The Effects of Provincial Policies on Early Career Family Physicians' Career Choices

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Abstract

Over the past decade, the healthcare landscape has shifted for Ontario's family physicians as government policies changed the availability of practice and compensation models. The most impacted population are early career family physicians. Given this changing healthcare environment, the factors that drive early career family physicians practice choices are unclear and not well-studied. Therefore, this thesis sought to answer the following research questions:

1. What factors shape family physician choice of practice and compensation models in Ontario?
    a. How do early career family physicians perceive the availability of practice and compensation models in Ontario?
2. From the perspective of Ontario family medicine residency administrators, how does residency influence family physician practice choices?

This study was a part of a broader, cross-provincial study examining family medicine resident and early career family physician practice patterns in British Columbia, Nova Scotia, and Ontario. Nineteen early career physicians and 7 family medicine residency administrators were interviewed for their perceptions and understanding of the factors and policies affecting their (or in the case of administrators, residents') career choices.

In this thesis, I used thematic analysis as described by Braun and Clarke to answer the research questions. Patton and McMahon's Systems Theory Framework (STF) provided a systems perspective that was used to model and assess the interactions between emergent themes.

The factors that shaped family physician choice of practice and compensation models were divided into micro- and macro-level factors as described by the STF. Micro-level factors were 'gender', 'health', 'interests', and 'world of work knowledge.' Macro-level factors included 'educational institutions', 'geographical location', 'historical trends', 'peers', 'family', 'community groups', 'workplace', and 'employment market.' Finally, two additional factors were found: 'flexibility', and 'financial considerations.' The interaction between these factors was complex, where many linked themes gave rise to career decisions made by family physicians. A second perspective in the form of residency administrators helped develop a holistic description of these factors. Furthermore, a gap between physician training and practice opportunities after graduation was identified.

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Chapter 1: Introduction

Healthcare in Canada has been changing over the last twenty years, particularly in primary care (1). These changes include a shift in the family physician-to-specialist ratio, new incentives for family medicine physicians, and an aging population (1). As a result, the healthcare landscape has evolved with different policy and healthcare dynamics at play. In Ontario, healthcare reforms have led to an increased emphasis on team-based care (1). However, recent changes in government policy may present some barriers to physicians joining team-based care models. This thesis will focus on the Ontario context, assessing the various factors that drive early career physician career choices. This introduction describes healthcare, primary care, and physician training in Canada before focusing on the Ontario context.

1.1 Healthcare in Canada

Canada's healthcare system is decentralized, with healthcare administered provincially rather than federally (1). All provinces and territories administer their own healthcare system but are unified by the nationally legislated Canada Health Act (2). The federal government is responsible for pharmaceutical regulation, funding through tax revenue, and facilitating research on public health. (3,4). Medically necessary hospital, diagnostic, and physician services are free to patients as a result of the federal-level health expenditures (5). Meanwhile, the provincial and territorial governments are responsible for the administration of a public medical insurance plan and the regulation of hospitals and other healthcare facilities (4). While provincial governments administer a medical insurance plan funded by tax dollars, delivery of healthcare remains private (2).

In addition to the private delivery of healthcare, physicians in Canada are not directly regulated by the government. Instead, regulatory bodies hold statutory power through the Regulated Health Professions Act, 1991 and the Medicine Act, 1991 (6,7). These regulatory bodies are separate structures from the government and serve to represent the physician body. Some examples are the Nova Scotia College of Physicians and Surgeons and the Ontario Medical Association (8,9). Within each province, a

Physician Services Agreement (or an equivalently named Agreement) is negotiated between the regulatory bodies and their provincial government every few years to update initiatives, practice structures, and physician payment. Each regulatory body is responsible for the regulation of their physicians; this includes defining the scope of practice and billing codes (9). The structure of regulatory bodies is not limited to physicians; these exist for the many professions in the healthcare system including nurses, physiotherapists, pharmacists, and occupational therapists (10).

1.2 Primary Care in Canada

In this thesis, I use Starfield's definition of primary care: "the provision of integrated, accessible healthcare services by clinicians who are accountable for addressing a large majority of personal healthcare needs, developing a sustained partnership with patients, and practicing in the context of family and community" (11). Primary care is often the first point of contact with a healthcare provider and serves as a gatekeeper to the rest of the system (12). While 91% of Canadians have a regular source of care, difficulties in accessing primary care persist for the general population (13). Given that Canada has thirteen distinct provincial and territorial healthcare systems, access to primary care is difficult to address on a national level (1). Patients regularly experience difficulties with extended wait times and contacting healthcare providers (14).

1.3 Family Physician Training in Canada

Interest in family medicine has decreased over time, with medical school students often opting for other specialties (15–18). Declining interest in family medicine as a career has been a cause for concern. In Canada, from 1995-2000, there was a 7.4% growth in the number of specialists compared to a 3.2% growth in the number of family doctors (19). In 2000, specialists represented 49.6% of all physicians in Canada compared to 47.9% in 1995 (19). Similar increases in specialists has also been observed in the United States and the United Kingdom (20–22).

One possible reason for the slow growth in family physicians is a potential lack of interest in family medicine among Canadian medical graduates. In 2018, a total of 115 residency spots went unmatched in the CaRMS system (11 in 2009, 46 in 2016, 68 in 2017) (23). Of the 115 unmatched spots in 2018, 96 corresponded to family medicine (24). This has stimulated research on the choice of specialty for medical graduates (18,20,32–36,21,25–31).

1.4 Family Physician Training in Ontario

Ontario has six medical schools, all of which offer family medicine residency programs: University of Ottawa, Queen's University, University of Toronto, McMaster University, Western University, and Northern Ontario School of Medicine (37). They have all adopted the Triple C family medicine residency curriculum, a competency-based curriculum derived from the CanMEDS-DM framework. This framework states that family physicians are to be trained under 3 pillars of care: comprehensive care and education, continuity of education and patient care, and centred in family medicine (38). Currently, family medicine residency takes two years while residency for other specialties takes longer to complete (39–41). This duration has been subject to debate, with some advocating for an increase to three years of training (40). As the general population's health needs have grown in complexity, the family medicine profession has become more demanding. Some physicians have felt that a longer duration of training would enable residents to develop more competencies needed to address increasingly complex health needs (39–41).

1.5 Options After Family Medicine Residency

Following residency, family physicians in Ontario have various primary care practice models available to them. These include Family Health Teams (FHT), Family Health Groups, Community Health Centres (CHC), Comprehensive Care Management (CCM), independent solo practice, and walk-in clinics (42). These practice models reflect the structure in which family physicians' practices are organized. Within these models, family physicians operate in solo, group, or interdisciplinary practice. FHTs and CHCs incorporate collaborated, interdisciplinary care, which have been associated with improved

healthcare access, resource utilization, efficiency of services, and health outcomes (43). However, interdisciplinary care has also been associated with a higher cost of maintenance (44).

Family physician payment is handled through various compensation models, which are defined separately from the aforementioned practice models. These compensation models include blended capitation model, complement-based base renumeration, blended salary model, salaried model, and fee-for-service. Blended capitation model is further subdivided into two forms: Family Health Networks (FHN) and Family Health Organizations (FHO) (45,46). Both models compensate family physicians for a "basket" of services provided along with after-hours care. Additional services not defined within the "basket" may be billed as fee-for-service (44). Capitation-based models are of particular importance as they are associated with the FHT practice model. **Table 1** provides a brief description of the payment models available in Ontario (42,47).

Table 1. Overview of Compensation Models available in Ontario

Compensation Model	Practice Model	Description
Fee for Service	- Fee for Service	- Physician income based on billing for each service provided - No group requirement
Enhanced Fee for Service	- Comprehensive Care Model - Family Health Groups	- Physician income based on billing for each service provided - Incentives for patient rostering - Premiums for chronic disease management, preventative care, and preventative care services
Blended Capitation Model	- Family Health Network - Family Health Organization	- Physician income based on a pre-defined "basket" of primary care services - Additional fee for service billing available for non-capitated services and non-rostered patients - Premiums for chronic disease management, preventative care, and preventative care services - Rostered patients may not see other physicians - Minimum 3 physicians per group

Complement-based Base Renumeration	- Rural-Northern Physician Group Agreement	- Physician income paid as a base remuneration - Additional performance bonuses - Available for physicians in rural group practice
Blended Salary Model	- Community-Sponsored Family Health Teams	- Physician income paid as a base remuneration - Additional incentives, premiums, and special payments for specific primary care services
Salaried model	- Community Health Centres	- Physician income paid as a base remuneration - Physicians are salaried employees of Community Health Centres

1.6 Recent Policy Changes

Despite the benefits of interdisciplinary healthcare and its prevalence in Ontario, recent provincial policy changes have shifted the availability of some practice models to newly graduated physicians. In 2015, the Ministry of Health (MOH) announced a series of cuts after negotiations with the Canadian Medical Association did not result in an agreement (48). These cuts were released as a ten-point plan, which enacted some policy changes (48). One example is the Managed Entry policy, which directly regulates FHNs and FHOs. First introduced in 2012 and then updated in 2015, physicians were initially approved to join these groups which were categorized under two streams: "high demand areas" and "low demand areas" (48,49). These streams refer to regions categorized by their demand for family physicians, as determined by the MOH. In 2015, the "low demand areas" stream was eliminated, restricting the

number of physicians approved to join a FHN or FHO to 20 per month, and only in "high demand areas" (48,50). Another policy that resulted from the 2015 MOH cuts was the New Graduate Entry Program (NGEP). Newly graduated physicians were allowed to apply to join FHN/FHOs in "low demand areas" with monthly compensation caps in the first three years of practice (51). The policy attempted to remedy the challenges brought about by Managed Entry. However, there is a current lack of data on the impact that the program has had on family physician distribution as well as its impact on their career choices.

Regulation of entry into practice models is not limited to FHN/FHOs. FHTs are also subject to regulation by the MOH. Currently, it is not possible to create a new FHT (52). Instead, physicians may join pre-existing FHTs as a replacement for a retiring physician (50). In addition, FHTs are also subject to Managed Entry if they are affiliated with a FHN or FHO; physicians may only join these FHTs in "high demand areas" (50). These policy changes, along with NGEP, may implicitly limit access to team-based, interdisciplinary primary care in Ontario. While this affects patients and currently practicing family physicians, it also affects early career family physicians, who are effectively limited in where and how they can practice primary care in Ontario.

1.7 Research Question

Recent policy changes by the MOH may have contributed to a shift in the factors that drive early career family physicians' choice of compensation model. At the time of this thesis, there have been no studies to my knowledge that assess the factors driving graduate choice of practice and compensation model in Ontario. An understanding of these factors could inform health system design and reform as the upcoming generations of family physicians enter the workforce. Specifically, knowledge of these factors can be used to directly influence family medicine graduates' choice of practice and compensation model, therefore affecting physician distribution in Ontario. The research questions are:

1. What factors shape family physician choice of practice and compensation models in Ontario?

    a. How do early career family physicians perceive the availability of practice and compensation models in Ontario?

2. From the perspective of Ontario family medicine residency administrators, how does residency influence family physician practice choices?

Chapter 2: Conceptual Model and Background

2.1 The Factors that Drive Career Choice

In this thesis, I apply a theoretical framework, the Systems Theory Framework (STF), to aid in the interpretation of my results. It was developed by Patton and McMahon to model individual career choices (53). The framework, depicted in Figure 1, describes an individual's career as a product of factors influencing their lives. These factors are categorized as micro- (such as 'gender', 'values', 'beliefs') and macro-level (such as 'media', 'family', 'historical trends') (53,54). This framework is derived from systems theory, which has been developed and adopted by researchers from various fields such as biology and mathematics (53,55,56). Patton and McMahon developed the STF as a tool for career counselling practice and research (54).

Systems theory is accredited to Ludwig von Bertalanffy, who postulated that systems are open and interact with their environment (56). The notion of change due to factors outside of the system was integral to von Bertalanffy's view of systems theory. The contrasting perspective during von Bertalanffy's time was reductionism, which focused on individual elements instead of considering the system a whole (56).

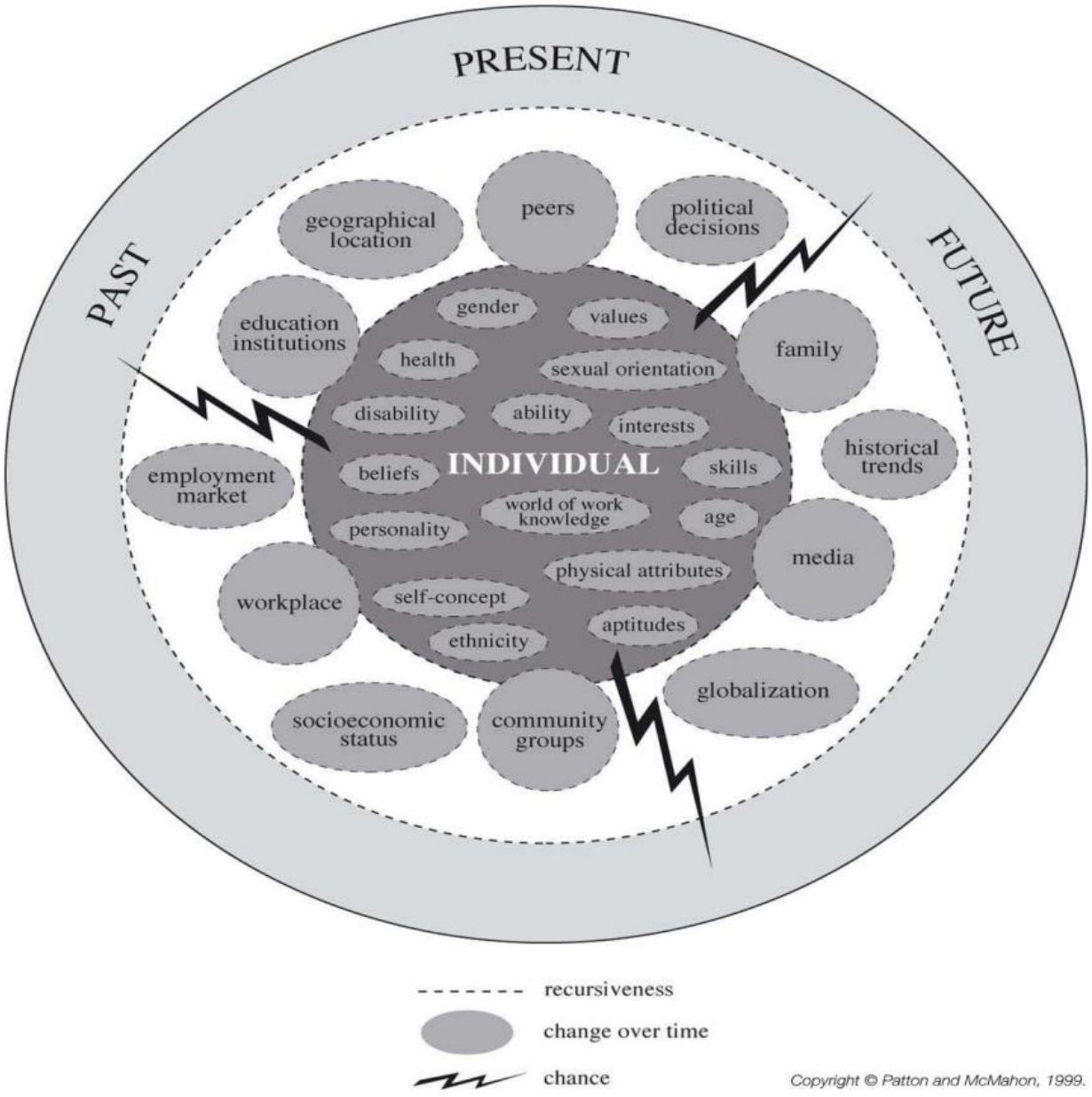

Figure 1. The Systems Theory Framework of Career Development (from Patton & McMahon, 1999)

The STF describes the factors affecting an individual's career choices. Micro- and macro-level factors are depicted within small grey circles and distinguished by the encompassing dark grey and white circles, respectively. The individual's career is shaped by micro-level factors comprising 'gender',

‘values’, ‘health’, ‘sexual orientation’, ‘disability’, ‘ability’, ‘interests’, ‘beliefs’, ‘skills’, ‘personality’, ‘world of work knowledge’, ‘age’, ‘self-concept’, ‘physical attributes’, ‘ethnicity’, and ‘aptitudes’. Complementary to these micro-level factors are macro-level factors: ‘education institution’, ‘geographical location’, ‘peers’, ‘political decisions’, ‘employment market’, ‘workplace’, ‘socioeconomic status’, ‘community groups’, ‘globalization’, ‘media’, ‘historical trends’, and ‘family.’ The interaction of all these factors, grouped by their temporal relevance, is thought to drive career development (39). The figure as a whole represents recursiveness, change over time, and the dynamic nature of the system (factors interacting with the individual) Recursiveness is defined as the influence of external factors on the system which may drive career choices. For example, an economic crisis (external to the system) may shift the balance of interacting micro- and macro-level factors. These factors are difficult to predict and account for. To date, the framework has been applied in qualitative career assessment, career counseling theory, career councillor training, and used for career assessment or career counseling (54,57).

Throughout this thesis, I apply this framework to support data analysis and interpretation. Micro- and macro-level factors developed for career assessment and counselling may also describe the factors which influence how family physicians make choices about their career. Thus, they were used as deductive codes during analysis (described in more detail in **Chapter 3**). Furthermore, the systems perspective of the framework may provide insight into the interactions of relevant factors during this current stage of the physicians’ careers.

2.2 Factors Affecting Choice of Specialty

To date, factors affecting physician career choice have focused on the choice of specialty of medical students. Researchers have identified factors that influence speciality choice, including the ‘hidden curriculum’ in medical schools (stigma and attitudes against family medicine by educators and peers), student debt, and desire for work-life balance (25–29). Some of these factors align with the macro-level factors described by the STF, including financial barriers, culture within medical school, and geography (25–30,36). However, the micro-level factors do not appear as much in the literature. It is

possible that these micro-level factors play a role affecting physician career choices. They will be equally assessed in this thesis.

Most of the previously identified factors influencing specialty choice (hidden curriculum, student debt, socioeconomic status, and geography) were studied individually. Senf et al. (2003) found that physicians raised in rural settings were more likely to pursue family medicine. Conversely, parents with a higher socioeconomic status related negatively to choosing family medicine (21).

The 'hidden curriculum' has been defined as attitudes and comments from instructors, senior physicians, and peers which demean family medicine as a profession (25,28). These negative views of family medicine may deter some students from pursuing the specialty. This culture has been prevalent in most medical schools, contributing to the perception that other specialties such as surgery are more worthwhile (28). As a result, students have reported being deterred from pursuing family medicine (28,29). Conversely, when family medicine was encouraged, an increased likelihood of pursuing primary care was found (29).

Several studies have assessed the effects of student debt on medical students' choice of residency (26,30–32). However, the results were contradictory. Kahn et al. (2006) and Spar et al. (1993) found no association between primary care residency choice and debt (26,30). In contrast, a recent literature review by Pisaniello et al. (2019) found that medical student debt was associated with the pursuit of higher paying specialties (31). Another study also found the same inverse relationship: a higher debt corresponded with decreased intention to enter primary care (32).

The results of studies on medical student choice of speciality align well with the STF factors, providing some support for its value in this study. These factors may be similar to those of family medicine residents as they plan for their future careers. However, no studies have been found that explore this further.

Chapter 3: Methods

This thesis is part of a broader study examining family medicine resident and early-career family physician practice patterns in British Columbia, Ontario, and Nova Scotia (58). It is funded by the Canadian Institute of Health Research. The goal of the study is to inform primary care planning by identifying values and preferences shaping the practice intentions and choices of family medicine residents and early career family physicians, comparing practice patterns of early career and established family physicians to determine if changes over time reflect cohort effects, and developing an understanding of the dynamics among practice intentions, practice choices, and practice patterns to identify policy implications (58). This is a mixed methods study employing semi-structured interviews and quantitative analysis of administrative data (58). Interview participants comprised of family medicine residents and early career family physicians (i.e., within 10 years of residency). Using an interview guide, these participants were asked about their practice intentions, personal priorities, past experiences, practice opportunities, and perceptions of provincial policies.

The epistemological orientation applied for this thesis was pragmatism. Given the context-specific (Ontario) research questions, the knowledge provided by answering the questions was meaningful specifically through a policy-oriented lens. Pragmatist philosophy describes that knowledge and reality are based on socially constructed beliefs, which is especially apt for a research question addressing perceptions (59). As such, pragmatism guided the synthesis of this thesis' findings and its potential applications in policy.

This thesis focuses on the factors that drive early career family physicians' choice of practice and compensation model as they enter practice. It is distinguished from the broader study in that 1) it is an in-depth study in the Ontario context, 2) there is an emphasis on health policy and the effects on early career family physicians, and 3) it incorporates the perspectives of residency program administrators.

3.1 Ethics

Ethics approval was obtained from the University of Ottawa (S-05-18-776-MOD4-776). Written informed consent from participants was gathered before interviews were conducted. All participants were informed of their right to withdraw consent at any point up to three weeks following the interview.

3.2 Study Population

The two populations of interest for this thesis were early-career family physicians (within 10 years of residency) and family medicine residency administrators. Interviews conducted for the larger, cross-provincial study had shown that family medicine residents were not well-informed about the government policies that may affect their careers. As a result, the data from residency interviews was not sufficient to answer the research question and residents were excluded from the thesis sample. Early career family physician data was supplemented with interviews with family medicine residency administrators, who would be able to speak more to the influence of provincial policy on family medicine careers. The inclusion of two perspectives helped develop a more nuanced, holistic snapshot of the factors affecting family medicine resident career choice in the Ontario context.

3.3 Justification for Qualitative Methods

I applied qualitative methods to develop an understanding of the factors influencing early career physicians' career choices. I obtained permission to analyze interviews conducted by an interviewer from the cross-provincial study. In addition to this existing interview data with family physicians, I conducted semi-structured interviews with family medicine residency administrators. For both populations, I performed thematic analysis as described by Braun and Clarke (60). This approach was well suited to capture nuanced details that may have arisen from the complex array of factors driving career decisions. Using the STF, thematic analysis allowed for a deductive approach using micro- and macro-level factors from the framework as well as the inductive addition of any factors that were not captured in the framework. Qualitative analysis was chosen over the quantitative methods in order to reflect the richness

of detail that describes family physicians' careers and how they are influenced by the factors that may affect their careers.

3.4 Data Collection

Data was collected using semi-structured interviews, which allowed for a series of open-ended questions and prompts to be posed (61,62). Responses, while open, were therefore comparable between all interviews since they addressed the same topics. While structured interviews may have provided even more comparable data, they would intrinsically limit the effectiveness of thematic analysis as responses are tightly controlled (62). Interviews were conducted by telephone and audio recorded. Recordings of interviews with family physicians were transcribed verbatim by a professional transcriptionist and recordings of the interviews with administrators were transcribed by myself.

For this thesis, early career family physicians were defined as family physicians who had graduated from residency within the last ten years. They were recruited using posts on social media, including posts on Twitter and in early-career family physician Facebook groups, and Ontario medical schools were asked to share an invitation to participate in the study with their alumni listservs (where available). Interested physicians were asked to complete a screening survey on their location of practice, practice type, and years since residency. Participants were selected from this sample to reflect as much diversity as possible, stopping once the broader study team felt that thematic saturation was reached (i.e., no new ideas were emerging from subsequent interviews). A total of twenty early career family physicians were interviewed in Ontario.

Interviews were conducted by phone by a research associate from the broader study and transcribed by a professional transcriber. The interview guide for early career family physicians consisted of four sections: a description of goals for future practice, personal priorities, past experiences, and practice opportunities (including perceived influence of policy on practice) (See Appendix A for the interview guide). Family medicine administrators were defined as any staff member working within a family medicine residency

program involved with program management, including teaching and training of residents. Administrators were recruited using self-selection sampling. An email was sent introducing the study to key contacts within each medical school (either professional connections of the broader study team or a general email address listed on the program website). Two administrators from each residency program were invited to participate for a maximum sample size of twelve. This sample size was selected as a baseline to achieve thematic saturation (63). Thematic saturation for this thesis was defined as the point at which no additional themes could be identified from new data being analyzed (63). At this point, further data collection would not contribute to the pool of knowledge. Thematic saturation was achieved for both populations in this thesis. A total of fourteen administrators were invited to participate in an interview, with seven administrators participating.

I conducted and transcribed the interviews with family medicine administrators using an interview guide modeled after the interview guide for early career family physicians. (Appendix B). Sections consisted of a description of their medical residency program, the role of their institution, and the perceived effects of policy and other factors on their residents' career choices. The questions were considered a guideline and I deviated from them where necessary. To ensure consistency between both data sets, I listened to the audio recordings of interviews with early career family physicians prior to conducting my own in order to emulate their interview style.

3.5 Thematic Analysis

I used thematic analysis as described by Braun and Clarke (2006) to analyze the transcripts. Braun and Clarke argue that this approach can provide a rich, detailed account of the data while being applicable to many disciplines (60). They described two distinct approaches to thematic analysis: theoretical thematic analysis and inductive thematic analysis. A mixture of both was employed for this thesis; interviews were first inductively coded, then themes were identified and categorized using the STF factors. The macro- and micro-level factors from the STF served as deductive categories for this analysis step.

To analyze the data, I read the transcripts in detail and took reflective notes before coding. I began with the early career family physicians' data set, which was mostly completed before analysis of the administrators began. The first three early career family physicians' interviews were inductively coded, independently by myself and my thesis supervisor to compare codes and resolve discrepancies. Using these codes, a codebook was created and organized in a grandparent (first order)-parent (second order)-child (third order) code table. Subsequent interviews were coded, including the first three, in NVivo (QSR International, Doncaster, Australia) to help organize text by code. A similar process was carried out for the administrators' interviews; two interviews were coded independently and compared for discrepancies. The codes found were also organized into a grandparent-parent-child table. The family physician final codebook contained seven grandparent codes, 30 parent codes, and 10 child codes, totalling 47 codes (Appendix C). The administrators' final codebook contained six grandparent codes, 16 parent codes, and six child codes, totalling 33 codes (Appendix D).

Following the initial coding, thematic analysis began. Codes were sorted and grouped into themes. These included "perceptions of payment and practice models," "work-life balance," and "gender roles." These were considered inductive themes. They were then associated and linked to deductive macro- and micro-level factors from the STF where possible. Some inductive themes that did not adhere to any STF factors were considered distinct factors that did not directly fit into the framework. Related themes were grouped together under larger umbrella themes as analysis continued. A thematic map was created to visualize the relationships between ideas. Once all codes were sorted into themes, each theme was reviewed to ensure that the codes fit accordingly. The research questions were used to determine the relevance of each theme found in the data. Irrelevant themes were removed. While the steps were described sequentially, analysis in practice was more iterative as the steps all blended together.

Chapter 4: Results

Twenty early-career family physicians and seven administrators were interviewed for this study. Thematic analysis revealed several themes which I elaborate on in this section, presented by type of participant. The STF factors were used to organize the results. I identified 18 broader themes in the physician data and nine in the administrator data.

I will start by presenting an overview of physician participants' current practice before outlining the factors that shaped their choice of compensation and practice model. I then present results to answer the sub-question, "How do early career family physicians perceive the availability of practice models in Ontario?" The second part of this chapter shares results of interviews with residency administrators, shedding light on how residency influences early career family physicians' choice of practice and payment models.

In **Table 2**, I present a comparison of themes organized by the macro- and micro-level STF factors. The factors and corresponding themes are presented in side-by-side columns. Only the STF factors matched to themes were presented in this table. Flexibility and financial considerations presented as inductive themes but did not fit into Patton and McMahon's STF. As such, they were considered unique factors to this thesis.

Table 2. Factors from the STF and their corresponding themes

	STF Factors	Corresponding Theme
Micro-level	Gender	Gender
	Health	Work-Life Balance
	Interests	Advocacy, Other
	World of Work Knowledge	Perceptions of Payment and Practice Models
Macro-level	Educational Institutions	Education and Training
	Geographical Location	Location
	Peers	Teamwork/Practice Structure
	Historical Trends	Government Policies
	Family	Family
	Community Groups	Populating a Practice
	Workplace	Compensation, Practice Setting, Schedule of Practice
	Employment Market	Practice Models
Unique Factors		Flexibility
		Financial Considerations

4.1 Early Career Family Physicians

In this section, I provide an overview of the results of the interviews with early career family physicians. Five participants had completed their residency less than three years ago, seven within three to four years, and six more than four years ago. Of these 20 early career family physicians, five were trained outside of Ontario but chose to practice in the province. For more demographic information, see **Table 3**. Some participants spanned multiple categories and so the total does not add up to 20 in all cases.

Table 3. – Demographic information of family medicine graduate participants

Participants (n=20)	
Gender	n
Male	8
Female	11
Undisclosed	1
Relationship Status	
Single	9
Partnered	10
Undisclosed	1
Location of Medical School	
Canadian medical graduate	13
International medical graduate	7
Years Since Residency	
< 3 years since residency	7
3-4 years since residency	10
4+ years since residency	3
Practice	
Single practice	9
Multiple practices	11
Types of Practice	
Solo practice	4
Group practice	13
Interprofessional	10
Other	7
Payment	
Single payment model	5
Multiple payment models	15
Payment Models	
Fee-for-Service	14
Salary	6
Capitation	5
Sessional/per diem/hourly	9
Service Contract	4
Blended	5

4.1.1 Overview of Early Career Physicians' Current Practice

This section provides an overview of the early career family physicians' current practice. I present details on participants' practice structure, location, compensation, patient population, and work schedule to provide context to the factors that influence participant's career choices, including compensation and practice model.

Participants described working in three types of practice structures: solo, group, and interprofessional. Solo practice refers to physicians who worked alone while group practice indicates teams of physicians working in the same organization, either individually or collaboratively with other physicians. Interprofessional practice refers to individuals or groups of physicians working collaboratively with allied health professionals. Other practice structures included locums (in which case the type of practice is dependent on the placement), focused practice, and hospitalist work. The majority of participants reported working in group or interprofessional practices, with only 4 working as solo practitioners.

Location was another aspect that varied. Most participants worked in either rural or urban areas while one participant worked in a remote area. Most felt that the ability to choose their practice location was very important.

About half of the participants reported having multiple jobs or contracts as family physicians. These jobs crossed payment and practice models. As a result, their income included combinations of fee-for-service, blended capitation, stipend, and/or salary. This is reflected in how one participant spoke to their own unique mix of payment models from working in two emergency departments:

> "So for the emergency department, the department that I'm in most constantly, that's an alternative funding arrangement with the Government of Ontario. So it's a stipend. […] And then I receive a percentage of my billings as well. Any type of clinical work that I do on the floor, either for unstable inpatients or neonates, are fee-for-service. Within the other emergency

department where I work, it's a bit of a blend because there's a high proportion of Quebec patients. And so the Quebec patients are fee-for-service." – Early Career Physician (ECP) 5

The remaining half of participants worked in a single setting, including hospital, clinic, and in one case, telemedicine. One participant had participated in a start-up business venture since their clinic had formed a partnership with a third party, providing after-hours virtual care through their product.

Participants' practice populations varied depending on how they practiced. While some participants used word of mouth to populate their practice, others had "inherited" a pre-existing practice, as described below:

> "So I took over a practice of about 1,400 patients. […] From year to year it might vary anywhere from 1,200 to 1,400 patients or so. But it is a bit of an older practice, a mature practice, because the retiring physician had been in that location for the past 20 to 30 years, since the early '90s actually." – ECP3

Many participants described the enjoyment they gleaned from serving their patient populations. This included a general population of all ages or more specific subpopulations such as seniors or marginalized populations.

Participants commonly reported that their daily schedule varied. This was attributed to the diversity of jobs and in one case, locuming. One participant took on multiple locums, which diversified their schedule. In contrast, some other participants chose to work regular, 8-hour-day schedules. One participant shared that, given their hectic work schedule, they worked nearly 80 hours per week:

> "So in clinic… averages to 80 hours. That's mostly because of the hospital… I do not work on Mondays. I could be post-call from the hospital on Mondays. So Tuesdays I do 8 patient hours with a one hour lunch. […] Wednesdays I do 6 patient hours. […] Thursday, 5. And Friday, 5. So that's nowhere near 40. But I usually do 1 to 2 hours of charting as well." – ECP4

4.1.2: Payment and Practice Models

In this section, I present the factors influencing participants' choice of practice and payment models, thus answering the first research question: "What factors shape family physician choice of practice and compensation models in Ontario?" In addition, the perceptions of these models are presented to answer the sub-question, "How do early career family physicians perceive the availability of practice and compensation models in Ontario?" The macro-level factors pertinent to the discussion of payment and practice models were 'employment market' and 'family'. Two micro-level factors were present: 'health' and 'world of work knowledge'. Thirdly, a unique theme, 'financial considerations', was found. 'Flexibility' as a theme was closely related to all of these factors thus it was not presented as a distinct theme but is woven throughout.

Payment Model Choice

Some participants stated that they were drawn to capitation-based payment models as they felt that these models enabled better care for patients in contrast to fee-for-service. They felt that not being paid per patient reduced the need to see more patients per day to earn enough money. As a result, they held longer appointments with patients and were able to address multiple problems in a single visit. This notion of flexibility was frequently mentioned by participants working in a capitation-based model.

> "I might not see as many people but I spend the time that it takes to address what their health needs are at that visit. And I may get through sometimes many issues, like 5 or 6 issues. Now, if I were in a purely fee-for-service kind of plan where you're paid roughly $30 or $40 for a visit with a patient then that wouldn't be a realistic goal. […] It's crazy to think that, you know, you would see them today for their high blood pressure, and a week from now for their kidney disease, for example. Because they're both so closely related and intertwined, you have to manage them both at the same time." – ECP3

In contrast to the perception of increased flexibility with capitation-based pay, one participant felt that fee-for-service allowed them to better control their practice and income. This aspect of control was

financially motivated rather than patient-driven. The participant felt that due to government restrictions on OHIP billing, fee-for-service afforded better control of their practice.

> "You know, I've watched sort of the OHIP cuts and sort of the sways in healthcare funding, and really being at the whim of the government when it comes to how physicians are remunerated. And so you know, unfortunately part of the reason why I decided to go into primarily a private practice was the ability to control how much revenue that you make. […] And seeing all the cuts and things happen from the Family Health Teams, and really not being able to do much about it as a solo practitioner, other than lobby the government and hope for the best." – ECP6

When asked about how financial considerations have influenced their career choices, some physicians said that they did not given that their income was very good as a physician. Doctors do not struggle financially, these participants argued. They acknowledged, however, that specialists were paid more. Instead of prioritizing compensation, these physicians felt it was more important to find a job that was meaningful to them, which often meant working with their populations or fields of interest (e.g., addictions and mental health). This is demonstrated in the following quote:

> "You know what, I try to do what's meaningful for me regardless of the finances. Either way, regardless of which family medicine job I was going to take, I would be fine financially even living in [a major metropolitan area]. So I really didn't look at money as a main motivator for which practice I chose to join or which group I chose to belong to." – ECP12

Family influences were sometimes related to financial considerations and choice of payment model. For example, one participant felt that as a single person without children or mortgage, there was no pressing need to pursue a high-paying job after residency. Instead, they had flexibility with how they practice medicine, as well as the ability to pursue other non-medical interests.

> "Again, I have no child. And up until very recently, I had no mortgage. So I was more free to choose […]as opposed to I need to go for the highest paying job immediately. So I would say it

hasn't probably influenced my choices that much compared to other people who have more financial obligations." – ECP2

Payment inequity between compensation models was commonly noted by participants. As family physicians, they felt that payment models created payment inequity for doing the same job. From a systems perspective, one participant had felt that having multiple practice models did not make sense:

> "I've had exposure to all sorts of different funding models, payment models. And the current system is terrible. It's incredibly fractured. And I don't think it does a service to anybody. I mean if you're working in a Family Health Organization, you get paid 30% more for the same work on average. […] It would be unwise of me to do anything other than a Family Health Organization." – ECP13

A balance between family life and professional life was another important consideration to many participants. For some, the ability to choose a practice closer to their loved ones held more importance than lucrative opportunities in payment models available further away from home. Participants with families felt that their partners' careers had been an influencing factor when choosing how and where to practice.

> "So definitely this practice and choosing this practice, it being geographically close to where my wife works, has been very important from that aspect. […] Because I do have a family. Having a degree of balance with your personal life is very important as well." – ECP3

Practice Model Choice

Participants in the CHC model (n=2) spoke strongly to the importance of a work-life balance and argued that CHCs' regular '9:00-5:00' work hours enabled that. The structured schedule allowed participants free time to see friends, family, and pursue other activities (for example, advocacy and volunteering).

> "It gives me time to spend with other people. Honestly, that one year that I was at a FHO […] And it was my first year of practice too. So I was learning a lot. But I was bringing home work all the time. […] I had very limited time to spend with friends and family. […] And so in terms of what I've chosen to do now in the CHC model, it really […] I think that choice has made me so that I can spend time with people I love and volunteer." – ECP15

Another factor affecting practice model choice was maternity leave. Some female participants shared that they had decreased their work hours or scope of practice to balance their role in childbearing and parenting. For these participants, they felt that they could not take on work in practice models that required more availability after hours while their focus was on their children and family. This sentiment was echoed by some male participants who agreed that the role of women as mothers presented some challenges with respect to their careers in family medicine. One participant felt that it was difficult to work in a subspecialty like obstetrics due to the expectation of high availability:

> "I was reluctant to take over a practice, like a huge practice, because I felt I didn't really want to do that when my child was still young. So that did influence it quite a bit. Yeah, the childcare needs, we have a lot of support. And that's the only way we can make it work. But when doing obstetrics, you know, in the soft call system where you can be called any time from home, you really need to have all of the supports available. You know, to be able to drop off kids at a minute's notice." – ECP14

While males were not affected by maternity leave, their careers were certainly influenced by their gender. Two male participants had felt that it was more difficult for them to enter traditionally female-oriented subspecialties like women's health and obstetrics.

> "Yes. Because it was very hard trying to get involved in obstetrics as a male. There's a lot of institutional inertia against men in that. […] I worked with one family doctor who did her own deliveries. And she didn't call me for the first few deliveries because she thought I wasn't truly

interested in it because I was a guy. And only believed me when I showed up sick as a dog and said yes, please call me, I would like to do it, this is why I'm here. I've had a lot of trouble with that." – ECP13

The challenges presented by gender roles appeared to stem from patients as well. One female participant spoke about her own safety considerations when working with at-risk populations due to her gender. She also faced challenges when working in a hospital setting, where her patients did not realize or believe that she was their physician. She felt that she needed to work harder than her colleagues to earn her patients' respect because of her ethnic background and gender.

"Like the feeling is just that, you know, I just have to work harder and be like a thousand times better doctor than [patients] would expect. […] I have to earn their approval because I'm a small minority female. And like I'm very good at my job. I can say that with confidence. I know I'm actually an excellent doctor. I go the extra mile for all my patients. And so like none of them have had a problem with me, you know, after they get to know me." – ECP2

4.1.3: Perceptions of Practice Options and the External Environment

The perceptions of the availability of practice options for early career family physicians, namely payment and practice models, were largely impacted by government policies. The following macro-level factors were linked to this discussion: 'employment market,' 'workplace,' and 'historical trends.'

In recent years, the government made policy changes which led to participants perceiving an increased difficulty in attaining their desired practice and compensation models. From their perspective, the actions of the government went against the interest of physicians and healthcare in favour of budget cuts. Some felt that the government showed less interest towards vulnerable populations by removing funding from programs oriented towards these populations. One example was the abolishment of an amalgamated primary care and addictions medicine CHC.

Some participants expressed concern that the government would further restrict practice models in the future. Others found that current regulations were already too restrictive, especially the ability to enter focused practice and capitation-based models. The very limited entry to capitation-based models outside of rural settings directly affected how one participant's choice of practice:

> "Six months after I graduated, a change happened where they cut entry unless you were in a kind of high needs rural community. For me one of the barriers to working in a high needs rural community was driving in the winter. Like living in London […] If I was going to live with my husband but commute to a rural community, I'd be facing really bad road conditions in the winter. And I didn't want to jeopardize my safety. […] So that left me with working in a city for the most part […] left me in a place where I didn't have available entry into a model that was capitation-based." – ECP17

In addition to experiencing restrictive policies, some participants felt that the role of family physicians was being reduced. Specifically, they felt that the expansion of nurses' scope of practice degraded the value of a family physician. Nurses were considered a cheaper alternative to family physicians; as a result, participants perceived funding may have been diverted from family physicians.

> "The family physician specialty in general is losing its luster, and a lot of physicians and new grads are going away from it. That is basically because of lack of respect and the erosion of actual family medicine role in healthcare and being replaced by nurses and nurse practitioners. And correspondingly, like less financial resources as well." – ECP7

4.2: Administrators

Seven family medicine residency program administrators participated in this study. Five out of the six Ontario family medicine residency programs are represented in this sample population. While some participants worked for the same institution, all participants were interviewed individually. In the STF, the administrators represented the gatekeepers to graduating early-career family physicians. Thus,

they were not directly presented in the theoretical framework. In the following section, I provide an overview of the family medicine residency programs as context, followed by the administrator perspective on how residency influences family physician practice choices.

4.2.1: Overview of the Residency Programs

Program Goals

All participants stated that their residency programs set forth a common, primary goal: to graduate clinically competent family physicians able to practice anywhere in Canada. Some participants spoke to other goals specific to their institutions. For example, one participant stated that their institution's secondary goal was to promote enhanced skill competencies.

> "Well, enhanced skill is a college goal as well. Giving people added competency or enhanced competencies in particular areas. And not everybody will choose to do that and there's not enough funded spots to meet the demand. Emergency medicine is probably the most popular […]" – Administrator (hereon abbreviated as 'A') 3

Other goals stated by participants included connecting residents to practice opportunities and preceptors, developing leadership skills, and promoting resident wellness. One participant from the Northern Ontario School of Medicine spoke to a social accountability mandate where the institution made efforts to represent and respect Indigenous, First Nations, and francophone populations.

Resident Training Practice Model

All participants stated that residents were trained in a single, team-based environment throughout residency. They felt that an emphasis on teamwork was among the most important aspects of their respective programs and acknowledged that residents may have limited knowledge of other practice models. It was more valuable, they argued, that residents trained in a single practice model than try various practice models to ensure continuity in training. One participant shared that for residents to be

accredited, residents needed to be trained in a teamwork-based environment. As a result, solo practice was not represented in the residency programs.

> "There's primarily going to be one model. So they're going to be in one particular primary site. The trade off is always going to be between continuity versus variety. So the continuity – the variety of settings is important when it comes to career choice. The continuity on the other hand is much more important when it comes to training. It is one of our accreditation requirements, that continuity of care." – A2

Rural Emphasis

Emphasis on rural practice varied with each program and the discussion on family physician retention in rural areas was subject to debate. Two participants felt that early career family physicians tended towards group practices in rural areas. In contrast, participants from historically rural-oriented institutions felt that fewer early career family physicians went out to establish practice in rural areas.

> "Our focus is definitely trying to get people to work in more rural areas […] and yet we do tend to attract people who want to train – to be blunt, we attract a lot of people from Vancouver, the GTA, in particular who are looking for looking for a little adventure […] and then head back to their larger areas to practice. […]" – A7

Participants from a third institution spoke to how their residents must complete a two-month placement in a rural practice. Other participants did not directly speak to a rural emphasis; however, they did have some rural sites affiliated with their institutions.

Professional Development

Family medicine residency programs also included professional development, specifically training on the business aspect of operating a practice. All participants spoke to formal sessions in their programs where residents are educated about practice management. This often takes the form of workshops once or twice a year, covering billing, how to operate a practice, and the general transition into

practice. One participant felt that their program took actions to provide education where gaps were present based on resident feedback:

> "We're getting more and more requests from our resident groups to have more practice management sessions and helping our residents not just transition to practice but transition into residency during residency and transition to practice" – A4

While all institutions provided practice management sessions, some challenges persisted. One participant felt that residents were not well prepared from these sessions since family medicine training emphasized team-based training while the policy landscape did not necessarily enable that model of care. Another participant noted that while residents may have been exposed to practice management early on, they focused on developing clinical competencies and did not feel it was an important topic until they were close to graduating.

4.2.2 Government Policies and the External Environment

The following section describes how administrators perceived the current government policies and the healthcare environment. Their perspectives provided another level of nuance when discussing the perception of availability of practice and compensation models.

Changes to Family Medicine

Several aspects of family medicine have changed over time including interest in family medicine, the general culture within family medicine, the increasingly complex, patient population, and health policies. With respect to the profession itself, the perception of interest in family medicine varied between participants. One participant felt that interest had increased due to medical school students being exposed to family medicine early on. In contrast, another participant from the same institution felt the opposite: owing to the prevalence of the 'hidden curriculum', interest in family medicine has decreased.

> "So this is really just speaking anecdotally because I don't have the numbers to back it up here. […] I would say that overall, the interest in family medicine has decreased. And this is probably

more likely due to the hidden curriculum. The hidden curriculum being that of what are people saying and thinking about family medicine." – A2

The difficulty of family medicine itself has changed over time as well. Some participants noted that with the increasingly complex patient population, family medicine had become more demanding. These participants felt that the difficulty of being a family physician today was well known and may be a deterrent for potential residents.

> "[…] in my opinion, because of that type of care that people are going to need to do and become experts at, they may stay away from family medicine because it's going to be quite difficult providing care with complex patients with limited resources, lack of support, constraints in our medical system and funding cuts is going to make it difficult. […] I think family medicine is going to get more difficult dealing with complexity, chronic disease, mental health, and marginalized populations. I think those are all on the rise." – A3

The Availability of Practice and Compensation Models

The government's role in the availability of practice and compensation models was a source of contention among administrators. Most participants spoke of the Ontario government limiting entry into capitation-based models, specifically FHOs. This policy had restricted entry by designating regions as high demand or low demand. One participant noted that, while high demand regions usually corresponded with rural areas, the government's definition seemed inconsistent. The same participant felt that limited entry into these capitation-based models was due to the high physician cost required to maintain them.

> "[…] people who were in Family Health Organizations at least in Ontario saw their salaries go up quite a bit whereas fee-for-service didn't see the same types of incentives and I think that's why the government is limiting entrance into those types of financial agreements." – A1

Due to the restrictions to entry in capitation-based models, the OMA began to lobby against the government. Several participants noted that the physician voice has had little impact on the government's

stance regarding capitation-based models. As a result, they felt that family medicine residents witnessing these challenges may feel powerless against the policy changes. One participant strongly felt that it was unfair to residents that senior family physicians were selling their practice or spot in a capitation-based model at a premium.

> "[There are] less opportunities to have a Family Health Organization spot or if they do they have to buy it which they find blatantly unfair because the physicians who had those were granted those Family Health Organization spots and are now selling it for a profit, let's say. […] so they feel put upon by the way the government has structured and the senior doctors have structured the situation so it's unfair to them." – A5

To some administrators, capitation-based models were a better form of healthcare delivery as they implied a team-based environment. Many participants felt that, given the current healthcare landscape, their respective residency programs did not truly prepare residents for the practice models available to them. Some participants felt that the predicament was unjust for residents:

> "It sucks to be trained in one area and one way of learning and not to get to practice in that way. To be trained in a Family Health Team and have all the supports of these allied healthcare professionals and to realize you can't work in the place that you trained. And I don't mean geographic place, I mean the environment of where you trained. I imagine it's pretty awful." – A1

In addition, residency experiences may not prepare residents for real practice, having been sheltered from paperwork or professional decision-making during training. One participant felt that some residents may have been sheltered from the full workload in practice.

"They're very protected during residency from a duty hours perspective, workload perspective. Although they would argue that they they're not. That's feedback we received from graduates and the more they get into practice, they're kind of like "oh wow this is way more work than I thought it was. There's nobody to come in post call" […]. So I think there's a very jarring reality check […]." – A7

When residents graduate from their family medicine programs, they are expected to go into the physician workforce. Most participants noted that their institutions did not collect information on the practice models chosen by their graduates. However, given the recent policy changes, the administrators expressed an interest in collecting this data. Of the institutions represented in the study population, only one school conducted exit surveys with their residents at the end of residency. Despite the seeming lack of data, many participants noted that most early career family physicians went into locums before settling into practice.

Administrators voiced some additional challenges that they perceived were felt by early career family physicians as they transitioned into practice. These included life responsibilities and medical school debt. They felt that not all residents had previously dealt with taxes, a mortgage, and family before residency. Given the stress of working as physicians, these additional responsibilities were thought to be potentially overwhelming. Medical school debt, participants felt, may have been a deterrent to pursuing solo practice since the model was (generally speaking) less lucrative.

> "I think it's less frequent that people go into solo practice now. It's just not as common. It's hard especially when you come out with more debt to actually go into business yourself is a bit of a challenge and people are used to training with other physicians so I think it's fairly rare that residents look for solo practice." – A1

This chapter presented the perceptions and views of early career physicians and administrators regarding practice and compensation models in Ontario. The next chapter will compare and contrast the two perspectives then compare the results with the literature.

Chapter 5: Discussion

In this chapter, I present a discussion of the results, compare the perspectives of the two participants, and compare the findings with existing literature.

5.1 A Systems Perspective

This thesis placed early career family physicians as the "individual" within the STF. Macro- and micro-level factors served as categories for the data analysis. The macro-level factors found were 'education institutions', 'geographical location', 'peers', 'historical trends', 'family', 'community groups', 'workplace', and 'employment market'. Some micro-level factors were found as well: 'gender', 'health', 'interests', and 'world of work knowledge'. Two new themes, categorized as unique themes, were found in the data: 'flexibility' and 'financial considerations'. Flexibility was strongly related to other macro- and micro-level factors including 'geographical location', 'workplace', 'employment market', and 'family' but did not fit into the STF on its own. Conversely, 'financial considerations' were distinct from all micro- and macro-level factors as they described the physicians' financial choices in relation to compensation models. This notion was not captured by the STF. As the degree of impact for each of these factors was not measured, the importance of each micro- and macro-level factor could not be assessed. In this thesis, government policies were interpreted as an external force acting on various micro- and macro-level factors. This notion is explained later in this chapter.

The STF described many factors that influence an early career family physician's career choices, however, not all macro- and micro-level factors were found in the data collected for this thesis. Two additional factors were identified in the data: 'financial considerations' and 'flexibility.' Factors such as 'socioeconomic status' and 'political decisions' were not found in the data. While 'socioeconomic status' may have been relevant to this thesis, it is possible that it was not a consideration given that the participants were all discussing a career reliant on advanced levels of education. In this thesis, the government's actions were closely related to both 'political decisions' and 'historical trends.' 'Political

decisions' may have been captured within 'historical trends' when participants spoke to the government's actions, thus it did not emerge as a distinct factor. 'Political decisions' may have also spoken to the government's past policy decisions, which emerged as 'historical trends' instead in the context of this thesis. Conversely, these factors may not have been sufficiently probed during data collection. Many micro-level factors were not found in the data: 'values', 'disability', 'personality', 'self-concept', 'ethnicity', 'sexual orientation', 'ability', 'skills', 'age', 'physical attributes', and 'aptitudes'. These may not have been relevant topics of discussion, where participants tended to focus on the professional aspect of their careers.

Given these differences between the factors presented in the original STF and the factors that emerged in the data from early career family physicians, I present an adapted model of the STF in **Figure 2.**

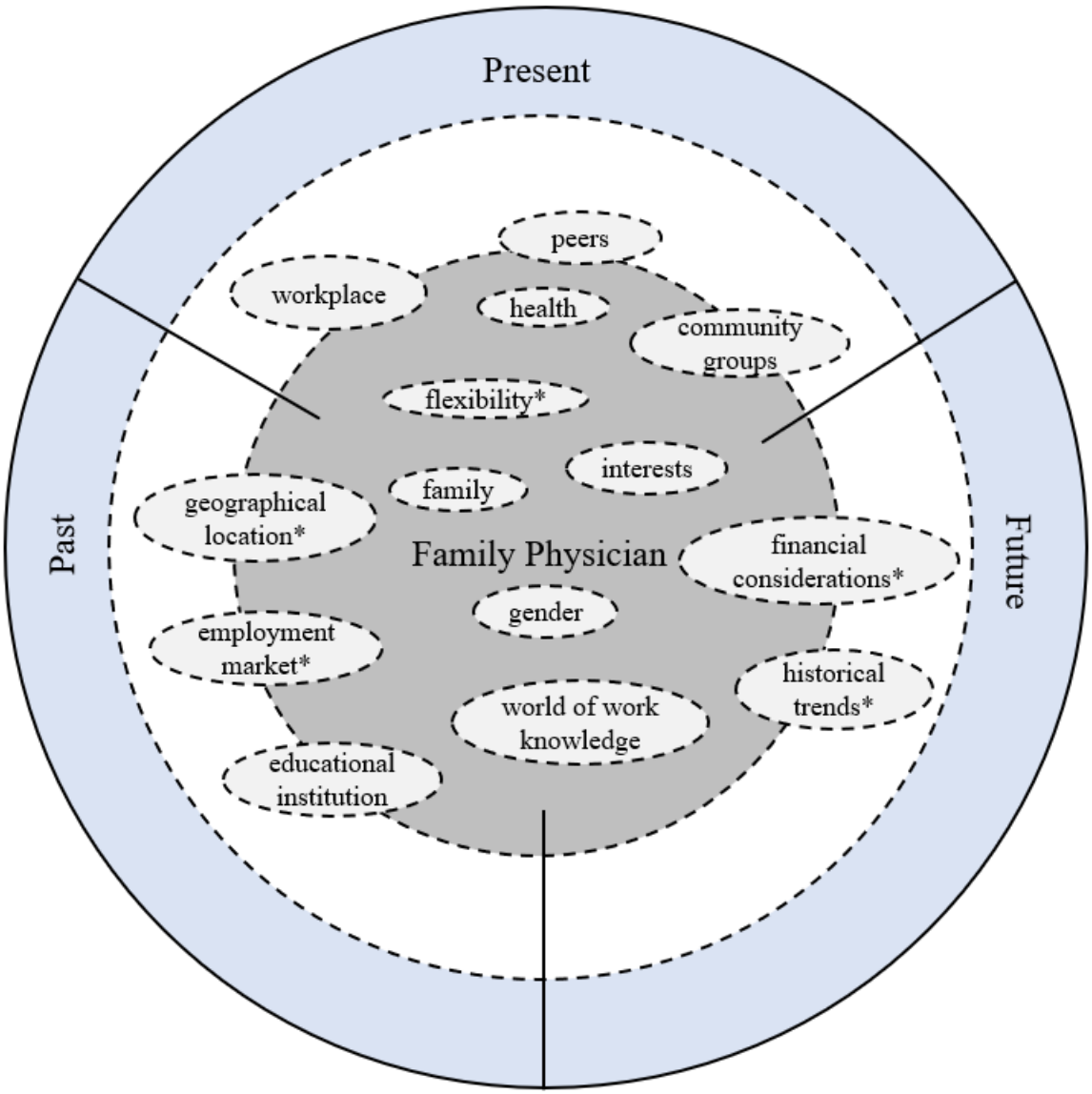

Figure 2. A Proposed Systems Theory Framework for Early Career Family Physicians in Ontario

This proposed STF model describes the factors that affect early career family physicians' career choices based on the results of this thesis. Micro- and macro-level factors are depicted within small light grey circles. The micro-level factors sit within the dark grey circle while macro-level factors cross the border between the larger, white and dark grey circles. The placement of macro-level factors at the intersection represents the interaction of these factors with the individual. The factors influenced by the government as an external force on the system were 'flexibility', 'financial considerations', 'historical

trends', 'employment market', and 'geographical location' as denoted by the asterisks. The factors are sorted by their temporal relevance (i.e. past, present, and future) and are visibly divided using the straight lines, however, these lines may be crossed as factors can affect career choices at differing times of a family physician's life. The dotted lines represented recursiveness (using the same definition as in **Figure 1)** as described by Patton and McMahon (53). As a system, the factors are dynamic and may interact with each other to drive family physician choice of practice and compensation model. The interaction between these factors is described below.

The factors affecting early career family physician choice of practice and compensation model acted as a system and as such, many factors were interrelated. 'Financial considerations', 'employment market,' 'family', and 'geographical location' are one example of linked factors. Some participants spoke to the importance of balancing family responsibilities with lucrative opportunities that may be located far away from where their spouses work. A second set of linked themes was health and flexibility. Participants who spoke to valuing a healthy work-life balance also spoke to the importance of working in a practice model that was flexible enough to allow them to pursue their other interests. A third relationship was found between 'gender' and 'employment market' (the availability of job opportunities), where the discussion of maternity leave directly affected work opportunities. As illustrated in the results, female participants felt it was more difficult to pursue certain models of practice due to raising their own families. 'Historical trends' and 'employment market' were deeply related as the policy changes by the government directly changed the availability of practice and compensation models. Finally, 'educational institution' was linked to 'world of work knowledge' and 'workplace,' given that residencies trained the family physicians for entry into primary care. These relationships illustrate the dynamic interaction of factors from the STF giving rise to decisions made by participants.

Several micro- and macro-level factors were related to or affected by government policies. These included 'geographical location', 'world of work knowledge', and 'employment market'. Financial considerations were affected as well. This indicated a large external factor shaping the early career family

physicians' careers. While 'historical trends' may have been closely linked to these factors, the government itself was the effector of policy changes and as such, it was considered an external force acting on the STF. Other external forces may also have held some influence on career choices but were not identified in the data. The discussion of government policies was always closely followed by the physicians' and administrators' perception of the healthcare landscape. Thus, the government's causal relationship influencing physicians' and administrators' views of the healthcare landscape further highlighted the importance of proposing an adapted STF for family physicians.

Patton and McMahon have applied the STF to conceptualize careers, re-contextualizing some micro- and macro-level factors depending on the career (54). Instead of using the STF model as presented in Chapter 2, re-contextualizing the model for family physicians incorporated specific macro- and micro-level factors to the career being studied. One example of this type of re-contextualization illustrated by Patton and McMahon was a school system that emphasized the importance of storytelling from the individual to develop the model (54). Storytelling allowed the re-contextualized STF to present context-specific micro-level factors while macro-level factors remained largely unchanged (54). The themes found in this thesis allowed for a similar approach using the perspectives gathered from early career family physicians and family medicine residency administrators. This re-contextualized version for family physicians be a starting point for understanding family physician career choice. It should be interpreted as a living model to which further data collection and analysis of family physician career choices (for example, using interviews with family physicians in other provinces or with family physician residents) may add new factors or provide more clarity on the relationships between existing factors.

5.2 Perceptions of Family Physicians

An analysis of the physician data showed that most of the early career physicians interviewed considered the following factors when choosing a practice or compensation model: 'financial considerations', 'family', 'health', 'gender', and 'geographical location'. Despite the common considerations, there was no consensus on a preferred practice or compensation model. Many contrasting

perspectives were present. Physicians working in capitation-based models argued that it enabled better care for patients since the structure did not pay per patient visit, allowing more time to be spent with each patient. On the other hand, one participant argued for the benefits of fee-for-service, as it allowed them to have more control over their practice and income. A third perspective described how CHCs enabled work-life balance and promoted better health whereas the previously discussed models had more hectic and irregular schedules. Location preference was closely related to family since a family physician's choice of practice model may be limited to a location due to their partner's job. This was consistent with similar findings by Lu et al. (2008) and Szafran et al. (2001), who identified spousal influence as an effector on location choice (36,64).

The current healthcare policy landscape has been a large source of contention for family physicians. Between 2015 and 2019, the Ontario Medical Association had not successfully negotiated a Physician Services Agreement with the Ontario government (65,66). While the new Physician Services Agreement was not discussed by participants, the effects of a lack of such an agreement from the 2015-2018 period were widely discussed by participants. Since 2015, funding for physician programs was cut and entry into capitation-based models was limited (51,67,68). Some participants expressed concerns for the restrictions on entry into capitation-based models, feeling that it was difficult for them to enter the health system. There was a negative perception of the government for appearing to work against the best interests of family physicians. Owens et al. (2018) a expressed a similar negative attitude towards the government in a commentary (69).

From a policy standpoint, some participants felt that payment inequity between payment models did not make sense. Regardless of payment model, these family physicians provide the same services to their patients. Some participants expressed that the more lucrative path was to pursue capitation-based pay. The inability to join these compensation models in urban areas due to Managed Entry caused some frustration for these early career physicians. Some commentaries by physicians have highlighted the same

frustrations towards the compensation model restrictions and funding cuts to family physician income as implemented by the government (48,69,70).

Gender roles presented barriers in family medicine as well. This factor was closely linked with family as the discussion on the role of women in family medicine was highly relevant. Female participants spoke to some hesitation about committing to a more demanding practice models since they needed to spend time taking care of their children. This indicated that women's gender roles still affected their professional career in family medicine in an important way. While this finding is not novel, it reaffirmed the large impact that gender has on family physicians' careers (71). A study conducted by Salles et al (2019) found that healthcare workers generally associated females with family medicine and males with specialties such as surgery (72). While women were associated with family medicine, the findings from this thesis indicate that there were still nuanced challenges even within family medicine, affecting women's choices of practice and compensation models.

5.3 Comparison with Administrators

While physician participants did not agree to a single practice or compensation model being the "best," administrators did. They all spoke to the desirability of team-based practice, which mostly corresponded to capitation-based pay, and indicated that the other models were less than optimal. The primary goal of their programs was to train clinically competent family physicians able to practice anywhere in Canada. Team-based, FHO-like models were emphasized as the ideal places to train residents, despite the government's restrictions on capitation-based models. Despite having been trained in team-based models during residency, 70% (n=14/20) of the interviewed early career physician participants worked in fee-for-service as a part of their compensation. Peckham et al (2018) similarly indicated that approximately 50% of Ontario physicians were compensated under fee-for-service (73). It is apparent that there was a disconnect between resident training and the healthcare landscape as

graduates were less likely or unable to pursue capitation-based models. In addition, the disconnect alluded to the government as an external force on early career family physicians' careers.

The gap in physician training was acknowledged by some administrators and physicians and was considered the result of policies put forth by the government. While common knowledge for many physicians and primary care researchers, it does not appear that this disconnect in resident training and the healthcare landscape has been explored in the literature. Many studies indicated the effectiveness of team-based care on health outcomes, but none as of yet have explored the inaccessibility of team-based care in the Ontario (74–76). Some attention has been devoted to addressing this gap within residency programs. One administrator spoke to professional development days where recently graduated alumni were invited to provide their perspectives on healthcare. These discussions between alumni and residents may have provided some valuable insight on recent health policies although the outcomes are currently unknown. The interaction with alumni was not described across all residency programs. Future research may be necessary to develop an understanding on how residents are educated on the healthcare landscape.

Rural emphasis was found in the administrator data but not in the family physician data. Some administrators spoke strongly to an emphasis on rural practice in their programs. Two administrators from rural-centric programs expressed confidence that graduates would tend towards group practices in rural settings. This finding was contrasted by a review by the College of Family Physicians Canada which indicated that group practices were fewer in number in rural areas (73). In addition, the physicians also expressed differing views from the administrators. Some acknowledged that location choice was important but ultimately emphasized that balance between their desired location and their spouses' careers (often in urban settings) was more important. One physician participant spoke to the availability of capitation-based payment models in rural areas but ultimately chose an alternative model to remain in an urban area. Rural emphasis may be a factor where residency administrators had little effect on the career choices of family physicians.

5.4 Strengths and Limitations

There were some limitations to this thesis. The first limitation was the incomplete representation of medical schools in this thesis. The sample population of administrators represented five out of six family medicine residency programs available in Ontario. While thematic saturation was achieved, the data itself was representative of the five residency programs rather than the entirety of residency programs available in Ontario. As employees of training institutions, it is possible that administrators held some inherent bias and shared views that were perhaps more positive than their real perceptions. However, the results did not show an overly 'rosy picture,' and instead highlight the concerns about alignment between training and the future work opportunities for family physicians.

Some limitations inherent to qualitative research were also present. The quality of research is largely dependent on the skill of the researcher (77). All interpretation of the data was performed by myself as the researcher, which may be influenced by personal biases and idiosyncrasies which cannot be removed from the analyses (78,79). However, several steps were taken to mitigate my personal biases in order to ensure rigour and quality of work. To start, I listened to audio recordings from the physician data (conducted by a professional research associate) to help emulate the professional style. Similarly, I read the transcripts of the physician data prior to transcribing administrator interviews to ensure consistency. Finally, much of the data was coded with the help of my supervisor to ensure rigour in analysis.

A strength of this thesis was the incorporation of two perspectives to provide richness in the data. The family medicine administrator perspective is rarely explored in the literature despite their role as gatekeepers to graduating upcoming generations of early career family physicians. Thus, this thesis provided a greater level of nuance by incorporating more perspective on family physician choice of practice model. Another strength, inherent to qualitative studies, was the use of semi-structured interviews, allowing participants to organically describe the issues relevant to their career choices while retaining similar response topics across all participants (77). Finally, the use of the STF was a strength for

this thesis, providing a systems perspective on the factors driving family physician career choices. While the STF did not provide insight on the interactions between factors, it presented the groundwork to visualizing factors that drove complex decision-making.

5.5 Policy Recommendations

The data from this thesis highlighted some challenges that may be addressed with policy changes. Government policies were found to have an effect on early-career physicians' career choices, as indicated by the adapted STF. In addition, current family medicine residency training programs emphasize team-based, interdisciplinary care (FHT-like) models. FHTs have been associated with improved health outcomes, which are currently indirectly restricted by Managed Entry in Ontario (43). In order to better train residents, it is necessary to ensure continuity between the training environment and real practice. As a result, I recommend that Managed Entry be adjusted to allow more family physicians into capitation-based models as a step forward to increasing accessibility to team-based, interprofessional care. An additional suggestion may be to address the final year of training for residents. Given residents' lower emphasis on professional development until nearing graduation, increasing the frequency of professional development days during the final year of residency may prove more beneficial.

Most administrators spoke to a lack of data regarding the practice and compensation models that their graduates pursue following residency. I recommend that residency programs collect quantitative data on their graduates' choice of practice and compensation model. Residency programs may be able to use this data to re-orient their training program goals and influence physician distribution.

5.6 Future Directions

This thesis was an exploratory study that highlighted several factors that drive family physician choice of practice model. In addition, I proposed an STF model that describes the interaction of these factors. Future directions may include in-depth studies assessing these individual factors as well as the complexity of interrelated factors to effect policy changes in the current healthcare landscape. One

previously unexplored gap in the literature was identified: family medicine residencies trained family physicians in team-based models, which are currently not largely available to graduating residents. Consolidation between the government's and family medicine residency goals is necessary to improve health outcomes in Ontario.

Conclusion

The goals of this thesis were to understand the factors influencing early career family physician choice of practice and compensation models and to understand their perception of practice and payment model availability. While no clear preference for a specific payment model was expressed by physicians, important challenges in the availability of team-based practice models were highlighted. Both micro- and macro-level factors were found to influence career choice, with an emphasis on the impact of policy decisions and a desire for flexibility. As reforms continue to shift the healthcare landscape in Ontario, I am hopeful that we will move towards a stronger healthcare system that adequately supports and compensates our primary care providers.

References

1. Hutchison B, Levesque JF, Strumpf E, Coyle N. Primary health care in Canada: Systems in motion. Milbank Q. 2011 Jun;89(2):256–88.

2. Canada Health Act [Internet]. R.S.C., 1985, c. C-6 1985. [cited 2019 Dec 21]. Available from: https://laws-lois.justice.gc.ca/eng/acts/C-6/page-1.html

3. Gervais L, Toner J, Bergeron O. The Aboriginal Health Legislation and Policy Framework in Canada. Public Health [Internet]. 2011 [cited 2019 Dec 20];35. Available from: http://www12.statcan.ca/english/census01/products/analytic/companion/abor/definitions.cfm

4. Health Canada G of C. Canada's Health Care System - Canada.ca [Internet]. Goverment Of Canada. 2018 [cited 2019 Dec 20]. Available from: https://www.canada.ca/en/health-canada/services/health-care-system/reports-publications/health-care-system/canada.html

5. Marchildon GP. Health Systems in Transition. Vol. 15, Canada Health system review. 2013.

6. Government of Ontario. Regulated Health Professions Act, 1991, S.O. 1991, c. 18 [Internet]. 1991 [cited 2019 Dec 19]. Available from: https://www.ontario.ca/laws/statute/91r18

7. Government of Ontario. Medicine Act, 1991, S.O. 1991, c. 30 [Internet]. www.ontario.ca. 2009 [cited 2019 Dec 19]. Available from: https://www.ontario.ca/laws/statute/91m30

8. CPSNS. The College of Physicians and Surgeons of Nova Scotia [Internet]. 2018 [cited 2019 Dec 20]. Available from: https://cpsns.ns.ca/

9. OMA. Ontario Medical Association [Internet]. 2019 [cited 2019 Dec 20]. Available from: https://www.oma.org/

10. Kaufman T. Canada's Health Care Providers [Internet]. 2010 [cited 2020 Sep 22]. Available from: https://secure.cihi.ca/free_products/hctenglish.pdf

11. Rosenblatt RA. Primary Care: Balancing Health Needs, Services, and Technology. JAMA J Am Med Assoc. 1999;282(5):492–492.

12. Starfield B, Shi L, Macinko J, Starfield B, Shi L, Macinko J. Contribution of Primary Care to Health Systems and Health. Milbank Q. 2005;83(3):457–502.

13. Canadian Institute for Health Information. Experiences With Primary Health Care in Canada [Internet]. 2009 [cited 2020 Jan 6]. Available from: https://secure.cihi.ca/free_products/cse_phc_aib_en.pdf

14. Statistics Canada. Access to health care services in Canada [Internet]. Statistics CanadaHealth Statistics Division. 2005 [cited 2020 Aug 9]. Available from: www.statcan.ca

15. Scott IM, Wright BJ, Brenneis FR, Gowans MC. Whether or wither some specialties: A survey of Canadian medical student career interest. BMC Med Educ [Internet]. 2009 [cited 2020 Aug 9];9(1):57. Available from: /pmc/articles/PMC2749833/?report=abstract

16. Evans R, McGrail K. Richard III, Barer-Stoddart and the Daughter of Time. Healthc Policy | Polit Santé. 2008;3(3):18–28.

17. George E. Fryer Jr, Walter Rosser, Robert L. Phillips Jr SP. The Canadian contribution to the US physician workforce. CMAJ. 2007;176(8):1083–7.

18. Wright B, Scott I, Woloschuk W, Brenneis F. Career choice of new medical students at three Canadian universities: Family medicine versus specialty medicine. CMAJ. 2004;170(13):1920–4.

19. Canadian Labour and Business Centre. Physician Workforce in Canada: Literature Review and Gap Analysis. 2003 [cited 2019 Dec 19]; Available from: https://www.hhr-rhs.ca/en/?option=com_mtree&task=att_download&link_id=4672&cf_id=68

20. Newton DA, Grayson MS, Page P. Trends in Career Choice by US Medical School Graduates. JAMA. 2015;290(9):1179–82.

21. Senf JH, Campos-Outcalt D, Kutob R. Factors related to the choice of family medicine: A reassessment and literature review. J Am Board Fam Pract. 2003;16(6):502–12.

22. Council GM. The state of medical education and practice in the UK. 2019 [cited 2020 Sep 21];142. Available from: https://www.gmc-uk.org/-/media/documents/the-state-of-medical-education-and-practice-in-the-uk---workforce-report_pdf-80449007.pdf

23. Tang B, Zhou LL, Koushan K. Physician workforce planning in Ontario must move from short-term reactivity to long-term proactivity. Can Med Educ J [Internet]. 2018 [cited 2019 Dec 20];9(2):e84–8. Available from: http://www.cmej.ca

24. Collier R. Family medicine again dominates unfilled positions in residency match. CMAJ. 2019 Mar 18;191(11):E322.

25. Phillips SP, Clarke M. More than an education: The hidden curriculum, professional attitudes and career choice. Med Educ. 2012;46(9):887–93.

26. Kahn MJ, Markert RJ, Lopez FA, Specter S, Randall H, Krane NK. Is medical student choice of a primary care residency influenced by debt? MedGenMed. 2006;8(4).

27. Norris TE. Education for rural practice: A saga of pipelines and plumbers. J Rural Heal. 2000 Jun;16(3):208–12.

28. Hunt DD, Scott C, Zhong S, Goldstein E. Frequency and Effect of Negative Comments ("Badmouthing") on Medical Students' Career Choices. Acad Med. 1996;71(6):665–9.

29. Erikson CE, Danish S, Jones KC, Sandberg SF, Carle AC. The role of medical school culture in primary care career choice. Acad Med. 2013;88(12):1919–26.

30. Spar IL, Pryor KC, Simon W. Effect of debt level on the residency preferences of graduating medical students. Acad Med. 1993;68(7):570–2.

31. Pisaniello MS, Asahina AT, Bacchi S, Wagner M, Perry SW, Wong ML, et al. Effect of medical student debt on mental health, academic performance and specialty choice: A systematic review. BMJ Open. 2019;9(7):29980.

32. Rosenblatt RA, Andrilla CHA. The impact of U.S. medical students' debt on their choice of primary care careers: An analysis of data from the 2002 Medical School Graduation Questionnaire. Acad Med. 2005;80(9):815–9.

33. Dunbabin JS, McEwin K, Cameron I. Postgraduate medical placements in rural areas: their impact on the rural medical workforce. Rural Remote Health. 2006;6(2):481.

34. Curran V, Rourke J. The role of medical education in the recruitment and retention of rural physicians. Med Teach. 2004 May;26(3):265–72.

35. Rourke JTB, Incitti F, Rourke LL, Kennard MA. Relationship between practice location of Ontario family physicians and their rural background or amount of rural medical education experience. Can J Rural Med. 2005;10(4):231–40.

36. Lu DJ, Hakes J, Bai M, Tolhurst H, Dickinson JA. Rural intentions: Factors affecting the career choices of family medicine graduates. Can Fam Physician. 2008 Jul;54(7):1016.

37. Departments of Family Medicine | Directories | The College of Family Physicians Canada [Internet]. [cited 2019 Dec 20]. Available from: https://www.cfpc.ca/deptfm/

38. College of Family Physicians of Canada. Defining the Three Cs of the Triple C Competency-based Curriculum [Internet]. 2011 [cited 2019 Dec 20]. Available from: https://portal.cfpc.ca/resourcesdocs/uploadedFiles/Education/_PDFs/WGCR_TripleC_Report_English_Final_18Mar11.pdf

39. Buchman S. It's about time: 3-year FM residency training. Can Fam Physician. 2012;58(9):1045–6.

40. Toth Z. Length of family medicine residency. Can Fam Physician. 2013;59(3):246–7.

41. Green M, Birtwhistle R, MacDonald K, Kane J, Schmelzle J. Practice patterns of graduates of 2- and 3-year family medicine programs: In Ontario, 1996 to 2004. Can Fam Physician. 2009;55(9).

42. Ontario Ministry of Health and Long-Term Care. Family Medicine Compensation and Practice Models in Ontario. 2017 [cited 2019 Dec 20];6. Available from: http://www.healthforceontario.ca/UserFiles/file/PracticeOntario/FM Compensation Practice Models EN.pdf

43. Gocan S, Laplante MA, Woodend K. Interprofessional Collaboration in Ontario's Family Health Teams: A Review of the Literature. J Res Interprof Pract Educ. 2014;3(3).

44. Rudoler D, Laporte A, Barnsley J, Glazier RH, Deber RB. Paying for primary care: A cross-sectional analysis of cost and morbidity distributions across primary care payment models in Ontario Canada. Soc Sci Med. 2015;124:18–28.

45. Rosser WW, Colwill JM, Jan K, Wilson L. Progress of Ontario's family health team model: A patient-centered medical home. Ann Fam Med. 2011;9(2):165–71.

46. McLeod L, Buckley G, Sweetman A. Ontario primary care models: a descriptive study. CMAJ Open. 2016 Nov 11;4(4):E679–88.

47. Sweetman A, Buckley G. ONTARIO'S EXPERIMENT WITH PRIMARY CARE REFORM † [Internet]. 2014 [cited 2021 Feb 15]. Available from: www.policyschool.ca

48. Harrison B, Guo M. 2015 Ontario Health Cut Backs: Overview and Specific Impact on Primary Care. Univ Ottawa J Med. 2015;5(1):1–5.

49. Ontario Ministry of Health and Long Term Care. 11125 - Posted Changes to Primary Health Care Physician Payments [Internet]. 2015 [cited 2019 Dec 20]. p. 3. Available from: http://www.health.gov.on.ca/en/pro/programs/ohip/bulletins/11000/bul11125.pdf

50. Ontario Ministry of Health and Long Term Care. 4654 - Supporting Areas of High Physician Need- Changes to Entry into FHO and FHNs - QnAs [Internet]. 2015 [cited 2019 Dec 20]. p. 8. Available from: http://www.health.gov.on.ca/en/pro/programs/ohip/bulletins/4000/bul4654_2.pdf

51. Ontario Ministry of Health and Long Term Care. 11147 - New Graduate Entry Program (NGEP) – Updated [Internet]. 2016 [cited 2019 Dec 20]. p. 9. Available from: http://www.health.gov.on.ca/en/pro/programs/ohip/bulletins/11000/bul11147.pdf

52. Ontario Ministry of Health and Long Term Care. Q&A : Understanding Family Health Teams - Family Health Teams - Ministry Programs - Health Care Professionals - MOHLTC [Internet]. Government of Ontario, Ministry of Health and Long-Term Care; 2019 [cited 2019 Dec 20]. Available from: http://www.health.gov.on.ca/en/pro/programs/fht/fht_understanding.aspx

53. Patton W, McMahon M. The systems theory framework of career development and counseling: Connecting theory and practice. Int J Adv Couns. 2006;28(2):153–66.

54. McMahon M, Watson M, Patton W. The Systems Theory Framework of career development: Applications to career counselling and career assessment. Aust J Career Dev. 2015 Oct 8;24(3):148–56.

55. Rubenstein-Montano B, Liebowitz J, Buchwalter J, McCaw D, Newman B, Rebeck K. A systems thinking framework for knowledge management. Decis Support Syst. 2001;31(1):5–16.

56. Hughes J. What is systems theory? [Internet]. Cambridge University Press. 1997 [cited 2019 Dec 20]. p. 11. Available from: http://pespmc1.vub.ac.be/SYSTHEOR.html

57. Patton W, McMahon M. A Systems Theory Framework of Career Development. In: Career Development and Systems Theory. 3rd ed. Sense Publisherse; 2014. p. 241–76.

58. Lavergne MR, Goldsmith LJ, Grudniewicz A, Rudoler D, Marshall EG, Ahuja M, et al. Practice patterns among early-career primary care (ECPC) physicians and workforce planning

implications: Protocol for a mixed methods study. BMJ Open. 2019 Sep 1;9(9):30477.

59. Kaushik V, Walsh CA. Pragmatism as a Research Paradigm and Its Implications for Social Work Research. Soc Sci. 2019;8:255.

60. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77–101.

61. Louise Barriball K, While A. Collecting data using a semi-structured interview: a discussion paper. J Adv Nurs. 1994 Feb;19(2):328–35.

62. Patton MQ. Chapter 7: Qualitative interviewing. In: Patton MQ, editor. Qualitative research & evaluation methods. 3rd ed. Thousand Oaks, Calif: Sage Publications; 2002. p. 339–428.

63. Ando H, Cousins R, Young C. Achieving Saturation in Thematic Analysis: Development and Refinement of a Codebook. Compr Psychol. 2014 Jan;3:03.CP.3.4.

64. Szafran O, Crutcher RA, Gordon Chaytors R. Location of family medicine graduates' practices. What factors influence Albertans' choices? Can Fam Physician. 2001;47:2279–85.

65. Boyle T. Doctors get new contract with province after 4-year battle | The Star. [cited 2020 Sep 8]; Available from: https://www.thestar.com/politics/provincial/2019/02/19/doctors-get-new-contract-with-province-after-4-year-battle.html

66. Canadian Press. Ontario doctors awarded new 4-year contract in arbitrated settlement. CBC News [Internet]. 2019 [cited 2020 Sep 8];np. Available from: https://www.cbc.ca/news/canada/toronto/ontario-doctors-awarded-new-contract-arbitrated-settlement-1.5025350

67. Ontario Ministry of Health and Long-Term Care. 11140 - Payment for Continuing Medical Education (CME) [Internet]. 2016 [cited 2020 Sep 7]. p. 2. Available from: http://www.health.gov.on.ca/en/pro/programs/ohip/bulletins/11000/bul11140.pdf

68. Ontario Ministry of Health and Long-Term Care. New Graduate Entry Program (NGEP) [Internet]. 2015. p. 6. Available from: http://www.health.gov.on.ca/en/pro/programs/ohip/bulletins/11000/bul11138.pdf

69. Owens B. Ontario doctors angry over government's proposal for primary care. Vol. 190, CMAJ. NLM (Medline); 2018. p. E1345–6.

70. DeVries M, Gravel J. Ontario doctors vs. the Ontario government: we need better - Healthy Debate [Internet]. [cited 2020 Sep 8]. Available from: https://healthydebate.ca/opinions/ontario-mds-vs-ontario-government-need-better

71. Bogler T, Lazare K, Rambihar V. Female family physicians and the first 5 years. Can Fam Physician. 2019;65(8):585–8.

72. Salles A, Awad M, Goldin L, Krus K, Lee JV, Schwabe MT, et al. Estimating Implicit and Explicit Gender Bias among Health Care Professionals and Surgeons. JAMA Netw Open. 2019 Jul 5;2(7):196545.

73. Peckham A, Ho J, Marchildon G. Rapid Review: Policy Innovations in Primary Care Across Canada. Toronto: North American Observatory. 2018.

74. Wagner EH, Flinter M, Hsu C, Cromp DA, Austin BT, Etz R, et al. Effective team-based primary care: observations from innovative practices. BMC Fam Pract. 2017;18(1):1–9.

75. Shellenberger S, Seale JP, Harris DL, Johnson JA, Dodrill CL, Velasquez MM. Applying team-based learning in primary care residency programs to increase patient alcohol screenings and brief interventions. Acad Med. 2009 Mar;84(3):340–6.

76. Brown KK, Master-Hunter TA, Cooke JM, Wimsatt LA, Green LA. Applying health information technology and team-based care to residency education. Fam Med. 2011;43(10):726–30.

77. Choy LT. The Strengths and Weaknesses of Research Methodology: Comparison and

Complimentary between Qualitative and Quantitative Approaches. IOSR J Humanit Soc Sci. 2014;19(4):99–104.

78. Anderson C. Presenting and evaluating qualitative research. Am J Pharm Educ. 2010;74(8).

79. 23 Advantages and Disadvantages of Qualitative Research – Vittana.org [Internet]. [cited 2020 Oct 20]. Available from: https://vittana.org/23-advantages-and-disadvantages-of-qualitative-research

Appendix A: Interview Guide - Early Career Family Physicians

Interview Guide: Early Career Family Physicians

Future Practice Description

1. How do you see your practice unfolding when you finish residency?

2. Long term, what you would like your practice to look like?

    - Where would you like to practice?
    - How would the practice be organized?
    - What types of providers would you like to work with and how?
    - Do you have a preferred compensation type?
    - What would you like your work week to look like?

3. Tell me about any particular clinical interests you have as a family physician.
    - Which patient populations you are interested in?
    - How do you hope to incorporate these interests into your practice?
    - Do you see this changing over time?

4. Have you had any experience in a practice like the one you described? What did you like and not like about it.

5. How do you see your practice changing over time?

    - If IMG with a return of service: how will your practice change after your return of service is satisfied?

    [If participant mentions "comprehensive" probe: what does comprehensive mean for you?]

Priorities

6. When you think about your career, what is most important to you?

7. In what ways, if any, do your personal priorities or goals influence your career plans?

    - How might your personal relationships influence your career plans?
    - How might parenthood or caregiving influence your career plans?
    - How might financial considerations influence your career plans?
    - How might your gender influence your career plans?
    - How might your other personal characteristics influence your career plans?

8. (if no exogenous factors emerge in Q 4, 5, 6) What kinds of other influences have you experienced or anticipate that may influence your practice changes over time?
        - E.g. Community, professional, regulatory influences

Past experiences

9. How did your medical school experience influence your career plans as a family physician? (*Re-direct away from responses about why family medicine was chosen as a specialty)*

- Positive or negative experiences?
- Did you have any experiences during medical school that stand out?
- Did any key people influence your plans?

10. How did your residency influence your career plans as a family physician?
    - Positive or negative experiences?
    - Did you have any experiences during your residency that stand out?
    - Did any key people influence your plans?

11. Tell me about your CaRMs experience.
    - Was family medicine your first choice?
    - Did you have to make trade-offs between specialty and location of residency?

12. Tell me about any other life experiences you've had that influence your career plans as a family physician.

Practice Opportunities

13. At the start of the interview, you told me what you would like your clinical practice to look like. Do you expect you will be able to achieve this ideal type of practice? Why/Why not?
    - Are opportunities available for this type of practice?
    - Are there restrictions or barriers to you having this ideal practice?
    - How will you populate your practice?
    - How do your gender or other personal characteristics impact your ability to achieve this type of practice?
14. In what ways, if any, do you anticipate provincial policies such as managed entry into team-based practices will affect your practice choices?

Wrap up

15. If you were mentoring a new family medicine resident, what advice would you give them about planning their career in family medicine?

16. Anything else that you think is important for me to know?

Appendix B: Interview Guide - Administrators

Interview Guide: Family Medicine Program Administrators

Medical Residency

1) Tell me about the goals of the family medicine residency program?

2) What role, if any, does the program play in supporting residents transitioning into practice?

3) Tell me about how different practice models are represented in your residence programs?
    a. Do all family medicine residents complete their residency in team-based practices?
    b. Are there any policies or restrictions in place that influence where family medicine residency completed?

The role of the institution on family medicine resident career choice:

4) Tell me about any strategies or supports that are in place to help graduating residents enter their desired practice model after residency?
    a. What are some barriers to these program strategies?
    b. Do physicians face these barriers as well?
    c. What are some enablers to these program strategies?
    d. Do physicians face these enablers as well?

5) How does the family medicine program measure a resident's competency?

The role of policy on family medicine resident career choice:

6) Tell me about any challenges that you know residents face when transitioning between residency and practice?
    a. To what extent do residents feel they have control over these factors?

7) What changes to practice structure, if any, have physicians experienced in recent years?
    a. Which practice structures appear to be preferred by residents transitioning into practice?
    b. Why are these types of models preferred by residents?
    c. How are residents educated or informed about these practice models?

8) What changes appear to affect availability of these practice models?

9) How do these policies affect choice of practice model, if at all?

10) What do you think are the strengths and weaknesses of [policy]?

The role of other factors on family medicine resident career choice:

11) How has the residents' perception on family medicine practice changed over the years, if at all?

12) What personal factors do residents consider when choosing a practice model?

13) In your opinion, what are factors outside policy, if any, that play a role in residents' choice of practice model?

14) How do you see this impacting the availability of primary care in Ontario?

15) How has incentivization by the government affected resident choice of practice?

Wrap up

16) This covers all the questions I wanted to ask. Would you like to add anything?

17) Do you have any questions for me?

Appendix C: Codebook for Early Career Family Physicians

Grandparent Code	Parent Code	Child Code
Characteristics of Practice: Descriptive features of the physician's current practice.	**Location of current practice:** The geographic location of the physician's current practice. Not to be confused with the location *influencing* where the physician chose to practice.	
	Schedule of current practice: The composition of a physician's weekly schedule.	
	Practice Structure: The organization of the physician's current practice (including practice type, hierarchy and actors involved).	
	Compensation of current practice: The payment model/structure that the physician's current practice adheres to.	
	Teamwork/Interprofessional Practice: Collaboration with other physicians and/or allied health professionals in current practice.	
	Population of current practice: The population that the physician works with at their current practice.	
Career and Practice Preferences: Aspects of practice that the physician desires.	**Work-life balance preferences:** The work-life balance ideal, based on personal preferences, as described by the physician.	
	Career interests: Interests that may drive the physician's practice preferences and/or choices.	**Intellectual drive:** The intellectual stimulation provided from the physician's job and/or current practice.
		Meaningful work: Alignment of practice with personal values of the physician and the value of

		work perceived by the physician.
		Population/disease of interest: The target population that the physician likes working with.
		Control: Capacity of the physician to control their practice, career and/or its trajectory.
		Flexibility: The physician's practice structure allowing for control where they focus their career.
		Medical/Practice Interests: Subspecialties in medicine that interest the physician.
		Variety in Practice Interests: The availability of diverse medical sub-specialities within the physician's practice (ex gynecology, addictions, sports medicine).
	Ideal practice: The perfect model of practice, regardless of availability of existing models, and conditions in which the physician would like to practice.	
	Location preferences: The geographical location preferred by the physician.	
	Teamwork/Interprofessional Practice Preferences: The desire to practice in a collaborative environment with other physicians and/or allied health professionals (but not with regard to teamwork in current practice).	
	Evolving Practice: Changes or additions to practice preferences, at	

	any point of their career, as described by the physician.	
	Research: Involvement with research (molecular medicine, translational medicine, healthcare research, etc).	
	Professional Finances: The financial effects on a physician's current practice.	
Personal: Personal aspects that may have affected the physician's career choices.	**Personal Interests:** Interests outside of medicine that may have shaped the physician's choice to pursue a specific career path.	**Advocacy:** Involvement of the physician in advocacy roles.
	Personal Experiences: Experiences specific to the physician that may have shaped their choice to pursue a specific career path.	**Gender:** The influence of gender on career path, preferences, and choices.
	Family Influence: Any form of relationships including partners, siblings, parents, grandparents, or other relatives that may have influenced choice of practice.	
	Financial Considerations: The financial effects on a physician's choice of practice.	
	Personal Safety Concerns: The influence of personal safety concerns on the physician's ability to practice specific types of medicine.	
Policy/Government and External Environment: Legislative, government or environmental structures that may have an effect on the current landscape of family medicine.	**Availability of Ideal Practice:** Availability and accessibility of practice models with respect to current financial and legislative mandates by the government.	
	Demand for Services: The effects of demand for physician services	

	affecting the physician's choice of practice.	
Early career experiences: The experiences of a physician following residency but before having established a practice (ie having "settled down").	**Locum:** Experiences of a physician in a locum setting.	
	Starting a Practice: Experiences of a physician in populating their practice.	
Training: Experiences during the training process for physicians including education, clinical experience, and continuing medical education.	**Pre-medical school experiences:** Experiences before medical school that may have influenced choice of practice	
	Medical school experiences: Experiences within medical school that may have influenced choice of practice.	**Perceptions of Family Medicine:** Perceptions of the physician, their peers or instructors on family medicine during medical school.
	CaRMS experiences: Experiences with the CARMs process that may have influenced choice of practice.	
	Residency Experiences: Experiences within residency that may have influenced choice of practice.	
	Additional Training: Experiences involving additional training that may have influenced choice of practice.	
	Skills for Practice: Skills obtained through various experiences that contribute to the physician's practice.	
	Mentor: The influence of a mentor figure (during medical school, residency, or afterwards) which may have influenced choice of practice.	
Miscellaneous: Other ideas that may appear relevant.		

Appendix D: Codebook for Family Medicine Residency Administrators

Grandparent Code	Parent Code	Child Code
Characteristics of Program: Descriptive features of the institution.	**Program Goals:** The goals of the family medicine residency program as described by the administrator.	**Tracking of Past Residents:** Tracking of residents in any form after completion of residency.
		Clinical Competencies: The development of residents' clinical competencies as a program goal.
		Comprehensive Care: The program's goal of training comprehensive family physicians.
	Rural Emphasis: The emphasis of rurally focused practice to residents throughout their training.	
	Professional Development: Education of residents on professional aspects of practice aside from clinical skills.	**Exposure to Practice/Compensation Models:** Education of residents on practice/payment models/structures available in the province.
	Teamwork/Interprofessional Practice Emphasis: Emphasis on resident training in collaborative environments with other physicians and/or allied health professionals.	
Residents' Training: The training process for residents including education, clinical experience, and continuing medical education.	**CaRMS Matching Experience:** Any processes describing how residents are matched with and within the institution, as described by the administrator.	
	Residency Experiences: Experiences, including practice/payment models, within residency that may have influenced residents' career path and choice of practice, as perceived by the administrator.	

	Additional Training: The availability of additional training for residents as described by the administrator.	
	Mentor: The availability of a mentor figure (during medical school, residency, or afterwards) to residents as described by the administrator.	
Medical school experiences: Experiences within medical school that may have influenced residents' career and choice of practice, as perceived by the administrator.	**Perceptions of Family Medicine:** Perceptions of family medicine as a profession within medical school that the administrator may be aware of.	
Career and Practice Trajectory: Interests that influence practice choices, from the administrator's perspective.	**Work-life balance preferences:** The residents' desire to achieve a work-life balance as described by the administrator.	
	Career interests: Interests that may drive the resident's practice preferences and/or choices, from the perspective of the administrator.	**Control:** The degree to which residents may be able to control their career path (available opportunities).
	Location: The geographical location where residents express interest for establishing their respective practices, from the administrator's perspective	
	Teamwork/Interprofessional Practice: The practice structure in which residents may practice as observed by the administrator.	
	Professional Challenges to Establish Practice: Professional barriers that may prevent residents from entering their desired practice model as perceived by the administrator.	
	Desired Model: The compensation or practice model desired by residents as perceived by the administrator.	
	Locum: The residents' desire to practice in locums, from the administrator's perspective.	
Personal: Personal aspects that may have affected the residents' career choices, from	**Family Influence:** Any form of relationships including partners, siblings, parents, grandparents, or	

the perspective of the administrators.	other relatives that may influenced choice of practice.	
	Financial Considerations: The financial implications of payment models, debt, and policy changes that may affect resident's choice of practice.	
External Environment: Legislative, government or environmental structures that may affect the current landscape of family medicine.	**Government Policies:** The effect of government policies on the availability of practice models in Ontario.	
	Availability of Practice/Payment Models: The availability of practice or payment models as described by the administrator.	
	Changes to Family Medicine: The changes to family medicine throughout the years in Ontario.	
Miscellaneous: Other ideas that may appear relevant.		