal vaginal delivery is an appropriate expected competency for all graduating Family Medicine residents, they also appreciated that the curriculum was not conducive to supporting the attainment of this competency, thus residents should still be allowed to graduate without it. Family Medicine maternity care supervisors felt that a two-year program is not enough time to fit multiple competing demands, and therefore it is not reasonable to expect this as a requirement to graduate.

> I just think that part of it is that they don't really have enough of the opportunity for experience. It's not that they shouldn't be able to do that. I just don't know that the opportunity and volume to do that stuff is there in the course of the two years mixed in with all the other stuff you have to learn in Family Medicine. (FP5)

However, they felt that this competency should continue to be re-iterated in documentation, to ensure that ongoing education in obstetrics is supported. *"We have to have something, because if we leave it empty, then we have people with absolutely no knowledge, right?" (FP1)*

Some supervisors believed that in their particular training settings, every resident had been able to achieve their obstetrical competencies. They attributed it to the efforts they have put into creating a conducive learning environment.

> They get tons of exposure. They get exposure to complicated patients. They get exposure to resuscitations, they get exposed to a lot of well baby deliveries as well…I feel really confident that if I couldn't make that delivery and he was the emerge doc, he would do just fine. (FP4)

4.4.3 Obstetricians Don't Expect Intrapartum Skills of Most Residents, Rather Focus on Surrounding Skills

Unlike the Family Medicine maternity care supervisors, obstetrical supervisors felt that unless a resident planned to incorporate obstetrics in their career, they should not be expected to graduate competent in obstetrics since it is possible for family physicians to choose their practice settings where they might not need this skill.

> The technical delivery side of things I would say is not realistic. I don't think every family physician will necessarily find themselves in a situation where they catch a baby. I actually think it's probably not necessary for that to be part of the core competency for a family physician after a two-year program. (OB3)

The obstetricians unanimously felt that the limited time in the Family Medicine training program meant that other important topics should be prioritized.

> I think, there's so much more that's happening in a Family Medicine residency, there's so many skills and experiences to obtain that it would be a shame to spend time building a skill and knowledge set that's not actually going to contribute to your ability to function effectively in your role. (OB1)

The obstetricians observed that many residents had already made up their mind if they wished to include obstetrics in their careers or not. *"They have already made the decision that they don't want to continue with any sort of hands-on obstetrical care." (OB3)* The obstetricians explained that residents with no interest in obstetrics may be better served spending their time on attaining other skills that they will need in their practice and that these residents should be allowed to tailor their training. *"I think having them tailor their training to spend more time for example in the clinic or in the emergency department might be way more valuable…, for those who are not interested." (OB3)* Although the obstetricians felt that attaining the specific intrapartum skills should not be an expectation, they did feel it is important for residents to witness *"the experience of labour and birth both from the practitioner side and from the patient side, because I think that allows for a better relationality and connection." (OB1)* An obstetrician explained that knowledge of different areas of medicine is important even if the physician will not

be planning on practicing those specific skills. *"A lot of medical education is a cultural exchange... I definitely think that there's value with obstetrical education in Family Medicine." (OB2)* Obstetricians also felt that Family Medicine residents should be expected to be skilled in the surrounding skills of gynecology and reproductive care, with less emphasis on intrapartum care.

> I think all Family Medicine residents going into a career should be competent in early antenatal management, like up to and including the second trimester, maybe late second trimester and competent in postpartum issues. I think that's actually critical to be able to provide good care for the traditional Family Medicine type of population. And I think there needs to be some awareness of the obstetrical issues that then feed into postpartum concerns either for a mother or baby. However, I don't think there's any need for a Family Medicine practitioner to have a skillset and knowledge of the intrapartum issues. (OB1)

Obstetricians identified family physicians as the first point of contact for patients, including pregnant patients. Obstetricians felt that these skills are imperative for family physicians even if a resident did not have an interest in obstetrical care. *"I think having competence in the ambulatory side of things is really important because pregnant folks are going to be part of your practice whether you want them there or not." (OB3)*

Much of the obstetricians' expectations were assuming that Family Medicine residents were not looking to regularly practice intrapartum care. However, they did support that for those residents who are interested in practicing intrapartum care, they should be exposed and *"get as much hands-on opportunities as possible." (OB3).* For these interested residents, the obstetricians offered a unique consultant's perspective as they considered what skills they expect Family Medicine graduates to be competent in should they wish to practice intrapartum care. This included management of all antepartum, intrapartum, and postpartum issues, as well as awareness of when referral would be indicated.

> Very basically everything up until the actual performance of a Caesarean section. If you split the pregnancy up into antepartum, intrapartum and postpartum,

> there'd be an expectation of the ability for that individual to understand when consultation would be indicated and to advocate for ancillary services. (OB1)

In addition, specific intrapartum skills were highlighted, including interpreting fetal heart rate, management of labour and delivery, and signs of obstructed labour, for which a referral might be made for operative delivery, as well as recognizing perineal tears. *"…the need for what's expected to be operative delivery whether forceps or a suction…recognizing and understanding perineal tears and what would fall within the scope of practice for Family Medicine versus OB." (OB1)*

4.5 Resident Competence and Translation to Future Practice

4.5.1 Residents are Competent but Obstetrics Involves Lifelong Learning

All of the residents, whether they planned to practice obstetrics or not, stated that they felt they had achieved the competency of being able to perform a normal vaginal delivery through their training program. *"I don't plan on delivering, but in the back of my mind I do know how to deliver. So, I'm confident with that." (RES6)* Many supervisors agreed that the residents are likely achieving this competency as well.

> The other ones are petrified to do it - but could they do it? Yes. It's just like anything that comes into emerg; you're going to be a little nervous about it. But could you do it? Yes, you know. And then, you call for help after. (FP3)

Both residents and supervisors unanimously agreed that despite working toward the defined competencies, it is not possible to see and experience every possible situation in training. All aspects of medicine in general require continuing medical education. *"I just feel like it's never enough. You can see so many deliveries and then still have something that will surprise you, which is probably true about medicine in general." (RES3)* There will always be a new situation that a physician has not previously encountered. *"I think though faculty on Family Medicine are intent on getting the necessary training for their trainees, but like any apprenticeship, there's no guarantee that you'll see all the scenarios that would be ideal to see before you're independent." (OB1)* This was

especially true for the field of obstetrics, where the inherently variable nature of the practice tends to bring *"lots of surprises because you can't actually see what's happening until it's happening." (RES3)* Residents provided examples such as having to manage an unfamiliar tear or an unexpected breech presentation.

> Obstetrics is great and when everything goes smoothly it's amazing, but there's just always an extra thing that you may not have seen before or somebody has a tear that goes up around the urethra that you've never repaired, because that only happens once in a blue moon. Or suddenly realising a baby is breech or something like that. (RES3)

Obstetrical supervisors felt that beyond the baseline skillset that residents should graduate with, everyone needs support after graduation; obstetrical training is ongoing. *"There's an expected skillset that should be present in every practitioner. And then there are additional skillsets that can be gained over time with interest, motivation, and opportunity. There just needs to be some collaborative support around building that skillset." (OB1)* A resident who planned to practice maternity care right after graduation described that she was going to build further competency after graduation with support from her colleagues. *"When I graduate, I'm going to have support when it comes to the first 10 deliveries for new grads and then if there's a code you just call help." (RES3)*

4.5.2 Competence does not Translate to Confidence for Practice

Residents who did not feel like they will have support after graduation were uncomfortable entering maternity care practice without further training. Thus, these residents who wished to practice maternity care but did not perceive the required support had opted to pursue enhanced skills training.

> I think that if I had mentors, as early staff, who were willing to be available to me and to support me in transitioning to doing intrapartum obstetrics that that might be a way to be able to do it without the enhanced skills. But without that sort of mentorship and availability of more senior family docs who could help you along the way I think it would be very very difficult. (RES5)

Family Medicine maternity care supervisors reflected that they too preferred to complete extra training in obstetrics to feel comfortable with their skills. *"I did do a PGY3, I did this extra training in OB, which gave me the confidence to go out and be able to do it." (FP1)*

While all of the residents felt that they would graduate feeling competent to perform a low-risk spontaneous vaginal delivery in an emergency situation, *"I feel like I would be comfortable in an emergency situation" (RES4)*, many did not feel comfortable with their skills to include more involved obstetrical care in their future practices. They may be able to perform the skill but wouldn't feel comfortable with it in practice due to lack of confidence as a result of several factors. *"Although I am uncomfortable with it for various reasons I don't think I would be incompetent. I think I could do it again, and with more practice I think I probably would be okay." (RES8)* The inherent variability of obstetrics was one of the reasons cited by most of the residents, with the feeling that having exposure to more experiences may help to mitigate their lack of confidence.

> I would say just because there're so many different things that can go wrong during a delivery…Because no two deliveries are the same, so just being able to see where things might go wrong, and knowing early signs of maternal or fetal distress, I feel that I could use more work with. And I think just having more exposure to that would help with my confidence in that area. (RES6)

A resident who was initially interested in providing intrapartum care changed their mind due to not feeling comfortable providing maternity care without accessible obstetrical back-up in their peripheral hospital.

> …in a peripheral hospital, our OB takes like 30 minutes to get in. So, if something goes bad, you really don't have an escape strategy. So, I think that's what turned me off was most of the time things go really well but if they go poorly, I don't have someone to bail me out. (RES7)

One resident nicely summarized the thoughts of the group, describing that obstetrics as a high-stakes field requires dedicated training, whether it is attained in the two-year

program or continued afterwards, in order to feel confident for practice. However, not everyone will have that dedicated obstetrical training time within the two-year program.

> I think more training is always better in terms of developing not just competency but also just comfort and confidence because I think that's important as well for something like OB … There's a lot of anticipation and anxiety and if you yourself also have anxiety I just don't think it's like a good setting because part of your role is kind of guiding the patient through that process.
>
> So, I think it's one of those skills that it's probably better that you come out of the gate a little bit more trained than less. I think it would be preferred but not necessarily necessary assuming you have the opportunities in your two years to actually do a lot of electives and really practice one-on-one kind of teaching with a very rich learning experience in a sector that's fairly high-volume in terms of deliveries so you have lots of practice. *(RES8)*

Chapter 5

5 Front Line: Resident Experience Working Toward their Obstetrical Competencies

After gaining insight into the expectations of the residents from the perspective of the residents and their supervisors, the study sought to next describe the resident experience working toward their competencies. The factors influencing residents' experiences working towards their obstetrical competencies can be divided into three levels. At a micro level, these were factors relating to the resident learner themselves and the supervisor. At a meso level, these were factors within the learner's direct training environment and the program. At a macro level, these were factors within the overall landscape of Family Medicine in the country including the "hidden curriculum".

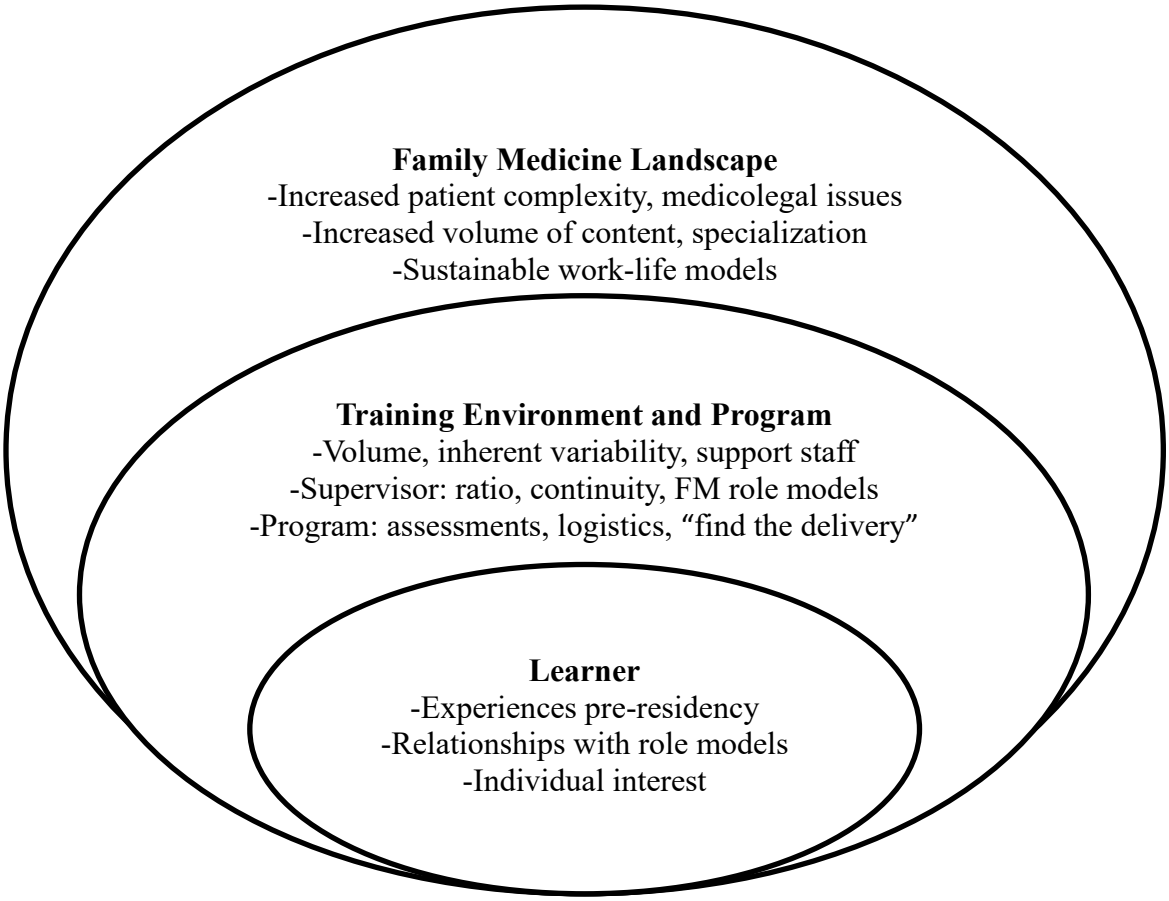

Figure 1: Framework of what influences the resident experience working toward their competencies

5.1 Micro: The Learner

At the micro level, there were two key relationships. The first was the learner themselves and their experiences in their undergraduate medical training providing a fulcrum point both for their career decisions and a base for their residency training in maternity care. The second was the relationship between the learner and supervisor.

5.1.1 The Learner: Fulcrum Points Pre-Residency

Most residents had decided before starting their postgraduate training program if they were going to incorporate obstetrics in their careers. *"I knew before I started residency that I wasn't interested in performing deliveries or obstetrical care…Just didn't really excite me, I guess." (RES4)* The resident's obstetrical experience in their undergraduate medical education played a large role in determining if they wished to pursue maternity care as a family physician. Residents who had a negative experience decided not to include maternity care in their future practice. *"My experience as a medical learner like a clerk – I would say that it was a hostile learning environment…and hence why it set the tone subsequently for not wanting to go into that field at all." (RES8)* A resident identified that although he was interested in obstetrics at first, he *"felt discriminated against just because I was a male,"* in medical school and this *"discouraged me from going into that field." (RES6).*

Residents who decided to include maternity care in their future practice had inspiring obstetrical rotations in their undergraduate medical education. For instance, one resident felt "*so happy to be able to do something hands-on. It really felt like I was doing something for a change, instead of standing around looking at lab values and ordering things on the computer and not talking to patients." (RES3)* Another resident had a positive obstetrical role model, *"The first formative exposure I had…I was a medical student…I did an elective with an obstetrician. I quickly and easily identified her as a role model. She really loved her career in obstetrics and was really enthusiastic about it." (RES5),* and for her, it became a matter of deciding to provide intrapartum care as an obstetrician or as a family physician.

> It was a decision that was essentially made before I started my Family Med residency…I really felt passionate about women's health…, but I didn't feel like a surgeon, and…I really like psychiatry...So my decision to pursue family was largely with the hope that I would be able to pursue more training in obstetrics thereafter and have that be a part of my practice. (RES5)

The opportunities during their training in medical school helped to establish a base to build their obstetrical procedural skills in residency.

> I was very fortunate my obstetrics rotation was very good in that med students got to do deliveries, not just placentas. And so as a med student, I've probably delivered about 15 maybe… I feel like in med school I gained a pretty good base. (RES3)

This was also the case for obstetrical procedures such as amniotomies and repairs, *"I've been regularly doing amniotomies since fourth year medical school and done them with reasonable success…I feel reasonably confident in my skills having a kind of similar situation with secondary degree repair." (RES1).*

5.1.2 Supervisor-Learner Relationship

Within the supervisor-learner relationship were three key themes. The first was that there was an interplay between the learner showing initiative, with the supervisor taking an interest in teaching the interested learner. The second was that the residents benefitted from receiving progressive autonomy from their supervisor. The third was the influence that the supervisor had on the learner as a role model.

The first theme was the interplay between supervisor interest and learner initiative. Supervisors noted that keen learners were more likely to be connected with obstetrical training opportunities. *"There are certain residents we have in our system that very much want to do obstetrics. And obviously, they probably do get called more than the other residents." (FP4)* The supervisors felt that less keen learners would have less opportunities, in part, due to the learner not making themselves known to the team. *"If they don't…introduce themselves…, then they may never get called to a delivery. Simply*

because nobody on the team knows that they are existing in the stratosphere." (OB3) A supervisor remarked that residents would need to take the initiative to reach out to her if they see she has a patient in labour so that she can include them.

> The Family Med residents just float between staff and so they could easily go up into the call room and hide if they do not want to be involved, or they could take the initiative and see that I had someone in labour and call me and say, "I want to be involved." and then I could involve them. (FP5)

Supervisors endorsed not having a particular interest in teaching a disinterested learner. *"If you're not interested, I'm not interested, either, so, I'll do what you need. But that's probably about it." (FP1)* This phenomenon resulted in a supervisor-adult learner interplay where the adult learner is expected to take a self-directed approach to their learning – the supervisor will not make more effort than the learner to give them the experiences they need. *"The energy that I'm going to invest in providing clear concrete direct specific feedback is going to be correlated with my kind of perception of the engagement on the part of the trainee." (OB3)* Some supervisors felt that since residents are adult learners, they should take responsibility to reach out and ask for help with attaining their obstetrical competencies.

> I really think it should be driven by the resident. You're an adult learner, you need to recognize that, "I haven't gotten this, I need to do this," and then if you're finding that in trying to seek out those things, you're not getting what you need, then talking to your main preceptor and going, "Okay, I need help with this." (FP3)

The residents agreed that their level of involvement in the patient's care was in part guided by the learner's expression of interest. *"If we're saying we want to be involved in the care then they kind of let us take the lead and try to do the delivery." (RES1)* Most of the residents concurred with the sentiment that *"there's some responsibility for the resident" (RES3)* to reach out for help if they felt that they were not attaining the experiences they needed. Residents who made it a personal objective to attain the obstetrical competencies took initiative to gain access to learning opportunities. *"I took*

the approach of sacrificing my schedule to get those deliveries because it was in line with my goals." (RES5) They self-monitored for their weaknesses and asked for help of their supervisors with attaining their competencies. *"The learning was very self-driven… if they were doing something that I wasn't familiar with, I would ask about that afterwards, and then I would practise it the following time… you had to know what your own deficits were." (RES6)*

Residents described their self-directed approaches to working toward their obstetrical competencies. For some, it was reaching out to other Family Medicine maternity care providers who happened to have patients on the ward, and for others it was asking to be contacted by the same providers for future deliveries. *"I have asked [a Family Medicine maternity care provider] for this calendar year to contact me if he has other deliveries that are anticipated to see if I can participate." (RES8)* Residents noted that if they expressed an interest in practicing obstetrics in their careers, they were more likely to be connected to opportunities by their supervisors and surrounding team. *"As soon as [the chief resident] identified that…I was hoping to do obstetrics in some capacity after residency, he advocated for me to be involved." (RES5)* This was affirmed by their obstetrical resident colleagues. *"I had the OB resident tell me 'Hey, you should probably say that you're interested in doing the Enhanced Skills program so that they will actually let you touch the patient.'" (RES7)* On the other hand, residents noted that if they did not openly express a special interest in the area, they were less likely to be included in learning opportunities. Some residents perceived that their supervisors would assume *"that most of you won't go into OB." (RES7)*, leading to the supervisor's lack of interest in their learning.

> I saw patients in OB triage and then would review with the OB, but at no point did they even let me tell them what my plan was for a patient. They just heard a couple of words and told me, 'Order the admission paperwork' or whatever … they wouldn't even have the nurses call you for deliveries. So very, very little expectation. (RES7)

A resident who did not outwardly express interest in obstetrics felt that their learning was neglected; they still wanted to learn as they wanted their time spent on the rotation to be

meaningful. *"Well, since it's a mandatory rotation I'd rather make the most out of it instead of basically wasting my time being there every day and not learning anything while I'm there." (RES4)*

The second theme within the supervisor-learner relationship was that residents would benefit from progressive autonomy from their supervisor. Residents found it problematic to be placed at the level of medical students, where they were given minimal responsibility, not allowed to review with staff, not making decisions in management, not given a clear role, requiring co-signing of notes, and feeling as though they were in the background. This tended to be the experience in the large academic centre under specialist supervision.

> They would finish running their list, and then they would all just leave, and you'd have to figure out what you're supposed to be doing…And then you go round on patients, you write a note on the antepartum or postpartum patients. And then the OB residents will co-sign your notes. They don't even let Family Medicine residents do their own thing. And then they'll run the list after, and you're just sitting with the medical students again. (RES4)

A resident reflected that in part, the supervisor needed to have the risk tolerance to allow residents to practice their skills with appropriate support, but *"sometimes their risk tolerance is 'I don't want an off-service resident to perform that procedure. Rather lower that risk to a slightly more experienced OB resident.'" (RES1)* A supervisor reflected that, at times, their risk tolerance and discomfort in allowing residents to be hands-on with their patients came from a misperception of their patient's preference to avoid learners. *"I struggle with this a lot with learners and my perceptions of how my patients might feel about having a learner involved, and how sometimes, they [the patients] surprise me and they don't care." (FP3)* Residents experienced greater achievement of skills if they were allowed progressive autonomy or "lengthening of the umbilical cord" to support learner progress, in order to attain both competence and confidence. With progressive autonomy, the resident explained that they were able to achieve a balance between patient safety and their own learning. *"It's this sweet spot of wanting to put*

yourself out there, and to challenge yourself, but you also want to make sure that the patient is safe, and that you're doing a procedure correctly." (RES6) Although they did not find this relationship with their obstetrical supervisors in a tertiary care centre, residents who were in smaller communities were afforded this opportunity.

> The obstetricians really gave me a lot of flexibility of working within my comfort zone…if we're talking about laceration repairs, the first time I would watch it, and then the second time I would be in there suturing, and the obstetrician would be guiding my hands to help me, but I was very hands-on. And then by the third time I would be doing it on my own with them just watching from the back. So, it was a really good learning model. (RES6)

Residents also tended to experience more progressive autonomy with Family Medicine maternity care supervisors, even when the supervisor was new to them.

> Family Med OBs that I've worked with are very good at letting you get in there and stepping in when you ask them for it. It happens a lot in a lower risk setting where I'm actually able to be the person that's doing it, rather than just standing at the sidelines. (RES7)

The Family Medicine maternity care supervisors provided examples of how they allowed for progressive autonomy in their teaching, and how this is also closely connected with the supervisor-learner interest interplay.

> If the resident is keen and wants to get that experience, I will let them try and be as hands-on and I'm right there. And then, all the way out to residents who have done tons of deliveries, I will sometimes not even have a gown on, just have gloves on and just be ready. So, it really depends on the resident. (FP3)

The Family Medicine maternity care supervisors explained that by providing progressive autonomy, they came to expect their graduating Family Medicine residents to be more independent in their procedural skills. *"When I see a second-year resident, I expect that they could likely do the delivery and I sit in the background. I'm always there to support but I'm expecting…they're doing what needs to be done for the most part." (FP5)*

The final theme within the supervisor-learner relationship was the experience a learner had with Family Medicine maternity care supervisors functioning as role models, as opposed to having an obstetrician supervisor. The scope of a Family Medicine maternity care provider is different from an obstetrician where *"there's less continuity of care… it's like delivery and done." (RES3),* and Family Medicine residents appreciated working within the full Family Medicine scope, including newborn care. Seeing more Family Medicine maternity care providers and emulating a practice that residents can see themselves working in was encouraging and also simplified the learning experience as the training objectives were clearer.

> Family Med obstetricians naturally mentor and teach me in a way that meets my needs because they don't have to think about what my needs really are; what they're doing is what I'm going to need to do. Whereas I think the Royal College trained obstetricians sometimes have to pause and think, 'is this something she's going to need to know?' I still have had good experiences with Royal College trained obstetricians, but I have preferred learning from the Family Med OBs because of that way it just emulates what I'm going to be doing. *(RES5)*

Some supervisors noted that residents should be given more opportunities to work with Family Medicine maternity providers at the academic centre rather than obstetricians. *"I would like to see that they make Family Medicine obstetrics a priority for their rotation, not to send them to tertiary level obstetrical care for their rotation." (FP4)* Obstetricians reflected on having challenges being an effective role model and also supported the notion that residents should be exposed to more Family Medicine maternity care supervisors.

> I wonder whether it makes more sense to ensure that we're maximizing the exposure to other family physicians who are doing obstetrics so that not only are they getting a better ratio of teacher to learner in those moments but also that they're understanding, 'This is what my life would be like if I was doing obstetrics as part of my future practice.' (OB3)

Obstetricians also reflected that role modelling sustainable practices to providing maternity care is important to encourage learners to consider it as part of their future practice. *"A practice can be sustainable and modelling that to trainees is very important. If it looks like you have to do it the way they did in the 80s, that's going to be a deterrent." (OB1)*

5.2 Meso: Training Environment and Program

At the meso level, several factors within the training environment and the program influenced the residents' exposures to obstetrical experiences. The first was the variability of opportunities at the training centre, where there was a delicate balance to strike between too much and too little volume. The second was the amount of time directly spent with a supervisor, which was influenced by the number of other learners working toward the same competencies, opportunity for continuity with the same supervisor, and the number of Family Medicine maternity care supervisors available within the program to teach. The third was the impact that surrounding ancillary staff members could have on the exposures within the training environment, and how supervisors could involve these staff members to help teach the residents. The fourth factor was how residents experienced program and supervisor assessments to understand their progress towards their competencies. The final factor was a culmination of program logistic issues, such as scheduling and housing.

5.2.1 Volume

Family Medicine maternity care supervisors described the unpredictability of intrapartum care on their shifts since pregnancy is generally not a scheduled event. This can impact the resident's impression of Family Medicine maternity care practice.

> If it's very quiet that resident might feel like Family Medicine obstetrics is boring or like nothing ever happens; but then it gets really busy. That can be overwhelming if this is the first time you're seeing a delivery. So, I think the variable nature of obstetrics makes it hard. (FP2)

Supervisors explained that inherent variability within the shift was compounded by the resident's limited working hours, which could result in limited exposure and diminished learning experiences.

> Sometimes we have shifts where we don't have deliveries and the uncertainty is hard because you can't expect them to be on-call with you 24 hours a day, seven day a week…So if it's their turn to be on-call and nothing happens, then they're not going to get a delivery that way. (FP5)

While a higher volume training center may allow a resident to refine specific procedural skills, a resident explained that it can be overwhelming to have a shift that is high in volume.

> There was definitely too much volume. At one point, the OB staff and resident were down in the OR [operating room] fixing a ruptured ectopic and I was upstairs on the floor responsible for the deliveries, which is a little bit overwhelming as a first-year Family Med resident. (RES7)

With high volumes, residents explained that it impacted the time they had for appropriate supervision and teaching. *"And then with repairs…they might have said 'oh there's another lady who's going to deliver soon, let's just get this out of the way. You can do it next time', and then there was not a next time." (RES7)*

Family Medicine maternity care supervisors concurred that there is a trade-off of working at a high-volume urban centre with more learners, as opposed to a low-volume rural centre with more time for teaching.

> A lot of training happens in major centres which is sometimes necessary to get the volume of obstetrical exposure, but at the same time there's more learners in academic centres. Whereas we get more one-on-one experience if you are trained in a rural or regional site, but you won't get the volume. So, it's a trade-off between volume of deliveries versus a more, I would say intimate birth experience as a learner. (FP2)

5.2.2 Supervisor Availability

Residents were influenced by their experience with supervisor availability within the training environment. This was exemplified by variances in the supervisor-to-learner ratio, the opportunities for continuity with their supervisor, and the presence of Family Medicine maternity care supervisors available to teach within the program.

Residents who worked in a tertiary care center with many learners under the supervision of one or two obstetrician specialists found it challenging to access hands-on experience with obstetrical skills despite there being adequate volume. In this setting, the Family Medicine residents found that it was unclear what their role was amongst the many learners. *"Like they have a good volume coming in it's just that there's so many learners there at a time that there's very little for a family resident to do...Family Medicine residents are not prioritized at all for learning." (RES4)*

As a result of the training environment where there are many learners, the residents described feeling demoralized and believing that they shouldn't be prioritized over other learners who do have plans to practice obstetrics in their future. *"There's a lot of learners ahead of you and it's very difficult to get the opportunity. So that kind demotivates you…it's hard to justify your desire because you know you're not going to do that later on." (RES1)* Because of the large number of learners relative to the staff at the tertiary centre, the residents found that they often did not work under the supervision of the staff, but rather of their senior residents. This made it challenging to express any interest in learning obstetrics to their staff. *"For my OB rotation, none of them even really asked me if I was interested…I didn't really work with any of the staff directly so, they wouldn't even have the opportunity to do that." (RES4)* These residents preferred to train outside of the tertiary center where they could access more opportunities. *"I would have preferred going to a smaller centre where the residents actually have responsibilities and work more closely with the staff because there's less learners and able to experience more." (RES4)*

Family Medicine maternity care supervisors echoed the residents' concerns, as they found it challenging to teach many learners at once. This resulted in fewer opportunities

for the learners, which was further compounded by the short training program. *"I don't think we're being immersive enough. And that's just because of the learning opportunities. We've got too many learners…" (FP1)* Obstetrical supervisors made the same observation that *"you have basically two types of learners wanting the exact same skillset that are essentially competing," (OB1)* and felt that it would be important to help Family Medicine residents train in settings outside of the tertiary academic centre. Supervisors felt that either prioritizing connecting residents to Family Medicine maternity care supervisors would allow a more manageable staff-to-learner ratio and dedicated experience.

> When they're able to work one-on-one with more of the family doctors, there might be more volume and more opportunity but when they're mixed in with the other learners, so the med students and the OB residents, I think that that can be a barrier just because there's so many people trying to learn similar things and sometimes there's three people going to see a patient for a delivery or something so not everyone's going to get hands on experience. (FP5)

The staff-to-learner ratio would influence the continuity that the resident may have with their supervisor. For example, residents found it challenging if their supervisor changed frequently as they would have to rebuild a learner-teacher relationship in order to practice their obstetrical skills.

> Because I'm an off-service resident I do sense a lack of trust in my capabilities. So, I sometimes did get a little bit pushed out of the way sometimes at the very end... all the time it's with a different OB and a different OB resident and so each time I'm coming in new to them and without that initial rapport. (RES1)

Residents who trained in centers that did not have a Family Medicine maternity care role model felt fulfilled in their experience working toward their competencies with obstetrician specialists when they had continuity with them as their supervisor. In these scenarios, the residents were directly supervised by the obstetrical staff without any other learners, which they found to be a benefit of working outside of the tertiary academic centre.

> I personally think it's silly that I need to do deliveries with a GP when…I've done a full four-week training working directly with OB staff that's probably more involved and in-depth of teaching, potentially because I haven't gone to an urban program, where…there are other residents around. (RES8)

Residents described it to be helpful to have continuity with the same supervisor so as to continue building on learning objectives. This was especially unique within Family Medicine as they would have continuity from their Family Medicine rotation into obstetrics. *"When I did Family Med OB, I knew the preceptors much more because I had worked with them all on Family Medicine, so they were more comfortable with me and let me do a lot more stuff." (RES7)* This level of continuity with Family Medicine maternity care supervisors allowed for ongoing conversations surrounding the residents' progress toward their obstetrical competencies. *"I work very closely with the residents, we work everywhere together…whether it's inpatient, or whatever, so we're constantly having conversations and I really try to sit down and check in…so that if there's concerns, we can have those conversations early." (FP4)* Regardless of whether Family Medicine maternity care supervisors or obstetricians were supervising them, continuity with a supportive and enthusiastic preceptor helped to engage resident interest and increase their exposure to learning opportunities. *"The two OBs that I worked with very closely - I knew them and they knew me. So, I think that alone actually opened up the gates for a richer learning experience." (RES8)*

Family Medicine maternity care supervisors also endorsed that they preferred their learners to have continuity with both themselves and with their patients to understand the full scope of the work. They felt that having continuity with themselves allowed the continuity with their patients, which would provide a richer experience for the resident. *"I think it helps as a resident if you've been involved with that patient leading up to the delivery and so then you have a bit more personal investment in their hospital course and in their birth." (FP2)*

Residents also found it more meaningful to have continuity with the Family Medicine maternity care supervisor, which would include the experience of continuity with the patient, rather than being present just for a delivery.

> I felt like the Family Med OBs were much more invested in the delivery of their patients… rather than coming at the last minute to catch the baby. So…when they were delivering, you had already gotten to know them when they weren't in horrendous pain from labour…that patient continuity was really nice…Then also to do the newborn check afterwards…both of them were your patients, you saw the outcome rather than being like fully focused on the mum. (RES7)

Despite the improved staff-to-learner ratios and likelihood of continuity with Family Medicine maternity care supervisors, there are fewer Family Medicine maternity care providers to both teach the residents and role model to the residents how obstetrical practice fits into their careers and lives. *"I think Family Medicine obstetric preceptors are less common than they used to be… then you don't see how a Family Medicine physician incorporates obstetrics into their practice model, into their life… it goes beyond just the actual skills..." (RES3)* Residents faced challenges having exposures to Family Medicine maternity care within their training environment. *"I'm in a program where there actually are no Family Med providers that do OB as part of their practice. But nonetheless it's a teaching site and you're still required to deliver three babies with a Family Med provider." (RES8)* There simply were not enough physicians within the Family Medicine program available to supervise and teach. *"There's a lot of family docs who do low-risk obstetrics in [this city], but the majority of those physicians are not very active in teaching residents." (RES5)* All residents agreed that having access to teachers in the program would enhance their opportunities to attain their competencies. *"If there was more of that exposure, it would allow for more opportunities for mentorship and potentially more opportunities to get hands-on deliveries." (RES5)* As a result, residents hoped the program would help them gain better access to Family Medicine maternity care supervisors. *"If there's any way to schedule family residents outside of [the major teaching hospital] – I think that would help. Or schedule them specifically with family OBs practicing in [this city] instead." (RES1)*

5.2.3 Role of Ancillary Team Members

Besides the staff supervisors, residents described how the ancillary team members played an important role in their training environment; they can be advocates or barriers to learning opportunities. *"[The chief resident] was very kind and enthusiastic about teaching and really helped me get involved when I wanted to so that I could meet those goals." (RES5)* Nurses in particular were considered valued teachers by the residents as they were able to share their knowledge on *"monitoring the foetal heart rate"* or performing *"a cervical check"*: *"Anytime that I asked for help, [the nurses] were really good." (RES6)* There were times when ancillary staff would not prioritize connecting the residents to opportunities despite the residents' efforts to engage in their learning. *"I just never got the phone call to actually come [to the delivery]… which was disappointing, especially when you're following someone all night." (RES6)* Supervisors were observant of these impacts as well and attributed it to prioritizing the patient experience.

> Certainly, nurses do feel like they need to protect their patients, and so, if you have a resident who seems a little bumbly, they are going to say to the patient, "Do you really want [them] there?" So, you've got some undermining that's not meant to be bad for the resident, it's just supposed to improve the experience for the patient. (FP1)

Supervisors could advocate for their learner's training experience by involving the ancillary team members with teaching within their scope. *"I will often say to a nurse, "Hey, when my residents comes in, would you mind checking at the same time?" So, do a double vag exam…then [you just] get instant feedback*." *(FP1)*

5.2.4 Assessments

Assessments were an important factor to the resident's experience working toward their obstetrical competencies. *"I think repetition as well as critical feedback and tips in real time from my supervisors, as well as supplementing that learning with both reading and the simulation." (RES8)* The program required an online generic rubric system to be completed by their rotation supervisors. *"The rubric that's used to assess us is the same across rotations that we do. There's [an online assessment system] with Likert scales and*

the opportunity for staff to leave comments." (RES5) The residents found that these were often not completed in real-time, so it was less useful or applicable to their understanding of their obstetrical competency attainment. Residents working toward their competencies found it helpful to receive informal feedback in the moment about a specific scenario.

> Most of my feedback was informal – like immediately at the time, or right after something was done. I think the evaluations are more just a formal thing that the school requires. Like my obstetrics evaluation I don't think I got until maybe even a month after my rotation had ended, and even then – I don't remember there being much useful information in it. But any useful feedback I found was immediate, so that I could work on those skills even more during that shift. (RES6)

Supervisors also agreed that in-time debriefs were more useful than online, delayed, generic assessments. *"Evaluations are fine and dandy and they're valuable in the context of programs tracking their residents. But as an individual resident, I don't know what an evaluation does from a skills perspective or a learning perspective." (OB2)* The supervisors preferred to provide *"feedback in the moment"*, in part because if it were delayed, they would *"have a hard time remembering students especially if I'm only seeing them once." (FP2)* They reflected that paper evaluations in the past allowed for more direct feedback, whereas online feedback is more delayed, so residents lose the opportunity for immediate direction.

> The paper ones used to be more hands-on where you sit down and talk about them. The online ones come to you, and you forget about it for a while, and you complete them whenever they remind you. So, it's not really as one-to-one…and not in-time sort of evals. (FP3)

Although most residents and supervisors preferred the informal, direct feedback, an obstetrician noted that formalized, documented feedback should not be disregarded, but rather more efforts should be made to design it correctly.

> Formal documentation is a necessary evil in the sense that we all need concrete paper trails...for the people assessing us and making decisions about our competence and readiness for practice. Documentation is only as good as the training that's provided to the folks that are filling it out. And the design of the tool as well; so, I think generic questions are less helpful than specific questions. Numbers on a scale that are without observable anchors are not as helpful as well because my 4 may be someone else's 2. (OB3)

The supervisor provided a contrasting opinion on informal feedback, noting in their experience that without formal feedback, a resident may not notice that they are receiving feedback at all.

> I think people don't always realize they're getting feedback in the moment… I just feel like I'm giving feedback constantly and sometimes we get feedback from them to say that they don't feel like they're getting any feedback. So, I think there's sometimes a disconnect there when it's just exclusively delivered informally. (OB3)

5.2.5 Program Logistics

Residents who took initiative still found challenges in meeting the program requirements. *"Even though I was quite keen to seek out those opportunities, I didn't end up getting all three of my deliveries." (RES1)* When asking the program for guidance, residents reported being directed to find a Family Medicine maternity care supervisor and consider booking *"an extra elective to fulfill those." (RES3)* However, residents described challenges with the self-directed "choose your own adventure" or "find the delivery" approach. For instance, one resident explained that despite asking for a maternity care elective to gain more experience after feeling he had a "*deficiency*" in obstetrics, he was declined this opportunity due to the lack of program resources: *"I actually didn't get any additional electives in obstetrics." (RES6)* Another challenge included feeling intimidated as a new resident requesting supervision from *"a Family Med obstetrician who they've never met before and ask if they can be part of the delivery... especially when you also don't know if they have other learners with them." (RES5)* Residents described

that their learning environment was not conducive to being able to ask for more opportunities as they would have competing demands to remain in clinic. *"It's not as simple as saying, 'If you get a delivery this week, let me know, I'm going to come.'… that's quite challenging because we have patients booked all the time." (RES5)*

The timing of obstetrical exposures within the program was a delicate balance and highlighted the importance of fulcrum points in training that influenced the learner's attainment of competencies. On the one hand, exposure to obstetrics for the first time in the second year of training *"is probably a little too late to decide that you want to take that on because I think it does require a commitment of time to learn those skills." (FP2)* On the other hand, being exposed to obstetrics early in the first block of residency meant that it will be *"a long time until you graduate when you're expected to go out into the world and know how to do these things." (RES3)* Residents felt that completing their obstetrical training after having an initial exposure through Family Medicine obstetrics would have allowed them to better advocate for themselves to gain experience.

> If I did it after my Family Med OB block, I would have looked more comfortable doing things, but I think I'd also be just a bit better at advocating for my own learning. I think it was my third or fourth block of residency, so at that point you're still learning how to be a doctor and like getting comfortable with your knowledge, and also trying not to piss off your attending. Whereas now I'm better at advocating for myself and being like, "Hey, actually this is what I'm here to do, so can we get me some more learning experience." (RES7)

A Family Medicine maternity care supervisor pointed out that since the obstetrical skills have been labelled by the CFPC and program to be important, the program should assume greater responsibility in connecting residents with opportunities. "*It has been put on the resident to find those experiences, which I think is really unfortunate…If the program expects residents to have obstetrics, then they need to teach it." (FP4)*

This supervisor's own rural program tended to produce competent family physicians who can practice intrapartum care, and they attribute it to the program's effort to prioritize scheduling of maternity education. *"So here, it's just part of the program and it's*

expected. So, it's a moot point if you can come here, you're going to do obstetrics." (FP4) Family Medicine maternity care supervisors felt that the smaller community had the flexibility in program scheduling to allow more exposure to obstetrics if required.

> Having an ability to be flexible in their schedule is really important because babies come when they want to come. So, being in a program where it's okay if while you're doing an emerge shift, but there's a delivery happening, you can leave and go do that. (FP3)

With respect to other logistics that a program could consider, in addition to the scheduling structure, residents found it helpful to have didactic simulation sessions to prepare for their obstetrical rotations. *"The OB skills day was actually awesome, and it was well-timed for me because it was right before my OB rotation. (RES8)* Residents also found it helpful to receive housing near the delivering hospital provided by the program when they were working at a location distal to their home base. *"I lived right next to the hospital, so if anything ever came up, I would be able to go right there." (RES6)*

5.3 Macro: Family Medicine Landscape

Residents experienced a "hidden curriculum" secondary to the changing landscape of Family Medicine, that implied that they cannot be competent in low-risk obstetrics after a two-year training program. With the changing landscape of Family Medicine including the increasing complexity of Family Medicine, increased volume of content, higher risk pregnant population, competition for low-risk patients with midwifery, and greater concerns of medicolegal consequences, there is now increasing subspecialisation and the idea that further training is required otherwise one cannot be competent in obstetrical care. This has led to a change in the perception of necessity of attaining the competency, which is in part influenced by the "ivory tower bias".

5.3.1 Increased Complexity of Pregnant Patients

The patient population has changed due to *"higher maternal ages"* and "*lower birth rates"* leading to an increased *"potential for complication"*, and results in an increased

rate of operative delivery including caesarean section which are *"outside the scope of family doctors." (OB2)*

Supervisors felt that it can be challenging to be prepared to take care of pregnant patients where there is an increased risk of complication than there was in the past, especially within a two-year program.

> Recognizing low risk really doesn't exist…everybody can have severe postpartum hemorrhages, everybody can have preeclampsia, knowing all of the other complicated things that happen, and being experienced enough after two years to recognize those things is a difficult skill to acquire. (FP3)

The increased complexity of patients increases the likelihood of a bad outcome and subsequently increases the medicolegal risk. *"One of them is the medical/legal environment around childbirth…the people's standards and aggressiveness patients will pursue negative things that happen with childbirth has gotten more intense." (OB2)* This has led to higher medicolegal insurance premiums which some residents considered a deterrent since they would need to perform many deliveries to make up for the cost of the insurance. *"The insurance to be a Family Med OB is quite a bit more expensive than to just be a family physician." (RES7)* The higher risk setting along with the medicolegal environment has been described as *"very anxiety provoking and not necessarily something that I want to endeavour on a regular basis." (RES8)*

5.3.2 Increased Volume of Content

Supervisors explained that medicine used to be simpler when the residency programs were first created. *"Family Medicine has changed drastically since we first became a residency program…We never used to treat people for MIs [myocardial infarctions] or kidney disease. It was like, so sorry, you're going to die, and we wish you all the best." (FP4)* Since then, medical knowledge has vastly increased over time leading to challenges in the healthcare system to be able to provide the required care. *"Now people are living well beyond what their expectations are but they're complex, that requires more care. And our system isn't structured to accommodate for the amount of extra work*

that requires." (FP4) Supervisors unanimously agreed that it is challenging to learn all there is to know to provide full-scope comprehensive medical care within a two-year Family Medicine program. *"Family Medicine is such a broad specialty and it's impossible for an individual to learn how to be a low-risk obstetrician, how to be a hospitalist, how to be a palliative care physician in two years." (FP2)* The volume of content needed by a family physician begs the question why obstetrical skills should be prioritized over many other topics that are also required. *"Well, of course we can say more teaching, but then, you know, they also have to know what to do when a patient comes in with congestive heart failure. And what do we do with end of life?" (FP1)* Some residents felt that there were many *"up and coming"* medical topics within the scope of Family Medicine that also need to be prioritized such as *"chronic pain, addictions medicine…"*, hence they felt that obstetrical skills should not be required.

> I don't know of any family providers that have delivered a baby, so it's confusing to me that there's competencies listed out as so. But then there are other areas of Family Medicine that I think there are huge deficits in that don't even make the list. It doesn't make sense to me. (RES8*)*

5.3.3 Culture of Subspecialisation

The explosion in medical knowledge along with the increased complexity of patient care has led to a culture of subspecialisation to feel comfortable with an area. *"As the incredible depth and breadth of information has continued to grow, medicine has become more specialized because there's no human that can manage all of these details. Obstetrics and gynecology are not immune to that." (OB2)*

This contributed to residents experiencing a hidden curriculum that family physicians cannot practice obstetrics unless they engage in further training. For example, a resident remarked that they enjoyed obstetrics, but they perceived that practicing obstetrics meant that it would be an area of special focus, rather than maternity care being simply included in their general practice. This represented a culture shift in Family Medicine that the idea of including maternity care in one's practice meant that one had chosen to specialize in it.

"I would do antenatal care and postnatal care, but I don't think I actually want to be delivering. That said, I love it. Just not the area that I want to focus in." (RES6)

Their supervisors have also noticed that their colleagues tended to practice obstetrics after completing extra training. *"I see the trend in Family Medicine training when it comes to obstetrics heading towards extra training in order to take that kind of care on." (OB2)* The expectation to engage in extra training in obstetrics in order to practice it also comes from those hiring Family Medicine maternity care providers. *"The pressure that it's not enough to have finished a residency program, that if you want to practice in teaching or city centres, there's an expectation that you bring some additional training with you beyond the standard residency training." (OB3)* Residents who were interested in including maternity care in their practice felt pressure to prove that they did not require further training.

> I felt like when I was on my [obstetrics] elective, that there was maybe a little bit more pressure to impress the preceptors…So to show them that I was competent and confident appropriately and my skills was more important because they knew I wasn't doing any extra training. (RES3)

Supportive Family Medicine maternity care role models helped residents feel more confident in their training to continue maternity care after graduation from their two-year program. *"I feel confident in my obstetrical skills. I've had quite a bit of OB experience and my preceptors have certainly been a support…they didn't do extra training; they feel like I'm already on track." (RES3)* A Family Medicine maternity care supervisor felt that Family Medicine maternity care role models were important to mitigate the hidden curriculum of subspecialisation since they felt that low-risk maternity care is really in the realm of Family Medicine rather than subspecialties.

> So, in the urban areas, you have certain obstetrician-gynaecologists say, "Well, you guys won't be doing this, or I can't believe you're doing this without an obstetrician that's supporting you, or etc., etc." And it's like, well, you're not going to move to Timbuktu to support us. So, who do you think's going to deliver these low-risk people? I call it the ivory tower bias. So, when you work with specialists,

> they have no concept of what it means to work with a family doctor, and what expertise we actually do have. And I think it really diminishes the confidence of residents to feel that they actually can practice obstetrics. And they do have the skills and this is a family physician specialty. Low-risk obstetrics is not where, you know, specialists should have their nose in like, it really should be a family practice. (FP4*)*

Although most supervisors felt it would be challenging to be comfortable with maternity care after a two-year program, they also felt that should a physician feel comfortable with their skills, they should feel *"empowered"* to practice it: *"For example, if you are capable of doing Family Medicine and obstetrics and delivery and episiotomies and tears– there's no reason that you can't do that, right." (OB2)*

5.3.4 Increased Value Placed on Wellness

The landscape of medicine has adjusted to balance work with maintaining a healthy lifestyle. For example, in the past, residents did not have as much protection by governing union bodies resulting in longer working hours. However, this has changed and the resident's exposure to the large volume of content in Family Medicine can be limited by the influence of reduced work-duty hours.

> When [my now colleagues] reflect on their residency experience, they had far more hands-on experience than I ever did. They worked insane hours and there were lots of, quite frankly, unethical things happening…I think it's no longer acceptable for most folks to be on call 24/7…So there are probably fewer hands-on educational opportunities. (OB3)

Every participant explained that the variability of obstetrical experience while on call is compounded with limited time on-service overall due to protection from resident organizing bodies that may impact the number of total exposures. This included shorter shifts that may impact continuity with a labouring patient. *"The problem is they're often not on-call after midnight. And most babies happen in the middle of the night it feels. It's a challenge the way our rules are, which are good but a bit of a barrier." (FP3)* A

resident explained that she decided not to follow the resident organizing body guidelines in order to ensure she got enough maternity care experience.

> She said to me, 'If you don't feel comfortable, if you want to rest because you're tired, if you want to take the day post-call because you need to, you can.' But I never felt like I could because I was applying to the R3, because I wanted to get a good evaluation, and because I wanted to get the experiences. So, I did not prioritize sticking to the [resident union] guidelines and she certainly didn't make me. (RES5)

Similar to changes with resident work-duty hours, staff physicians have also organized their working schedules to allow for a more sustainable call schedule. Traditionally, Family Medicine maternity care providers provided continuity of care for a patient within their own practice through to delivery and life thereafter. *"A good thing that defines family OB is continuity of care… patients still seek family OB because they want their doctor who saw them throughout their pregnancy to hopefully deliver their baby and then all of them in postpartum." (RES1)* However, while residents appreciated the continuity aspect of Family Medicine maternity care, they would be deterred by the disruption that a soft model of call would have on their lives. *"I saw that it was very nice for them to be able to deliver their own patient's babies, but I did not particular enjoy being woken up at 3:30 to…try to make a delivery, so I decided against it then." (RES7)* Furthermore, some residents found the lifestyle of Family Medicine maternity care incompatible with their other career goals. *"Yes, I was seriously, seriously considering doing both [hospitalist and obstetrics] but I think just lifestyle-wise that's just not possible. That's taking on too much because…can't really incorporate both hospitalist and Family OB with very conflicting expectations of calls." (RES1)* In the landscape of Family Medicine maternity care, there has been a shift towards more sustainable call models, which residents found encouraging to influence their decision to practice. *"And so…, knowing that's a shared model so you don't have to be on call 24/7 for your practice. It just made sense." (RES3)*

Chapter 6

6 General Discussion and Conclusions

6.1 Integrated Summary of Findings

Given the changing landscape of Family Medicine resulting in a crisis of fewer maternity care providers, the aim of this qualitative descriptive study was to understand the Family Medicine resident experience working toward their obstetrical competencies as one of the chief influencers of their career decisions from the perspective of the residents and their supervisors. With this aim in mind, the study also sought to define the national competencies and expectations from the perspectives of the national key informants involved in Family Medicine maternity care education.

Except for Koppula et al.'s study, which took place in 2009[68], and a recent paper published in 2022 by Marshall et al.[64], the majority of research exploring the Canadian Family Medicine resident experience with maternity care training occurred in the 1990s as outlined in Chapter 1. This study fills a gap in the literature exploring the resident perspectives in at least the past decade while the landscape of Family Medicine maternity care and training has continued to change.

6.1.1 Defining the Competencies

While studies similar to this one have looked at how we train Family Medicine residents in maternity care, their experiences, and influencers for career decisions, there appear to be few if any studies exploring the perspectives on the value of the defined competencies and how stakeholders interpret the maternity care competencies. A scoping review published in 2020 concurred that there is minimal research studying if CBME in general is being implemented as intended in North America.[88] Our study adds to the literature of CBME implementation in general, from the specific lens of Family Medicine maternity care.

The necessity of maternity care skills as a Family Medicine competency was controversial across the participants. In general, it was agreed upon by all participants that it is important for Family Medicine residents to be competent in obstetrical skills as

it pertains to the surrounding skills of prenatal, postpartum, and newborn care. All participants except for obstetrical supervisors felt that graduates should also be competent at performing an emergency spontaneous vaginal delivery at the end of the two-year residency because labour can happen in unexpected places, and it is the role of the family physician to be prepared for this common event. Many felt that since most physicians will not be practicing intrapartum care, the focus of maternity care skills should be on the penumbra rather than the procedure. The rural experience often arose amongst participants as an exception, where the ability to provide intrapartum care can be expected in order to meet a community need.

It is noted that *The Red Book*, which provides the accreditation standards for Family Medicine programs, removed the specifics of maternity care education requirements and instead, moved it into supplemental CFPC documents, including the Key Features document.[47,48] One does wonder if the participant interpretation of the importance of maternity care education may be influenced or at least supported in part by it no longer being outlined in the required accreditation standards. The implications of our findings suggest that a greater emphasis on maternity education should be placed on the surrounding skills, and if the CFPC has decided that intrapartum skills are also important for graduating Family Medicine residents, perhaps it is time to revisit including it in the accreditation standards as one step towards correcting the hidden curriculum.

Improving the uptake of intrapartum skills from an accreditation standpoint is an important area of concern. In the United States, the Accreditation Council for Graduate Medical Education changed the required obstetrical experience during Family Medicine residency training from a volume-based to a competency-based requirement.[89] In a recent study, the authors note that following the update to the accreditation requirement, residents had less experience with deliveries, and residency programs were placing less priority on experiences with family physician faculty and continuity deliveries. This American study along with the findings from this thesis, highlight the impact accreditation requirement decisions have on the maternity care competency of graduating Family Medicine residents. Therefore, updates removing the maternity care education requirement should not be taken lightly. Further, it raises the question as to how one

should determine competency in maternity care. While the participants felt competency cannot be determined by a number, Fashner et al.'s survey demonstrated that residents were more competent with the volume-based model.[89] A Canadian survey study regarding procedural competency within diagnostic radiology also revealed that there was value in balancing CBME, while still having a benchmark minimum number of procedures to attain competency.[90] This is reflected in our study where participants felt that there would not be a specific number of deliveries to attain competency in the procedure, but also the belief that three deliveries was certainly not enough, implying that there may be a minimum benchmark.

The key informants described how the CFPC outlines a list of key features to be used as an educational tool to assess a resident's competency in maternity care. The key informants were largely limited to the intrapartum event when creating these key features though they agreed with the other participants that likely the surrounding skills required greater emphasis. The key features are intended to be used by programs to inform how they structure their training. This current study did not examine how these key features were translated to the program level from the perspective of the program, but rather of the end-users, that is the residents and their supervisors.

A study of all Canadian College of Family Physicians – Emergency Medicine programs revealed that not all programs have yet adjusted their curriculum to reflect the CBME framework.[91] One Canadian Family Medicine residency program described how they implemented CBME into their training program.[74] At this program, their pre-existing objectives were reworded to reflect competency-based language, and then these objectives were mapped onto learning experiences that would support the development of the competencies. These objectives and competencies were translated into EPAs to allow for assessment, which were required to be authentic with direct observation of residents caring for patients. Learning experiences were created to support a critical objective and rotations were dropped if they were no longer relevant. The program was restructured to allow residents to repeatedly cycle back to experiences over the two years with increased sophistication. While this publication did not outline how the program specifically tackled maternity care competencies, there is an important difference from the program in

our study, which is that the EPAs did not have to be directly observed. The requirement of being involved in some capacity with three deliveries with a Family Medicine maternity care supervisor was felt by both supervisors and residents to not reflect competency attainment, but rather to enforce exposure to obstetrical experiences, without which there may be a risk of no obstetrical education whatsoever. The implementation of CBME in a Canadian medical oncology program also found a challenge in assessment, noting that completion of an EPA was not enough to assess completion of the full competency. Medical oncology residents in the study also noted a "checklist" approach would evolve with the need to obtain documentation of the EPAs, rather than spending the time developing skills or knowledge.[92] This is in line with the current study in that completion of the "three deliveries" was not actually reflective of the attainment of intrapartum skills, and was felt to by some residents in our study to be a burdensome exercise. Similarly, residents in a Canadian internal medicine program found that the implementation of CBME into EPAs increased feedback quantity, but the quality of feedback was diminished to a form-filling exercise.[93] This was reflected in our study where residents and supervisors alike felt that there was minimal value in the online field note completion in comparison to in-time debriefs.

A narrative review analysed Canadian and American studies looking at the impact of CBME implementation.[94] The most common concern was the need for standardized faculty development training to improve the assessment process including understanding the use of EPAs. One publication of a Canadian Family Medicine program described how they used faculty development sessions to garner buy-in and develop assessment expertise and involved residents in a similar process to build their expertise in self-directed learning to make their EPAs more effective.[95] These offer potential solutions as most supervisors in our study did not feel well-acquainted with the assessment and expectations of the residents. While residents and supervisors in our study largely focussed on the assessment of specific obstetrical skills to attain competency, only key informants described the holistic interpretation of the obstetrical key features as a measure of total competence as a physician in general, applying the transferability of obstetrical skills to other medical roles rather than interpreting it as a checklist.

Although supervisors did not allude to the key features specifically, most supervisors also felt that general engagement with active reflection provided a superior assessment to the resident's function as a physician in general rather than focussing on the specific skills. While not directly saying it, this concept of "transferable skills" is also what the key informants alluded to, with respect to assessing residents using the expectations outlined in the Key Features document.

Rather than using the Key Features document, several supervisors based their expectations using their personal experiences such as being a near-peer. This highlights an issue shared in a study of a Canadian anaesthesia residency program, demonstrating that faculty development is critical for CBME and implementation in a curriculum to be successful.[96] Anaesthesia faculty perceived that they lacked proficiency in reliably assessing residents.

The theme of using maternity care education as an informative assessment of a resident's overall, general skills as a physician is a new finding to add to the literature. Our study also demonstrated a disconnect between the Key Features document and the intended purpose for assessment with what is happening at the ground level in terms of resident expectations. This reductionist approach to CBME is documented in the literature to be a common misunderstanding that could be mitigated using other learning tools to foster more holistic professional development.[97]

In summary, the expected competencies tended to focus on the surrounding skills of pregnancy care, while there is some controversy around the procedural skills including performance of an uncomplicated spontaneous vaginal delivery. The key informants emphasized that most important is the use of maternity care as a high-level competency to reflect the attainment of the general skill dimensions of a family physician. The implementation of CBME in the program using EPAs is not always capturing resident competence, and this is an issue that has been described by other programs. Other studies have noted how competencies have been implemented on the ground level, though this study adds information specific to maternity care skills in Family Medicine.

6.1.2 The Resident Experience Attaining the Competencies

All participants felt that residents were meeting the competencies of being able to perform an uncomplicated spontaneous vaginal delivery. However, fulfilment of this competency was not considered sufficient to be able to provide maternity care in practice according to supervisors, nor was the competency sufficient for residents to feel confident enough to include maternity care into their practices. This is concordant with previous, older studies showing that residents were not pursuing intrapartum care in part due to feeling unprepared after residency.[15,59,65]

The resident experience in their obstetrical training was influenced by a hierarchy of micro, meso, and macro factors: the learner, their relationship with their supervisor, the training environment and program, and the overall landscape of Family Medicine. Areas supporting residents to move beyond competence and into confidence with the practice of maternity care were fulcrum points in undergraduate medical education, colleagues providing mentorship support after graduation, having positive Family Medicine maternity care role models including those modeling sustainable call schedules, and obstetrical backup. The factors found in this study fill a gap in the literature exploring the resident perspectives in at least the past decade while the landscape of Family Medicine maternity care and training has continued to change. Interestingly, many of the factors influencing the resident experience have remained the same, in particular concerns of medicolegal liability, impact on lifestyle, lack of autonomy, and the positive impacts of Family Medicine role models, sustainable call schedules, and obstetrical back up.[65,66,68]

It is established that Family Medicine maternity care is important[12–14,24–27] and the key informants in this study reiterated this point. All participants in this study identified gaps at various levels that may hinder a resident's experience of obstetrics, and residents also explained what helps them to feel confident in their skills. These hindrances in maternity care education contribute to a hidden curriculum that sends a message that Family Medicine maternity care is not important. It is essential to repair these barriers if we are to graduate competent and confident Family Medicine maternity care providers. This study fills a gap in the research by adding updated information regarding how educators

at the macro, meso, and micro level may help to encourage the growth of the Family Medicine maternity care community.

6.1.2.1 Competence Does Not Equal Confidence

All participants felt that graduates of Family Medicine residency programs should be and are achieving a minimum competency in performing a low-risk spontaneous vaginal delivery in an emergency situation. However, many residents did not feel comfortable with their skills to include more involved intrapartum care in their future practices. Throughout the interviews, competency was often conflated with confidence. The analysis appeared to reveal why a resident did not feel confident to practice obstetrics, rather than being competent as defined by the key features. While the expectations were outlined in the key features and by the program, and they are taught in the program, attainment of competency does not translate into confidence. This idea is also introduced in The Outcomes of Training Project by the CFPC, noting that competence alone does not equate to preparedness for practice, and positing that preparedness comes from "a combination of competence, adaptability, and capability, together with interrelated concepts of self-confidence, self-concept, and self-efficacy." (page 18).[60]

Key informants and supervisors described the goal of reaching a conscious level of competence, the ability to perform the skill with significant conscious thought and effort. Noel Burch of Gordon Training International first described the Learning Stages Model in the 1970s, and it has been adapted to many contexts including medicine.[98–100] In the evolution of competency, the learner starts with unconscious incompetence (ignorance of not knowing what they do not know), conscious incompetence, conscious competence, and eventually attains mastery at the level of unconscious competence. It seems that the medicolegal implications of the field of obstetrics have led some residents to feel that they need to achieve unconscious competence in order to feel confident to practice obstetrics. On the other hand, other participants had noted that unconscious competence is more likely to be attained over the course of lifelong learning. This notion of lifelong learning is noted by Babenko et al., to be representative of the shift to CBME, emphasizing a mastery-approach taken by the Family Medicine resident.[101] Teachers can assist residents to focus on the idea of life-long learning and continuing to improve

personal performance to gain complex competencies through "skill modelling, coaching, and detailed feedback referenced to the resident's actual performance." (page 5)[101] This is as opposed to a method where residents feel they need to demonstrate competence in certain work tasks relative to others. A Continuous Reflective Assessment for Training model described by van der Goes et al., guide in the use of the key features for assessment of competency.[102] Within this framework, "residents are asked to regularly review and reflect on their assessments and, together with a competency coach, engage in planning for further learning." (page 550)[102] This demonstrates a shift in the resident's role from a passive learner to increased engagement in their education. As teachers, or rather, "clinical coaches", one can prioritize brief direct observation of encounters that are relevant to the learner's clinical goals. As posited by many of the key informants in this study, Family Medicine maternity care is uniquely positioned with opportunities for direct observation and reflection.

Previous literature has demonstrated how competent residents may be choosing to not practice obstetrics due to the perception that their residency did not provide adequate preparation to provide intrapartum care.[15,59,64,65] In our study, it was revealed that most residents made the decision to practice or not practice obstetrics before starting their postgraduate education. Thus, the residency program was not a major influencer in shaping a resident's decision to include intrapartum care in their future practice. However, for residents who had already decided to include maternity care in their future careers, their residency training did influence their confidence to practice obstetrics directly out of their two-year training program as opposed to pursuing an enhanced skills training program. This difference from the literature may be due to the change in Family Medicine landscape with a greater move towards enhanced skills training programs to gain general Family Medicine skills.

What was more likely to impact the career decisions of the residents were the presence of obstetrical support, support in their community, competing interests of the learner, concerns about the impact on lifestyle, and support of a call group. These findings are concordant with a recent Canadian qualitative study examining the factors influencing the intent to practice obstetrics among Family Medicine residents and new to practice family

physicians.[64] In their study, many of the participants wished to practice obstetrics but did not due to barriers similar to the findings of this thesis, and were also divided into levels: "socio-ecological model of public policy (i.e., liability), community (i.e., community needs), organizational (e.g., obstetric care trade-offs, working in teams, sufficient exposure in training), interpersonal practice preferences (i.e., impact on family life, negative interactions with other healthcare professionals), and individual factors (i.e., defining comprehensive care as 'everything but obstetrics')." (page 1)[64] These findings support that systems-level change, such as shared call arrangements can be encouraging to support the continuance of Family Medicine maternity care provision.[39]

Unfortunately, the concerns regarding the high stakes, medicolegal concerns within the field of obstetrics brings about challenges in the learning environment including the influence on resident autonomy in their training. This suggests that residents would be less likely to have autonomy essential to their learning on obstetrics due to the perceived risk. This risk was emphasized by some residents as a barrier to their attainment of obstetrical skills, and many appreciated being afforded the opportunity of progressive autonomy. This is re-iterated in earlier studies such as a 2013 survey of American Family Medicine Program Directors that focussing on fostering independence in the resident was important to promoting maternity care after graduation.[54] University of Toronto Family Medicine residents also noted that a significant factor influencing their decision to include or not include obstetrics in their careers was the level of autonomy they experienced during their training.[66]

6.1.2.2 Career Decision Making

Residents considered how maternity care fits within their careers and their understanding of the scope of family physicians. Influencers of this were fulcrum points within their training, role models, and a hidden curriculum regarding what it means to be a family physician.

6.1.2.2.1 Fulcrum Points

Previous literature has shown how medical students make career decisions to enter a particular specialty, including examining how we can encourage more students to enter

primary care.[103,104] However, there was a paucity of research demonstrating how those choosing to enter primary care envision their future careers. This study adds to the literature by showing that most residents who knew that they wished to include maternity care in their careers decided so prior to starting the residency program. This emphasizes providing a fulsome exposure within the undergraduate medical education period. Indeed, medical students have indicated that exposure to Family Medicine maternity care throughout their undergraduate medical education would increase awareness of this field of practice and the likelihood of it being pursued as a career.[105] Furthermore, previous studies have shown that junior residents who have trained in a problem-based learning curriculum felt more prepared and comfortable with dealing with uncertainty upon their transition[106–109], a feature that is pervasive in obstetrics. This can guide undergraduate medical education to deliver a maternity care curriculum using a problem-based learning format.

It is recognized though, that some residents make this decision within their postgraduate medical training. Experiencing obstetrics too early in the two-year training program can be overwhelming when the resident is still adjusting from being a medical student, but exposure towards the end of the two-year training program is too late to impact career choices or interest. The timing of primary care obstetrical training exposure within the program was also found to influence career decision making in a 2012 study of Family Medicine residents by Koppula et al.[68]

More specifically pertaining to the problem of “too early” exposure to obstetrics in their residency program found in our study, supporting the transition from medical student to resident is also addressed in the literature. Junior residents endorse positive experiences with early exposure to increased responsibilities.[110] On the other hand, junior residents may experience a sense of uncertainty if they perceive a lack of support from their senior trainees and supervisors.[111] Laslo found that the transition from final-year medical student to first-year resident can be mitigated by the support of near peers to help with overcoming fears and increasing confidence.[112] Thus, programs may consider that Family Medicine residents exposed to obstetrics very early in their residency training may

benefit from extra support and the connection to near peers to manage their uncertainties and foster confidence in their increased responsibilities.

6.1.2.2.2 Role Models

The presence of role models, or lack thereof, shaped our participants understanding of what it meant to be a family physician. It was noted that residents who trained in programs that did not include Family Medicine maternity care providers did not feel it to be an important part of their career path. Residents working closely with Family Medicine maternity care providers who had not completed an enhanced skills training felt confident that maternity care is within the routine scope of Family Medicine. Conversely, residents who worked within urban centers where many providers completed an enhanced skills training also felt that they needed enhanced skills training. It is established that positive role models influence the career choices of medical trainees.[35,55,56,113,114] A qualitative study looked at the characteristics of what makes a positive role model.[115] The personal qualities included interpersonal skills, a positive outlook, a commitment to excellence and growth, integrity and leadership. The teaching qualities included establishing a rapport with learners, developing specific teaching philosophies and methods, and being committed to the growth of learners. Feldman described three steps as to how we may use role modelling to inspire the disinterested learner about maternity care in Family Medicine.[116] The first is enticing the learner by sharing the joy of intrapartum care. The second is demonstrating how the skills and knowledge in intrapartum care can be applied to the broad scope of family practice. Finally, role modelling can re-iterate that maternity care is a fundamental skill in Family Medicine.

6.1.2.2.3 Hidden Curriculum

The hidden curriculum was an underlying theme throughout the data analysis. The notion of Family Medicine maternity care being a subspecialty, rather than simply a part of the scope of a comprehensive care family physician was especially demonstrated by a resident who noted that he enjoys maternity care but wouldn’t want to make it an area of focus. This is exacerbated by role modelling from family physicians in teaching centers

giving the impression to learners that maternity care within Family Medicine is not important. This harkens back to a study examining Family Medicine resident training towards their palliative care skills, which observed that simply having a rotation on palliative care with dedicated education may actually disengage residents **"**by reinforcing a notion that palliative care is a specialized area of medicine." (page e582)[117] The shifting landscape in Family Medicine towards increasing specialization due to the increased volume of content and complexity of medicine has been demonstrated for years. Dr. Ladouceur commented in the Canadian Family Physician that with nearly a third of Family Medicine graduates choosing to specialise, "we need to ask ourselves whether this program is working". (page 1029)[118] The CFPC is now moving towards a three-year Family Medicine residency program to accommodate this shift and needs of the learners but it is not currently evident how maternity care training will fit in.

The interviews in our study also revealed a hidden curriculum regarding the difference in urban and rural training. The rural training was thought to be more comprehensive, whereas the urban centres demonstrated an "ivory tower bias" of requiring increasing training and specialization to practice. The rural centres provided a trade-off of working in a lower volume centre, meaning less exposure in volume, but residents could spend more time with an encounter, with their preceptor, and go in further detail to learn from the experience. This is as opposed to a high-volume urban environment, where residents experienced less time for teaching and learning. It is noted that comparing rural and urban experiences should be interpreted with caution due to small numbers.

Lastly, it was expected that due to the high-stakes environment, that patient preference may play into the hidden curriculum, creating a barrier to residents attaining the obstetrical experiences they require. However, this was not the case in this study. Rather, in this study, supervisor perceptions of patient preferences impacted the resident experience. This is in agreement with existing literature where providers may underestimate patient acceptance of learners as part of their healthcare, leading to unnecessarily limiting access to clinical experiences.[119]

6.2 Strengths, Limitations, and Implications

6.2.1 Strengths

One strength of this study is that it fills a gap in the existing literature exploring the Canadian Family Medicine resident perspective with maternity care training in at least the past decade, while the landscape of Family Medicine maternity care and training has continued to change. Except for Koppula et al.'s study[68] and Marshall et al.'s study[64], the majority of research exploring the Canadian Family Medicine resident experience with maternity care training occurred in the 1990s. Further the interpretation of the Key Features document, it's translation into practice, and perspectives on the competencies have not been previously studied.

The qualitative descriptive method of this study using one-on-one interviews allowed for rich, in depth, data collection for an area that has not been well studied in the past decade. Having three researchers review the data allowed for triangulation of concepts and themes. The purposive sampling allowed for a broad, diverse sample of residents and supervisors from various areas within the program.

6.2.2 Limitations

The study is likely limited in its transferability to other programs as it was conducted at one program within Ontario. Thus, it may not capture sensitivities to how maternity care is practiced across the country. Despite this limitation, the overarching themes have been demonstrated in other research and although no two programs are alike, learning the resident experience within one program structure may still be informative when planning other programs.

Furthermore, the sample size was small, so we cautiously interpret the implications of the findings, in particular, as it pertains to comparisons between urban and rural programs which had even smaller subgroups of participants. We also anticipated patient preference for a female provider to be a barrier based on previous literature demonstrating that gender bias is a challenge for male learners working toward obstetrical and gynecology

skills.[120–122] However, we cannot draw similar conclusions in our study due to the small sample size, in particular, having only one male participant.

While purposive sampling had its strengths within this study, it may also have a bias towards selecting participants who may have stronger feelings, either positive or negative, about the training program and may particularly attract supervisors who have a special interest in medical education. It is possible that the study population chose to participate or elected not to participate given their knowledge of the researcher who is a Family Medicine maternity care provider. Similarly, information provided by the participants may have been skewed in a more positive light towards the importance of Family Medicine maternity care if they were aware of NA's position. This was more prominent with supervisors who are fellow colleagues, whereas NA was not working with the residents for the duration of the study and the residents did not know the researcher's role.

Lastly, a barrier to the amount of exposure the residents had to obstetrics that was unique to the time that this study took place was the COVID-19 pandemic, which may not have been an issue in another time frame. Some residents reflected that, for example, they were not allowed to attend office-based obstetrical practices to minimize transmission of the virus in a smaller space, in particular while rationing personal protective equipment.

6.2.3 Implications

Several messages can be learned from this study. First, a discrepancy is noted between the intention of the Key Features document published by the CFPC and what is happening at the ground level with the residents and supervisors. Programs may review their assessment measures to incorporate the holistic interpretation of resident assessment. The emphasis on the transferability of skills within maternity care brings to the forefront a greater importance on the education of this area within Family Medicine residency programs. This study may inform programs about what elements of their training has both positively and negatively influenced resident experiences of obstetrics, so that they may design programs that may be more conducive to their learning. This includes supporting the presence of Family Medicine maternity care supervisors and

connecting residents to attain their primary obstetrical care experiences with them in a manner that also supports continuity and decreased supervisor to learner ratios; education and training of ancillary staff to support the education of the trainees; emphasizing ongoing, in-time, in-person debrief assessments and re-evaluating the utility of delayed online generic assessments; and enhancing program logistics such as simulation, housing, and scheduling of obstetrical rotations in the context of other competing duties.

The changing landscape of Family Medicine with its medical complexities and protected work-duty hours in conjunction with the challenges with attaining confidence with obstetrical skills raises the question about the adequacy of our two-year Family Medicine residency programs. As the CFPC is moving Family Medicine to a three-year program, we hope this study emphasizes why maternity education within the training should be a priority. It is critical to consider these results as we are approaching a crisis in maternity care provision.

6.2.4 Future Research

This research, in addition to the existing background literature, may serve as a starting point for future research to address unanswered questions. These are as follows:

1. The key informants described expectations of the use of the Key Features document that was different from what is happening on the front lines. Future research may study knowledge translation of the CFPC documents at both program level and supervisor level.

2. Many participants use the terms “assessment” and “evaluation” interchangeably, although, these have different meanings within medical education. Training programs are evaluated for their efficacy, but individuals in those programs are assessed for competence. The value of different types of assessments have been raised within the interviews as well. Future research can examine different types of assessments: formative, summative, documented, not documented, and sources of feedback, to provide information as to how we measure attainment of competencies and what assessments are useful in Family Medicine maternity education.

3. A prominent theme was the lack of Family Medicine maternity care supervisors. Future research can further examine why this is the case and what are motivators for teaching.

4. Future research can further examine this data and new data to better understand what it means to be a family physician. Participants often waffled on the importance of training in Family Medicine maternity care, given the mixed likelihood of physicians including it in their practices. Studies have been documenting changes in the Family Medicine landscape. Further, studies have documented the importance of the provision of Family Medicine maternity care. There is an urgent need for more Family Medicine maternity care providers and yet various factors, including limited enhanced skills training spots, limits the number of graduates practicing maternity care. Understanding this disconnect may be useful to gaining a better understanding of what it means to be a family physician at the College level. In particular in the context of the CFPC moving to a three-year training program, it raises the question as to how one would or should incorporate obstetrical training.

5. The study suggests that prioritizing Family Medicine maternity care teaching, offering transitional mentorship support, role modeling sustainable call systems, and investing in exposure to Family Medicine maternity care at the level of undergraduate medical education may help to improve the number of graduating Family Medicine maternity care providers. Future research may determine which interventions can make a difference in increasing the number of enrolled Family Medicine residents and subsequently, graduating Family Medicine maternity care providers to guide investments.

6. This study had a small sample size that led to caution in differentiating experiences of residents across genders and across training environments (urban versus rural). These can be studied in greater depth in the future.

7. The maternity care crisis in Canada, especially in rural and remote communities is well-documented. However, most research regarding improving the maternity care crisis is within the field of midwifery. There is a gap in the research describing the impact that Family Medicine maternity care providers may have on improving the maternity care

crisis including how they may support communities that perform home births, and how they may support the provision of maternity care to Indigenous communities in a shared-care model. This would be an area of important research to help with the looming maternity care crisis in Canada.

6.3 Conclusions

This thesis adds to existing literature by updating our understanding of the Canadian Family Medicine resident experience with their obstetrical training, and adds new information about the production, implementation, and interpretation of the obstetrical competencies. The CFPC Key Features document was intended to be used to assess residents at a holistic level. Maternity care is uniquely positioned to directly assess all aspects of general Family Medicine skills. There is a disconnect between what the intentions were of this document and how this is implemented in practice. All participants felt that Family Medicine residents should have greater focus on surrounding competencies related to perinatal care outside of intrapartum care, but at minimum graduate being able to perform an emergency spontaneous vaginal delivery. Competence in these skills did not translate into confidence. A part of this breakdown in translation can be attributed to factors at the micro (learner and learner-supervisor relationship), meso (training environment and program), and macro (Family Medicine landscape) levels. Further, decisions to practice maternity care were largely influenced by fulcrum points pre-residency. These may be areas that can be considered for interventions in the future to improve the residency experience and ultimately increase the number of Family Medicine maternity care providers. Supporting maternity care education in Family Medicine is critical for improving the maternity care crisis in Canada, to allow pregnant people the opportunity to choose their maternity care provider and location for their pregnancy care.

References

1. Women and Health Care Reform. *Why Should We Be Concerned about the State of Maternity Care?* Canadian Women's Health Network; 2007. Accessed November 13, 2022. https://cdn.dal.ca/content/dam/dalhousie/pdf/diff/ace-women-health/2/b/ACEWH_maternity_matters.pdf

2. Popadiuk C. The changing landscape of obstetrical care in Canada. *Journal of Obstetrics and Gynaecology Canada*. 2020;42(11):1305-1306. doi:10.1016/j.jogc.2020.09.005

3. de Leeuw S. The missing of mums and babes. *Can Fam Physician*. 2016;62(7):580-583.

4. Alberta temporarily shuts labour, delivery services at hospital due to staff shortage. thestar.com. Published December 31, 2021. Accessed October 5, 2022. https://www.thestar.com/news/canada/2021/12/31/alberta-temporarily-shuts-labour-delivery-services-at-hospital-due-to-staff-shortage.html

5. Grant K. A ward worth saving: Rural obstetrics units are closing and communities are fighting back. *The Globe and Mail*. https://www.theglobeandmail.com/life/health-and-fitness/health/the-disappearing-rural-maternity-ward/article23840490/. Published April 8, 2015. Accessed October 5, 2022.

6. News · BA· C. Perth and Smiths Falls District Hospital closes birthing unit as staff shortage worsens | CBC News. CBC. Published September 23, 2022. Accessed October 5, 2022. https://www.cbc.ca/news/canada/ottawa/smiths-falls-birthing-clinic-closure-1.6593433

7. News · AC· C. Doctor shortage closes Prince County Hospital for labour and delivery | CBC News. CBC. Published December 31, 2021. Accessed October 5, 2022. https://www.cbc.ca/news/canada/prince-edward-island/pei-prince-county-labour-delivery-closure-1.6301612

8. Maternity services disappearing in rural Canada. Healthy Debate. Published May 16, 2013. Accessed October 5, 2022. https://healthydebate.ca/2013/05/topic/wait-times-access-to-care/maternity-services-disappearing-in-rural-canada/

9. Limited, temporary disruption to Squamish General Hospital maternity services in early July - Vancouver Coastal Health. Accessed October 5, 2022. http://www.vch.ca/about-us/news/limited-temporary-disruption-to-squamish-general-hospital-maternity-services-in-early-july

10. Lawford KM, Bourgeault IL, Giles AR. "This policy sucks and it's stupid:" Mapping maternity care for First Nations women on reserves in Manitoba, Canada.

Health Care Women Int. 2019;40(12):1302-1335. doi:10.1080/07399332.2019.1639706

11. Kornelsen J. Solving the maternity care crisis. Published online 2003.

12. Biringer A, Almond R, Dupuis K, et al. *Report of the Working Group on Family Medicine Maternity Care Training*. College of Family Physicians of Canada; 2012. Accessed December 22, 2019. https://www.cfpc.ca/report_maternity_care_training/

13. Klein MC, Christilaw J, Johnston S. Loss of maternity care: The cascade of unforeseen dangers. *Canadian Journal of Rural Medicine; Shawville*. 2002;7(2):120-121.

14. Walters D, Gupta A, Nam AE, Lake J, Martino F, Coyte PC. A cost-effectiveness analysis of low-risk deliveries: a comparison of midwives, family physicians and obstetricians. *Healthc Policy*. 2015;11(1):61-75.

15. Godwin M, Hodgetts G, Seguin R, MacDonald S. The Ontario family medicine residents cohort study: factors affecting residents' decisions to practise obstetrics. *CMAJ*. 2002;166(2):179-184.

16. Loudon I. General practitioners and obstetrics: a brief history. *J R Soc Med*. 2008;101(11):531-535. doi:10.1258/jrsm.2008.080264

17. Drife J. The start of life: a history of obstetrics. *Postgraduate Medical Journal*. 2002;78(919):311-315. doi:10.1136/pmj.78.919.311

18. History of Medicine to 1950 | The Canadian Encyclopedia. Accessed July 28, 2021. https://www.thecanadianencyclopedia.ca/en/article/history-of-medicine

19. Family Medicine Heritage – CFPC. Accessed July 28, 2021. https://familymedicineheritage.ca/

20. Reynolds JL, Feldman P. Proposal for a section of family medicine maternity care in the College of Family Physicians of Canada. *Can Fam Physician*. 1997;43:114.

21. College History – Family Medicine Heritage. Accessed September 29, 2022. https://familymedicineheritage.ca/college-history/

22. Kidd M, Avery S, Duggan N, McPhail J. Family practice versus specialist care for low-risk obstetrics: examining patient satisfaction in Newfoundland and Labrador. *Can Fam Physician*. 2013;59(10):e456-461.

23. Joint Position Paper Working Group. Joint position paper on rural maternity care. *Can J Rural Med*. 2012;17(4):135-141, E1-9.

24. Mengel MB, Phillips WR. The quality of obstetric care in family practice: are family physicians as safe as obstetricians? *J Fam Pract*. 1987;24(2):159-164.

25. Hueston WJ, Applegate JA, Mansfield CJ, King DE, McClaflin RR. Practice variations between family physicians and obstetricians in the management of low-risk pregnancies. *J Fam Pract*. 1995;40(4):345-351.

26. Nicholson JM. Risk adjustment in maternity care: the use of indirect standardization. *Int J Womens Health*. 2010;2:255-262. doi:10.2147/IJWH.S9494

27. Reid AJ, Carroll JC, Ruderman J, Murray MA. Differences in intrapartum obstetric care provided to women at low risk by family physicians and obstetricians. *CMAJ*. 1989;140(6):625-633.

28. Klein MC, Spence A, Kaczorowski J, Kelly A, Grzybowski S. Does delivery volume of family physicians predict maternal and newborn outcome? *CMAJ*. 2002;166(10):1257-1263.

29. Kelly A, Klein MC, Kaczorowsk J, Grzybowski S. Does experience or delivery volume of family physicians predict maternal and newborn outcomes? *CMAJ*. 2004;170(4):446-447.

30. Hedden L, Munro S, McGrail KM, Law MR, Bourgeault IL, Barer ML. Is attending birth dying out?: Trends in obstetric care provision among primary care physicians in British Columbia. *Canadian Family Physician*. 2019;65(12):901-909.

31. Kaczorowski J, Levitt C. Intrapartum care by general practitioners and family physicians. Provincial trends from 1984-1985 to 1994-1995. *Canadian Family Physician*. 2000;46(3):587-592.

32. Institut canadien d'information sur la santé. *Giving Birth in Canada: A Regional Profile.* Canadian Institute for Health Information; 2004.

33. Bass MJ, McWhinney IR, Stewart M, Grindrod A. Changing face of family practice. *Can Fam Physician*. 1998;44:2143-2149.

34. Chan BTB. The declining comprehensiveness of primary care. *CMAJ*. 2002;166(4):429-434.

35. Dove M, Dogba MJ, Rodríguez C. Exploring family physicians' reasons to continue or discontinue providing intrapartum care. *Can Fam Physician*. 2017;63(8):e387-e393.

36. Smith C, Brown JB, Stewart M, et al. Ontario care providers' considerations regarding models of maternity care. *J Obstet Gynaecol Can*. 2009;31(5):401-408. doi:10.1016/s1701-2163(16)34170-6

37. Klein MC, Kelly A, Spence A, Kaczorowski J, Grzybowski S. In for the long haul. Which family physicians plan to continue delivering babies? *Can Fam Physician*. 2002;48:1216-1222.

38. Price DJ, Lane C, Klein MC. Maternity care by family physicians: characteristics of successful and sustainable models. *J Obstet Gynaecol Can*. 2005;27(5):460-466. doi:10.1016/s1701-2163(16)30528-x

39. Price D, Howard M, Shaw E, Zazulak J, Waters H, Chan D. Family medicine obstetrics. Collaborative interdisciplinary program for a declining resource. *Canadian Family Physician*. 2005;51(1):68-74.

40. Lane CA, Malm SM. Innovative low-risk maternity clinic. Family physicians provide care in Calgary. *Can Fam Physician*. 1997;43:64-69.

41. Harris SJ, Janssen PA, Saxell L, Carty EA, MacRae GS, Petersen KL. Effect of a collaborative interdisciplinary maternity care program on perinatal outcomes. *CMAJ*. 2012;184(17):1885-1892. doi:10.1503/cmaj.111753

42. Shapiro JL. Satisfaction with obstetric care. Patient survey in a family practice shared-call group. *Can Fam Physician*. 1999;45:651-657.

43. Buske L. A crisis aborning in maternity and newborn care? *CMAJ*. 2001;164(5):681-681-a.

44. Program Descriptions - First Iteration - CaRMS. Accessed December 22, 2019. https://www.carms.ca/match/r-1-main-residency-match/program-descriptions/

45. Fowler N, Wyman R, eds. Residency training profile for family medicine and enhanced skills programs leading to certificates of added competence. Published online 2021.

46. College of Family Physicians of Canada. Standards of Accreditation for Residency Programs in Family Medicine. Published online 2020. Accessed April 16, 2022. https://www.cfpc.ca/CFPC/media/Resources/Accreditation/2020701-RB-V2-0-ENG.pdf

47. College of Family Physicians of Canada. Specific Standards for Family Medicine Residency Programs Accredited by the College of Family Physicians of Canada. Published online July 2016. Accessed April 16, 2022. https://www.schulich.uwo.ca/medicine/postgraduate/academic_resources/Red%20Book%20English.pdf

48. College of Family Physicians of Canada. Standards for Accreditation of Residency Training Programs: Family Medicine; Emergency Medicine; Enhanced Skills; Palliative Medicine. Published online 2006.

49. MacDonald S. Duty to deliver. *Can Fam Physician*. 2007;53(1):13-15.

50. Defining competence for the purposes of certification by the College of Family Physicians of Canada: The evaluation objectives in family medicine. Published online October 2010.

https://www.cfpc.ca/uploadedFiles/Education/Certification_in_Family_Medicine_Examination/Definition%20of%20Competence%20Complete%20Document%20with%20skills%20and%20phases.pdf

51. Wetmore S, Rivet C, Tepper J, Tatemichi S, Donoff M, Rainsberry P. Defining core procedure skills for Canadian family medicine training. *Canadian Family Physician*. 2005;51(10):1365.

52. Biringer A, Forte M, Tobin A, Shaw E, Tannenbaum D. What influences success in family medicine maternity care education programs? *Canadian Family Physician*. 2018;64(5):e242-e248.

53. Taylor HA, Hansen GH. Perceived characteristics of successful family practice residency maternity care training programs. *Fam Med*. 1997;29(10):709-714.

54. Sutter MB, Prasad R, Roberts MB, Magee SR. Teaching maternity care in family medicine residencies: what factors predict graduate continuation of obstetrics? A 2013 CERA program directors study. *Fam Med*. 2015;47(6):459-465.

55. Sakornbut EL, Dickinson L. Obstetric care in family practice residencies: a national survey. *J Am Board Fam Pract*. 1993;6(4):379-384.

56. Ratcliffe SD, Newman SR, Stone MB, Sakornbut E, Wolkomir M, Thiese SM. Obstetric care in family practice residencies: a 5-year follow-up survey. *J Am Board Fam Pract*. 2002;15(1):20-24.

57. Koppula S, Brown JB, Jordan JM. Teaching primary care obstetrics: insights and recruitment recommendations from family physicians. *Canadian Family Physician*. 2014;60(3):e180-e186.

58. Buchman S. It's about time: 3-year FM residency training. *Canadian Family Physician*. 2012;58(9):1045-1045.

59. Biringer A, Abells D, Boro J, Permaul JA, Sinha S, Graves L. Enhanced skills training in family medicine maternity care: Cross-sectional study of graduates' experiences. *Can Fam Physician*. 2019;65(12):e531-e537.

60. Fowler N, Oandasan I, Wyman R, eds. Preparing Our Future Family Physicians. An educational prescription for strengthening health care in changing times. Published online 2022.

61. Nesbitt T, Davidson R, Palieschekey M, Fox-Garcia J, Arevalo J. Trends in maternity care by graduates and the effect of an intervention. *Family Medicine*. 1994;26(3):149-153.

62. Rayburn WF, Petterson SM, Phillips RL. Trends in family physicians performing deliveries, 2003-2010. *Birth*. 2014;41(1):26-32. doi:10.1111/birt.12086

63. Hansen ER, Eden AR, Peterson LE. A qualitative study of trainee experiences in Family Medicine-Obstetrics fellowships. *Birth*. 2019;46(1):90-96. doi:10.1111/birt.12388

64. Marshall EG, Horrey K, Moritz LR, et al. Influences on intentions for obstetric practice among family physicians and residents in Canada: an explorative qualitative inquiry. *BMC Pregnancy and Childbirth*. 2022;22(1):857. doi:10.1186/s12884-022-05165-1

65. Buckle D. Obstetrical practice after a family medicine residency. *Can Fam Physician*. 1994;40:261-268.

66. Reid AJ, Carroll JC. Choosing to practise obstetrics. *Can Fam Physician*. 1991;37:1859-1867.

67. Ruderman J, Holzapfel SG, Carroll JC, Cummings S. Obstetrics anyone? How family medicine residents' interests changed. *Can Fam Physician*. 1999;45:638-647.

68. Koppula S, Brown JB, Jordan JM. Experiences of family medicine residents in primary care obstetrics training. *Fam Med*. 2012;44(3):178-182.

69. Triple C | Education | The College of Family Physicians Canada. Accessed December 9, 2018. https://www.cfpc.ca/Triple_C/

70. Shaw E, Oandasan I, Fowler N, eds. CanMEDS-FM 2017: A competency framework for family physicians across the continuum. Published online 2017.

71. Crichton T, Schultz K, Lawrence K, et al., eds. Assessment objectives for certification in family medicine. Published online 2020.

72. Snell L, Frank J, Stoneham G, et al. In: *Competence by Design: Reshaping Canadian Medical Education*. Royal College of Physicians and Surgeons; 2014:99-105. Accessed December 9, 2021. https://www.royalcollege.ca/rcsite/educational-initiatives/cbd-medical-education-ebook-e

73. ten Cate O, Scheele F. Competency-based postgraduate training: can we bridge the gap between theory and clinical practice? *Acad Med*. 2007;82(6):542-547. doi:10.1097/ACM.0b013e31805559c7

74. Schultz K, Griffiths J. Implementing competency-based medical education in a postgraduate family medicine residency training program: a stepwise approach, facilitating factors, and processes or steps that would have been helpful. *Acad Med*. 2016;91(5):685-689. doi:10.1097/ACM.0000000000001066

75. Binczyk NM, Babenko O, Schipper S, Ross S. Unexpected result of competency-based medical education: 9-year application trends to enhanced skills programs by

family medicine residents at a single institution in Canada. *Educ Prim Care*. 2019;30(3):152-157. doi:10.1080/14739879.2019.1573108

76. Biringer A, Ehman W, Fenton S, et al. Priority topics for the assessment of competence in intrapartum and perinatal care. *College of Family Physicians of Canada*. Published online 2017:35.

77. Busetto L, Wick W, Gumbinger C. How to use and assess qualitative research methods. *Neurological Research and Practice*. 2020;2(1):14. doi:10.1186/s42466-020-00059-z

78. Sandelowski M. Whatever happened to qualitative description? *Res Nurs Health*. 2000;23(4):334-340. doi:10.1002/1098-240x(200008)23:4<334::aid-nur9>3.0.co;2-g

79. Richards L, Morse JM. *README FIRST for a User's Guide to Qualitative Methods*. SAGE; 2012.

80. Sandelowski M. What's in a name? Qualitative description revisited. *Research in Nursing & Health*. 2010;33(1):77-84. doi:10.1002/nur.20362

81. Core Teaching Sites. Accessed March 29, 2022. https://www.schulich.uwo.ca/familymedicine/postgraduate/future_residents/teaching_sites_and_curriculum/index.html

82. Bengtsson M. How to plan and perform a qualitative study using content analysis. *NursingPlus Open*. 2016;2:8-14. doi:10.1016/j.npls.2016.01.001

83. Saunders B, Sim J, Kingstone T, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Qual Quant*. 2018;52(4):1893-1907. doi:10.1007/s11135-017-0574-8

84. Morse JM. The Significance of Saturation. *Qual Health Res*. 1995;5(2):147-149. doi:10.1177/104973239500500201

85. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Academic Medicine*. 2014;89(9):1245-1251. doi:10.1097/ACM.0000000000000388

86. Berger R. Now I see it, now I don't: researcher's position and reflexivity in qualitative research. *Qualitative Research*. 2015;15(2):219-234. doi:10.1177/1468794112468475

87. Dodgson JE. Reflexivity in Qualitative Research. *J Hum Lact*. 2019;35(2):220-222. doi:10.1177/0890334419830990

88. Campbell C, Hendry P, Delva D, Danilovich N, Kitto S. Implementing competency-based medical education in family medicine: a scoping review on residency

programs and family practices in Canada and the United States. *Fam Med*. 2020;52(4):246-254. doi:10.22454/FamMed.2020.594402

89. Fashner J, Cavanagh C, Eden A. Comparison of maternity care training in family medicine residencies 2013 and 2019: a CERA program directors study. *Fam Med*. 2021;53(5):331-337. doi:10.22454/FamMed.2021.752892

90. Rizwan AP, Cofie N, Mussari B, Chung AD, Kwan BYM. What Is the minimum? A survey in procedural competency in diagnostic radiology in the era of competency based medical education. *Can Assoc Radiol J*. 2022;73(2):422-425. doi:10.1177/08465371211040262

91. Nath A, Yadav K, Chagnon N, Cheung WJ. Competency based medical education (CBME) in CCFP(EM) programs. *CJEM*. 2022;24(6):599-605. doi:10.1007/s43678-022-00345-6

92. Tomiak A, Linford G, McDonald M, Willms J, Hammad N. Implementation of competency-based medical education in a Canadian medical oncology training program: a first year retrospective review. *J Cancer Educ*. 2022;37(3):852-856. doi:10.1007/s13187-020-01895-y

93. Branfield Day L, Miles A, Ginsburg S, Melvin L. Resident perceptions of assessment and feedback in competency-based medical education: a focus group study of one internal medicine residency program. *Acad Med*. 2020;95(11):1712-1717. doi:10.1097/ACM.0000000000003315

94. Danilovich N, Kitto S, Price D, Campbell C, Hodgson A, Hendry P. Implementing competency-based medical education in family medicine: a narrative review of current trends in assessment. *Family Medicine*. 2021;53(1):9-22. doi:10.22454/FamMed.2021.453158

95. Schultz K, Griffiths J, Lacasse M. The application of entrustable professional activities to inform competency decisions in a family medicine residency program. *Academic Medicine*. 2015;90(7):888-897. doi:10.1097/ACM.0000000000000671

96. Fraser AB, Stodel EJ, Jee R, Dubois DA, Chaput AJ. Preparing anesthesiology faculty for competency-based medical education. *Can J Anaesth*. 2016;63(12):1364-1373. doi:10.1007/s12630-016-0739-2

97. Branzetti J, Gisondi MA, Hopson LR, Regan L. Aiming beyond competent: the application of the taxonomy of significant learning to medical education. *Teach Learn Med*. 2019;31(4):466-478. doi:10.1080/10401334.2018.1561368

98. Learning a New Skill is Easier Said Than Done - Gordon Training International. Accessed October 17, 2022. https://www.gordontraining.com/free-workplace-articles/learning-a-new-skill-is-easier-said-than-done/

99. Flower J. In the mush. *Physician Exec*. 1999;25(1):64-66.

100. Higginson I, Hicks A. Unconscious incompetence and the foundation years. *Emerg Med J*. 2006;23(11):887. doi:10.1136/emj.2005.033373

101. Babenko O, Szafran O, Koppula S, Au L. Motivations for learning of family medicine residents trained in competency-based education. *Educ Prim Care*. 2018;29(2):86-93. doi:10.1080/14739879.2017.1362666

102. van der Goes T, Koppula S, Bethune C. How to CRAFT an effective preceptor-learner relationship: The Continuous Reflective Assessment for Training model. *Can Fam Physician*. 2022;68(7):550-552. doi:10.46747/cfp.6807550

103. Osborn HA, Glicksman JT, Brandt MG, Doyle PC, Fung K. Primary care specialty career choice among Canadian medical students. *Can Fam Physician*. 2017;63(2):e107-e113.

104. Jordan J, Brown JB, Russell G. Choosing family medicine. What influences medical students? *Canadian Family Physician*. 2003;49(9):1131-1137.

105. Dini Y, Avolio J, Forte M. The medical learner perspective: family medicine obstetrics as a specialty choice. *Canadian Family Physician*. Published online November 9, 2022. Accessed November 13, 2022. https://www.cfp.ca/news/2022/11/09/11-09, /news/2022/11/09/11-09

106. Hill J, Rolfe IE, Pearson SA, Heathcote A. Do junior doctors feel they are prepared for hospital practice? A study of graduates from traditional and non-traditional medical schools. *Med Educ*. 1998;32(1):19-24. doi:10.1046/j.1365-2923.1998.00152.x

107. Jones A, McArdle PJ, O'Neill PA. Perceptions of how well graduates are prepared for the role of pre-registration house officer: a comparison of outcomes from a traditional and an integrated PBL curriculum. *Med Educ*. 2002;36(1):16-25. doi:10.1046/j.1365-2923.2002.01105.x

108. O'Neill PA, Jones A, Willis SC, McArdle PJ. Does a new undergraduate curriculum based on Tomorrow's Doctors prepare house officers better for their first post? A qualitative study of the views of pre-registration house officers using critical incidents. *Med Educ*. 2003;37(12):1100-1108. doi:10.1046/j.1365-2923.2003.01714.x

109. Cave J, Goldacre M, Lambert T, Woolf K, Jones A, Dacre J. Newly qualified doctors' views about whether their medical school had trained them well: questionnaire surveys. *BMC Med Educ*. 2007;7:38. doi:10.1186/1472-6920-7-38

110. Lempp H, Cochrane M, Seabrook M, Rees J. Impact of educational preparation on medical students in transition from final year to PRHO year: a qualitative evaluation of final-year training following the introduction of a new year 5 curriculum in a London medical school. *Med Teach*. 2004;26(3):276-278. doi:10.1080/248-0142159042000192046

111. Kellett J, Papageorgiou A, Cavenagh P, Salter C, Miles S, Leinster SJ. The preparedness of newly qualified doctors - Views of Foundation doctors and supervisors. *Med Teach*. 2015;37(10):949-954. doi:10.3109/0142159X.2014.970619

112. Laslo B. *Transitions in Medical Education*. Western University; 2018. https://ir.lib.uwo.ca/etd/5755

113. Passi V, Johnson S, Peile E, Wright S, Hafferty F, Johnson N. Doctor role modelling in medical education: BEME Guide No. 27. *Med Teach*. 2013;35(9):e1422-1436. doi:10.3109/0142159X.2013.806982

114. Sud S, Wong JP, Premji L, Punnett A. Career decision making in undergraduate medical education. *Can Med Educ J*. 2020;11(3):e56-e66. doi:10.36834/cmej.69220

115. Wright SM, Carrese JA. Excellence in role modelling: insight and perspectives from the pros. *CMAJ*. 2002;167(6):638-643.

116. Biringer A, Kolker S, Rubenstein W, eds. *Teaching Perinatal Care: A Practical Guide*. Freisenpress; 2022. Accessed October 11, 2022. https://books.friesenpress.com/store/title/119734000235458440/

117. Mahtani R, Kurahashi AM, Buchman S, Webster F, Husain A, Goldman R. Are family medicine residents adequately trained to deliver palliative care? *Can Fam Physician*. 2015;61(12):e577-582.

118. Ladouceur R, ed. Where is family medicine heading? *Canadian Family Physician*. 2015;61(12):1029-1029.

119. Coppola LM, Reed KL, Herbert WN. Comparison of patient attitudes and provider perceptions regarding medical student involvement in obstetric/gynecologic care. *Teach Learn Med*. 2014;26(3):239-243. doi:10.1080/10401334.2014.910125

120. Higham J, Steer PJ. Gender gap in undergraduate experience and performance in obstetrics and gynaecology: analysis of clinical experience logs. *BMJ*. 2004;328(7432):142-143.

121. O'Flynn N, Rymer J. Women's attitudes to the sex of medical students in a gynaecology clinic: cross sectional survey. *BMJ*. 2002;325(7366):683-684.

122. Craig LB, Buery-Joyner SD, Bliss S, et al. To the point: gender differences in the obstetrics and gynecology clerkship. *Am J Obstet Gynecol*. 2018;219(5):430-435. doi:10.1016/j.ajog.2018.05.020

Appendices

Appendix A: Priority Topics - Table of Contents

Table of Contents

Appendix B: Resident Letter of Information and Consent Form

Letter of Information and Consent

Study Title: Perspectives on Attaining the Family Medicine Obstetrical Competencies

Principal Investigator: Dr. Judith Belle Brown, PhD
Department of Family Medicine, Western University

Co-Investigators: Dr. Nisha Arora, MD, MClSc candidate
Department of Family Medicine, Western University

Dr. Sudha Koppula, MD, MClSc
Department of Family Medicine, University of Alberta

Contact Information: 519.661.2111 ext. 22054; jbbrown@uwo.ca
narora27@uwo.ca

Conflict of Interest: There are no conflicts of interest to declare related to this study.

Introduction
You are being invited to participate in this research study about the obstetrical competencies required of family medicine residents. You are being asked to participate in this study as a senior family medicine resident. Both obstetrical educators of family medicine residents and senior family medicine residents will be interviewed.

This letter has been designed to provide you with the information necessary to make an informed decision about whether to participate in the interview. If you have any questions, please do not hesitate to contact our research team.

Background/Purpose
Graduating family medicine residents are expected to have competence in obstetrical procedural skills, as outlined by The College of Family Physicians of Canada. The purpose of this study is to explore if residents are fulfilling the designated obstetrical competencies from the perspectives of the PGY2 residents and their supervisors. The study will garner the resident perspective on what processes, factors, or barriers are influencing their attainment of obstetrical competencies in their training environment.

Study Design/Procedures
This is a qualitative descriptive study in which educators and residents will be interviewed to ascertain their perspectives about the attainment of the obstetrical skills

competencies. Interviews will be audio-recorded and professionally transcribed by Transcript Heroes Transcription Services Inc.

If you agree to participate, you will take part in an interview. It is anticipated that the entire interview will take approximately 30-60 minutes. The interviews will take place virtually using Western University's licensed version of Zoom, or by telephone, or in person, or if more convenient at another location determined by the interviewer and interviewee together. There will be a total of 15-20 participants in the study. This study should take 1 year to complete.

Voluntary Participation/Withdrawal from Study
Your participation in this study is voluntary. You may decide not to participate in this study, or to participate in the study now and then change your mind later. You may leave the study at any time without any adverse impact on you or your academic standing. If you decide to withdraw from the study, you have the right to request withdrawal of information collected about you prior to data analysis. You may refuse to answer any question you do not want to answer, or not answer an interview question by saying "pass". You do not waive any legal rights by signing the consent form.

Risks
While measures are in place to keep data secure, as with any study, there is always a risk of privacy breach. It is highly likely that most interviews will take place using an online video platform, specifically Western University's licensed version of Zoom. According to Western University, measures will be in place to minimize such concerns; for example, Western's contract with Zoom prohibits the selling of community data to third parties.

Benefits
There are no direct benefits to you for participating in the study. Participation may lead to improvements in obstetrical education of family medicine residents in the future.

Confidentiality
Study data, including identifiable demographic information, will be kept in a secure and confidential location for fifteen years. All identifiable information collected during this study will be kept confidential and will not be shared with anyone outside the study unless required by law. A list linking your study number with your name and email address will be kept by the investigator in a secure place, separate from your study file. Participants will not be named in any reports, publications, or presentations that may come from this study. Representatives of Western University's Health Sciences Research Ethics Board and representatives of the Lawson Quality Assurance Education Program may access to your study-related records for quality assurance (to check that

the information collected for the study is correct and follows proper laws and guidelines).

Compensation
As a token of appreciation, you will receive a $20 gift card for participating in the study.

Questions about the study
If you require any further information regarding this research project or your participation in the study, please contact Dr. Nisha Arora, narora27@uwo.ca, or Dr. Judith Belle Brown, 519-661-2111, extension 22054, at the Centre for Studies in Family Medicine, Western University.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact the Patient Relations Office at LHSC at (519) 685-8500 ext. 52036 or access the online form at: https://apps.lhsc.on.ca/?q=forms/patient-relations-contact-form. You may also contact The Office of Human Research Ethics (519) 661-3036, 1-844-720-9816, email: ethics@uwo.ca. The REB is a group of people who oversee the ethical conduct of research studies. The HSREB is not part of the study team. Everything that you discuss will be kept confidential.

This is your copy of the Letter of Information to keep for your records.

CONSENT FORM

Study Title: Perspectives on Attaining the Family Medicine Obstetrical Competencies

This study has been explained to me and any questions I had have been answered.
I know that I may leave the study at any time. I agree to take part in this study.

Participant's name _____

Participant's signature _____

Date: _____

My signature means that I have explained the study to the participant named above. I have answered all questions.

Person Obtaining
Informed Consent: _____ (please print)

Signature: _____

Date: _____

Appendix C: Educator Letter of Information and Consent Form

Letter of Information and Consent

Study Title: Perspectives on Attaining the Family Medicine Obstetrical Competencies

Principal Investigator: Dr. Judith Belle Brown, PhD
Department of Family Medicine, Western University

Co-Investigators: Dr. Nisha Arora, MD, MClSc candidate
Department of Family Medicine, Western University

Dr. Sudha Koppula, MD, MClSc
Department of Family Medicine, University of Alberta

Contact Information: 519.661.2111 ext. 22054; jbbrown@uwo.ca
narora27@uwo.ca

Conflict of Interest: There are no conflicts of interest to declare related to this study.

Introduction
You are being invited to participate in this research study about the obstetrical competencies required of family medicine residents. You are being asked to participate in this study as an obstetrical educator for family medicine residents. Obstetrical educators being interviewed include Western University affiliated family physicians, Western University affiliated obstetrician specialists, and national leaders in family medicine obstetrical education. Senior family medicine residents will also be interviewed.

This letter has been designed to provide you with the information necessary to make an informed decision about whether to participate in the interview. If you have any questions, please do not hesitate to contact our research team.

Background/Purpose
Graduating family medicine residents are expected to have competence in obstetrical procedural skills, as outlined by The College of Family Physicians of Canada. The purpose of this study is to explore if residents are fulfilling the designated obstetrical competencies from the perspectives of the PGY2 residents and their supervisors. The study will garner the resident perspective on what processes, factors, or barriers are influencing their attainment of obstetrical competencies in their training environment.

Study Design/Procedures

This is a qualitative descriptive study in which educators and residents will be interviewed to ascertain their perspectives about the attainment of the obstetrical skills competencies. Interviews will be audio-recorded and professionally transcribed by Transcript Heroes Transcription Services Inc.

If you agree to participate, you will take part in an interview. It is anticipated that the entire interview will take approximately 30-60 minutes. The interviews will take place virtually using Western University's licensed version of Zoom, or by telephone, or in person, or if more convenient at another location determined by the interviewer and interviewee together. There will be a total of 15-20 participants in the study. This study should take 1 year to complete.

Voluntary Participation/Withdrawal from Study
Your participation in this study is voluntary. You may decide not to participate in this study, or to participate in the study now and then change your mind later. You may leave the study at any time without any adverse impact on you or your employment status. If you decide to withdraw from the study, you have the right to request withdrawal of information collected about you prior to data analysis. You may refuse to answer any question you do not want to answer, or not answer an interview question by saying "pass". You do not waive any legal rights by signing the consent form.

Risks
While measures are in place to keep data secure, as with any study, there is always a risk of privacy breach. It is highly likely that most interviews will take place using an online video platform, specifically Western University's licensed version of Zoom. According to Western University, measures will be in place to minimize such concerns; for example, Western's contract with Zoom prohibits the selling of community data to third parties.

Benefits
There are no direct benefits to you for participating in the study. Participation may lead to improvements in obstetrical education of family medicine residents in the future.

Confidentiality
Study data, including identifiable demographic information, will be kept in a secure and confidential location for fifteen years. All identifiable information collected during this study will be kept confidential and will not be shared with anyone outside the study unless required by law. A list linking your study number with your name and email address will be kept by the investigator in a secure place, separate from your study file. Participants will not be named in any reports, publications, or presentations that may come from this study. Representatives of Western University's Health Sciences Research Ethics Board and representatives of the Lawson Quality Assurance Education

Program may access to your study-related records for quality assurance (to check that the information collected for the study is correct and follows proper laws and guidelines).

Compensation
As a token of appreciation, you will receive a $20 gift card for participating in the study.

Questions about the study
If you require any further information regarding this research project or your participation in the study, please contact Dr. Nisha Arora, narora27@uwo.ca, or Dr. Judith Belle Brown, 519-661-2111, extension 22054, at the Centre for Studies in Family Medicine, Western University.

If you have any questions about your rights as a research participant or the conduct of this study, you may contact the Patient Relations Office at LHSC at (519) 685-8500 ext. 52036 or access the online form at: https://apps.lhsc.on.ca/?q=forms/patient-relations-contact-form. You may also contact The Office of Human Research Ethics (519) 661-3036, 1-844-720-9816, email: ethics@uwo.ca. The REB is a group of people who oversee the ethical conduct of research studies. The HSREB is not part of the study team. Everything that you discuss will be kept confidential.

This is your copy of the Letter of Information to keep for your records.

CONSENT FORM

Study Title: Perspectives on Attaining the Family Medicine Obstetrical Competencies

This study has been explained to me and any questions I had have been answered.
I know that I may leave the study at any time. I agree to take part in this study.

Participant's name _____

Participant's signature _____

Date: _____

My signature means that I have explained the study to the participant named above. I have answered all questions.

Person Obtaining
Informed Consent: _____ (please print)

Signature: _____

Date: _____

Appendix D: Recruitment Materials

Email Script for Recruitment

Subject Line: Obstetrics training in family medicine: Invitation to participate in research

Hello,

You are being invited to participate in a study entitled 'Perspectives on Attaining the Family Medicine Obstetrical Competencies' that we, Dr. Nisha Arora, Dr. Judith Belle Brown, and Dr. Sudha Koppula, are conducting.

Briefly, the study involves a one-on-one semi-structured interview exploring the experience of family medicine residents obtaining their obstetrical competencies. It would take place over Western's licensed version of Zoom or another method at your convenience and expected to last between 30-60 minutes. Both obstetrical educators and PGY2 family medicine residents will be interviewed. You will receive a token of appreciation for your time.

Two reminder emails may be sent in the coming months.

If you would like more information on this study, please see the attached 'letter of information'. If you would like to participate in this study, or wish for more information about this study, please contact the researcher at the contact information given below.

Thank you,
Dr. Nisha Arora, MD, CCFP
MClSc (FM) candidate
Centre for Studies in Family Medicine
Western University
narora27@uwo.ca

Western

Reminder Email Script for Recruitment

Subject Line: Obstetrics training in family medicine: invitation to participate in research

Hello,

An email was sent to you in the past few months, and we wanted to send you a quick reminder about our study.

You are being invited to participate in a study entitled 'Perspectives on Attaining the Family Medicine Obstetrical Competencies' that we, Dr. Nisha Arora, Dr. Judith Belle Brown, and Dr. Sudha Koppula, are conducting.

Briefly, the study involves a one-on-one semi-structured interview exploring the experience of family medicine residents obtaining their obstetrical competencies. It would take place over Western's licensed version of Zoom or another method at your convenience and expected to last between 30-60 minutes. Both obstetrical educators and PGY2 family medicine residents will be interviewed. You will receive a token of appreciation for your time.

If you would like more information on this study, please see the attached 'letter of information'. If you would like to participate in this study, or wish for more information about this study, please contact the researcher at the contact information given below.

Thank you,
Dr. Nisha Arora, MD, CCFP
MClSc (FM) candidate
Centre for Studies in Family Medicine
Western University
narora27@uwo.ca

Fax/Mail Script for Recruitment

Subject Line: Invitation to participate in research

Hello,

You are being invited to participate in a study entitled 'Perspectives on Attaining the Family Medicine Obstetrical Competencies' that we, Dr. Nisha Arora, Dr. Judith Belle Brown, and Dr. Sudha Koppula, are conducting.

Briefly, the study involves a one-on-one semi-structured interview exploring the experience of family medicine residents obtaining their obstetrical competencies. It would take place over Western's licensed version of Zoom or another method at your convenience and expected to last between 30-60 minutes. Both obstetrical educators and PGY2 family medicine residents will be interviewed. You will receive a token of appreciation for your time.

If you would like more information on this study, please see the enclosed 'letter of information'. If you would like to participate in this study, or wish for more information about this study, please contact the researcher at the contact information given below.

Thank you,
Dr. Nisha Arora, MD, CCFP
MClSc (FM) candidate
Centre for Studies in Family Medicine
Western University
narora27@uwo.ca

Social Media Script for Recruitment

Subject Line: Invitation to participate in research

If you are a PGY2 in family medicine or a staff physician that supervises family medicine residents in obstetrics at Western University, you are being invited to participate in a study entitled 'Perspectives on Attaining the Family Medicine Obstetrical Competencies'.

The study involves a one-on-one semi-structured interview exploring the experience of family medicine residents obtaining their obstetrical competencies. It would take place over Western University's licensed version of Zoom or another method at your convenience and expected to last between 30-60 minutes. Both obstetrical educators and PGY2 family medicine residents will be interviewed. You will receive a token of appreciation for your time.

I am not able to respond to questions or comments about this study on social media platforms. Instead, if you would like more information on this study or would like to receive a letter of information about this study, please contact me at narora27@uwo.ca.

Thank you,
Dr. Nisha Arora, MD, CCFP
MClSc (FM) candidate
Centre for Studies in Family Medicine
Western University

Announcement Script for Recruitment

My name is Nisha Arora and I am a graduate student in the department of family medicine. I am conducting interviews for a study to better understand your experience with working towards your obstetrical competencies. If you are interested in participating in this study, it will involve a one-on-one confidential interview, most likely over Zoom, and will take about 30-60 minutes of your time. You will get a gift card as a token of appreciation for your time. We need only a few more *(I might be specific to say the number as we work towards our target)* PGY2 family medicine residents so I hope that you will consider participating.

If you would like more information on this study or would like to receive a letter of information about this study, please contact me at narora27@uwo.ca.

There may be an announcement poster/powerpoint slide up at the same time. This is attached separately in a powerpoint document.

Obstetrics training in family medicine: Invitation to participate in research

- We are looking for PGY2 Family Medicine Residents to learn about your experiences
- 30–60-minute one-on-one interview over Zoom
- Token of appreciation for your time

For more information, please contact:

Dr. Nisha Arora, MD, CCFP
MClSc (FM) candidate
narora27@uwo.ca

Western

v. 05-13-2021

Appendix E: Interview Guide

Interview Guide

1. **Introduction and Reiterating Verbal Consent**

-Name, identification

-I am completing a thesis project for my graduate program at Western University. I am studying the experiences of trainees gaining their obstetrical competencies from the perspectives of the residents and their supervisors. I will start with questions to collect demographic information and then ask questions about your experiences. I anticipate this to take anywhere between 30-60 minutes.

-Recording, professional transcription, confidential

-Confirm consent

For Educators/Supervisors:

2. **Demographics**

-Age, ethnicity, gender
-Residency program and graduation year
-Current practice setting, years in practice, years teaching, current faculty position
-Role in relation to family medicine resident learners

3. **Definitions, Expectations, Evaluations**

-What is your understanding of the OB requirements for FM residents
-What guidance is given to you about what to expect of the FM residents
-How do you assess them; how do you "sign off" on an OB procedure

4. **Eliciting experiences and feelings**

-How important is it for all graduating family medicine residents to be competent in low-risk obstetrical care?

Prompt: Residents who have expressed an interest in practicing OB vs not interested

-The CFPC outlines family medicine obstetrical core procedures to include: normal vaginal delivery, artificial rupture of membranes, and episiotomy and repair. I really want to know from you, what do you think are the essential obstetrical competencies that family medicine residents should be graduating with?

-Prompt: Why or why not?

-From your experience, do you feel that family medicine residents are graduating with these obstetrical skills?

Why may that be?

-Prompt: In your opinion, what elements help a family medicine resident accomplish their obstetrical competencies?

-Prompt: In your opinion, what barriers do you feel exist that may hinder the resident from accomplishing these competencies?

For Family Medicine PGY2 Residents:

2. Demographics

-Age, ethnicity, gender
-Medical school and graduation year
-Current training site, structure of OB learning, OB experience with deliveries, OB electives
-Enhanced skills training and career plans

3. Definitions, Expectations, Evaluations

-What is your understanding of the OB requirements for FM residents
-What do you feel is expected of you as an FM resident on OB and on FMOB
-How are you assessed; how do you "complete" an OB procedure

4. Eliciting experiences and feelings

-How important is it for all graduating family medicine residents to be competent in low-risk obstetrical care?

Prompt: Residents who have expressed an interest in practicing OB vs not interested

-The CFPC outlines family medicine obstetrical core procedures to include: normal vaginal delivery, artificial rupture of membranes, and episiotomy and repair. I really want to know from you, what do you think are the essential obstetrical competencies that family medicine residents should be graduating with?

-Prompt: Why or why not?

-What is your experience in working towards your obstetrical competencies?
-Do you think that you will graduate feeling competent in these procedures?

Why may that be?

-Prompts:

-What would you need to accomplish to feel competent in these procedures?
-What would have needed to be different so that you can accomplish these goals?
-What helps you work toward your obstetrical competencies?
-What barriers do you face in working toward these competencies?

-What is your experience in working with a family medicine obstetrician as opposed to a specialist obstetrician/gynecologist as it pertains to your obstetrical learning goals?

Appendix F: Western Research Ethics Board Study Approval

Western Research

Date: 7 July 2020

To: Dr. Judith B. Brown

Project ID: 116194

Study Title: Perspectives on Attaining the Family Medicine Obstetrical Competencies

Application Type: HSREB Initial Application

Review Type: Delegated

Full Board Reporting Date: 21July2020

Date Approval Issued: 07/Jul/2020 07:14

REB Approval Expiry Date: 07/Jul/2021

Dear Dr. Judith B. Brown

The Western University Health Science Research Ethics Board (HSREB) has reviewed and approved the above mentioned study as described in the WREM application form, as of the HSREB Initial Approval Date noted above. This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Interview Guide - v. 06-05-2020	Interview Guide	05/Jun/2020	4
Protocol v. 06-19-2020	Protocol	19/Jun/2020	5
Letter of Information and Consent - Educators v. 06-26-2020	Written Consent/Assent	26/Jun/2020	5
Letter of Information and Consent - Residents v. 06-26-2020	Written Consent/Assent	26/Jun/2020	5
Recruitment Correspondence v. 06-24-2020	Recruitment Materials	24/Jun/2020	
Recruitment Correspondence v. 06-24-2020	Email Script	24/Jun/2020	

No deviations from, or changes to, the protocol or WREM application should be initiated without prior written approval of an appropriate amendment from Western HSREB , except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University HSREB operates in compliance with, and is constituted in accordance with, the requirements of the TriCouncil Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Nicola Geoghegan-Morphet, Ethics Officer on behalf of Dr. Joseph Gilbert, HSREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Appendix G: Lawson Health Research Institute Approval

LAWSON
HEALTH RESEARCH INSTITUTE

LAWSON FINAL APPROVAL NOTICE

LAWSON APPROVAL NUMBER: R-20-370

PROJECT TITLE: Perspectives on Attaining the Family Medicine Obstetrical Competencies

PRINCIPAL INVESTIGATOR: Dr. Judith B. Brown

LAWSON APPROVAL DATE: 25/08/2020

ReDA ID: 10147

Overall Study Status: Active

Please be advised that the above project was reviewed by Lawson Administration and the project was approved.

"COVID-19: Please note that Lawson is continuing to review and approve research studies. However, this does not mean the study can be implemented during the COVID-19 pandemic. Principal Investigators, in consultation with their program leader or Chair/Chief, should use their judgment and consult Lawson's research directive and guidelines to determine the appropriateness of starting the study. Compliance with hospital, Lawson, and government public health directives and participant and research team safety supersede Lawson Approval."

Please provide your Lawson Approval Number (R#) to the appropriate contact(s) in supporting departments (eg. Lab Services, Diagnostic Imaging, etc.) to inform them that your study is starting. The Lawson Approval Number must be provided each time services are requested.

Dr. David Hill
V.P. Research
Lawson Health Research Institute

Curriculum Vitae

Name: Nisha Arora

Post-secondary Education and Degrees:

University of Toronto
Toronto, Ontario, Canada
2007-2011 Hons. B.Sc.

McMaster University
Hamilton, Ontario, Canada
2012-2015 M.D.

Western University
London, Ontario, Canada
2015-2017 Postgraduate Family Medicine Residency Training

Western University
London, Ontario, Canada
2017 Obstetrics and Women's Health Enhanced Skills Training

Western University
London, Ontario, Canada
2018-Present M.Cl.Sc. candidate

Honours and Awards:

Martin J. Bass PSI Foundation Bursary, Western University, London, Ontario, Canada, 2022

Clinical Skills Teacher Excellence Award, FitzGerald Academy, University of Toronto, Toronto, Ontario, Canada, 2021

Grant recipient for *Family Medicine Obstetrics Anthology – A Collection of Birth Stories*, Member Interest Groups Section at the College of Family Physicians of Canada, 2021

Dr. Wm. Victor Johnston Award in Family Medicine, Western University, London, Ontario, Canada, 2020

Graduate Student Research Fund, Western University, London, Ontario, Canada, 2020

Dr. Keith Johnston Scholarship, Citywide Department of Family Medicine, London, Ontario, Canada, 2019

Jo-Anne Hammond Family Medicine Resident Award, Western University, London, Ontario, Canada, 2018

Dr. Frank J. Butson Resident Award in Family Medicine, Western University, London, Ontario, Canada, 2017

Publications and Presentations:

1. Bal, S., Cheema, R., Arora, N. Let's listen to patients' hearts, even if we don't have to. Healthy Debate. June 26, 2019.

2. Arora, N., Bal, S., Brown, J.B. Practicing patient-centered medicine in a pandemic. Canadian Family Physician Blogs. July 10, 2020.

3. Forte, M., Arora, N., Schermbrucker, J., Abells, Y. (Eds.). Full Circle: A Collection of Family Medicine Birth Stories. Gateway Visual Communications. 2023.

4. Poster Presentation. May 2022. Competent but not Confident: How Can We Increase Graduating Intrapartum Care Providers? Teaching Competency in Family Medicine Maternity Care: A National Forum. Toronto, Ontario, Canada. Presenter: Dr. Nisha Arora. Co-Investigator: Dr. Sudha Koppula. Principal Investigator: Dr. Judith Belle Brown

5. Poster Presentation. November 2017. Facilitating Advance Care Planning Discussions in a Primary Care Setting. Family Medicine Forum. Montreal, Ontario, Canada. Presenter: Dr. Nisha Arora. Co-Investigator: Dr. Samantha Reaume. Principal Investigator: Dr. Stacey Snider.

6. Poster Presentation. November 2015. Family Physician Perceived Barriers to Transitioning Complex Patients to Adult Health Care. Family Medicine Forum. Toronto, Ontario, Canada. Presenter: Dr. Nisha Arora. Principal Investigator: Dr. Christina Grant.

7. Invited Small Group Session Presenter. May 2018. Optimizing Early Prenatal Care for Your Patients. Annual Clinical Day in Family Medicine. London, Ontario, Canada. Presenters: Nisha Arora, Miranda Sheppard, Wendy McCrady.

Related Work Experience:

March 2022 – present	Physician, Forest City Family Health Organization, London, Ontario, Canada.
Feb 2018 – present	Professional Staff, Department of Family Medicine – Obstetric and Neonatal/Newborn Nursery, London Health Sciences Centre, London, Ontario, Canada.
Feb 2018 – present	Professional Staff, Department of Family Medicine, St. Joseph's Health Care, London, Ontario, Canada.
Jan 2018 – present	Adjunct Professor, Department of Family Medicine, Schulich School of Medicine and Dentistry, Western University, London, Ontario, Canada.
Oct 2020 – July 2021	Lecturer, Department of Family and Community Medicine, University of Toronto, Toronto, Ontario, Canada
July 2019 – July 2021	Family Medicine Low Risk Obstetrician, Department of Family Medicine, Mount Sinai Hospital, Toronto, Ontario, Canada.
Oct 2020 – July 2020	Locum Physician and Low Risk Obstetrician, Department of Family and Community Medicine, St. Joseph's Health Centre, Toronto, Ontario, Canada.
May 2018, July 2020	Locum Physician, Family Medicine, Taddle Creek Family Health Team, Toronto, Ontario, Canada.
July 2019 – July 2020	Locum Physician, Department of Family Medicine, Toronto Western Family Health Team – Garrison Creek, Toronto, Ontario, Canada.
July 2019 – Dec 2019	Family Physician, Family Way Obstetrical Group, Women's College Family Health Organization, Toronto, Ontario, Canada.
Jan 2018 – Dec 2019	Locum Physician, Family Medicine, Forest City Family Health Organization, London, Ontario, Canada.
Jan 2018 – July 2019	Locum Physician, Family Medicine – Obstetrics and Women's Health, Thompson Medical Centre, London, Ontario, Canada.
May 2019 – Jun 2019	Family Physician, Veteran's Care Program, Parkwood Institute, St. Joseph's Health Care, London, Ontario, Canada.
Jan 2018 – Dec 2018	Clinic Physician, Student Health Services, University of Western Ontario, London, Ontario, Canada.

July 2018, April 2019	Hospitalist, Complex Continuing Care Program, Parkwood Institute, St. Joseph's Health Care, London, Ontario, Canada.
June 2018	Locum Physician, Family Medicine, Avon Family Medicine Centre, Toronto, Ontario, Canada.
April 2018	Locum Physician, Family Medicine, Primary Care London Family Health Organization, London, Ontario, Canada.

Teaching Activities:

April 2021 – June 2021	Reading Plan Tutor, Department of Family Medicine, University of Toronto.
Sept 2020 – May 2021	Clinical Skills Coordinator (Integrated Clinical Experience 1), Faculty of Medicine, University of Toronto.
January 27, 2021	Presenter, Fetal Health Surveillance: A Review and Case Study, Primary Audience: family medicine residents, Department of Family Medicine, FitzGerald Academy, University of Toronto.
March 6, 2019	Lecturer, Academic Half Day: Pediatrics (Rash, Limp, Jaundice), Primary Audience: family medicine residents, Department of Family Medicine, Western University.
Feb 10, 2018	Instructor, Family Medicine Interest Group Clinical Skills Day, Primary Audience: medical students, Schulich School of Medicine and Dentistry, Western University.
Dec 19, 2018	Facilitator, Obstetrics Small Group Session, Primary Audience: medical students, Schulich School of Medicine and Dentistry, Western University.
Feb 2018	Instructor, Family Medicine Interest Group Clinical Skills Day, Primary Audience: medical students, Schulich School of Medicine and Dentistry, Western University.
Nov 2016 & Nov 2017	Instructor, Obstetrical Skills Day, Primary Audience: family medicine residents, Department of Family Medicine, Western University.
July 13, 2016	Lecturer, Transition 2 Residency Series – Acute Dyspnea, Primary Audience: residents in their first postgraduate year, Western University.

April 14, 2016	Facilitator, Teaching OSCE, Primary Audience: senior medical students, Schulich School of Medicine and Dentistry, Western University.
March 2016	Facilitator, Communications Course, Primary Audience: final year medical students, Schulich School of Medicine and Dentistry, Western University.

Related Professional Activities:

July 2022	Provider. Neonatal Resuscitation Program. Canadian Paediatric Society. 144299, London, Ontario, Canada.
May 2021	Provider. Fundamentals of Fetal Health Surveillance. The University of British Columbia Faculty of Medicine, Continuing Professional Development. Toronto, Ontario, Canada.
July 2018	Certificant. Medical Abortion Training Program. Society of Obstetricians and Gynecologists of Canada.
February 2017	Participant. Advanced Labour and Risk Management (ALARM) Course. Society of Obstetricians and Gynecologists of Canada, Toronto, Ontario, Canada.

Related Administrative Activities:

2020 – 2021	Question Writer for the CFPC Self-Learning Program, Canada.
2019 – 2020	Conference Planning Committee Member, National Forum on Teaching Competency in Family Medicine Maternity Care, Toronto, Ontario, Canada.
2015 – 2019	Planning Member, Annual Clinical Day in Family Medicine Planning Committee, London, Ontario, Canada.
2017	Resident Representative, Ophthalmology Residency Training Program - Internal Review for Accreditation, Schulich School of Medicine and Dentistry, London, Ontario, Canada.
2016 –2017	Academic Half Day Committee Member, Schulich School of Medicine and Dentistry, London, Ontario, Canada.