Prescribing opioid agonist treatment in primary care:

Narratives of primary care providers in Nova Scotia

by

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Dedication Page

I would like to dedicate this work to my brother Stephen, who will be forever missed. I would also like to dedicate this work to the thousands of other Canadians who died from an overdose and to their families who miss them.

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Abstract

Relatively little is known about the perspectives and experiences of physicians and nurse practitioners who prescribe opioid agonist treatment (OAT) in primary care. This qualitative study sought to understand the perspectives and experiences of providers prescribing OAT in Nova Scotia. Data were collected through eight one-on-one, semi-structured interviews. For this narrative inquiry, data were analyzed using paradigmatic analysis. Analysis identified key influences on the decision to prescribe OAT, such as an interest in prescribing OAT, a need for access to OAT, proximity to mentors, work expectations, and peer support. Participants described how they prepared to prescribe OAT, the positive aspects of prescribing, what made it difficult to prescribe and what facilitated OAT prescribing. Participants identified key recommendations to help support OAT prescribing, such as incorporating substance use education and training into medical and nursing curricula. Findings highlight some measures to help support prescribing OAT.

List of Abbreviations Used

AAFP	American Academy of Family Physicians
CAMH	Center for Addiction and Mental Health
CDC	Centers for Disease Control and Prevention
DNS	Doctors Nova Scotia
MSI	Medical Services Insurance
NSH	Nova Scotia Health
NSHA	Nova Scotia Health Authority
NSPMP	Nova Scotia Prescription Monitoring Program
OAT	Opioid agonist treatment
SAMHSA	Substance Abuse and Mental Health Services Administration

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Land Acknowledgment

I want to acknowledge that I live, work, play, and have conducted this research in Mi'kma'ki, the traditional and unceded territories of the Mi'kmaq. I recognize and appreciate the ancestral and continued ties of Indigenous Peoples to the lands and waters in the region known as Nova Scotia. I know that I cannot engage in the work of addressing health inequities without considering the ongoing and historical impact of colonialism and settler structure on the First Peoples. As a settler to Mi'kma'ki and a treaty person, I acknowledge my responsibilities under the Peace and Friendship Treaties and offer my gratitude for the practices of Indigenous peoples in their ongoing stewardship of the lands and waters we enjoy today.

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Chapter 1 – Introduction

Background

Opioid-related harms are a significant public health concern in Canada (Bates & Martin-Misener, 2021; Dooley et al., 2012; Ivsins et al., 2020). People who use substances, including opioids, experience poorer health outcomes and have an increased risk for morbidity and mortality than the general population (Hsu et al., 2019; Livingston, 2020; O'Toole et al., 2014). Currently, the increased risk from opioid use is primarily driven by a toxic supply of opioids in the illegal drug market (Bates & Martin-Misener, 2021; Lyden & Binswanger, 2019), criminalization of people who use substances (Cooper et al., 2005; Provincial Health Officer's Special Report, 2019) and stigma (Kelly et al., 2010; Livingston, 2020; Lyden & Binswanger, 2019; Parker et al., 2012). In Canada, opioids can be legally obtained and used with a prescription or illicitly obtained through illegal drug markets (CAMH, 2016; Rosenblum et al., 2008). Whether illicit opioid use or prescription opioid use, some people may develop an opioid addiction (Fischer et al., 2018; Rosenblum et al., 2008). Addiction is a primary chronic medical condition characterized by impaired control over drug use, compulsive use, continued use despite harm, and cravings (CAMH, 2016; Maté, 2014; Recovery Research Institute, n.d.). The term opioid use disorder is a medical diagnosis of an opioid addiction (American Psychiatric Association, 2013). For this thesis, the terms opioid addiction and opioid use disorder are used interchangeably.

Harm reduction services help to reduce the risk of harms that can occur with substance use issues and addiction (Harm Reduction International, 2022; Russel et al., 2021). Harm reduction is a pragmatic approach, where services are provided without judgment, 'meet people where they are at', and do not require abstinence to access treatment (Harm Reduction

International, 2022). Harm reduction services are critical to supporting the health and well-being of people who use substances. Harm reduction encompasses a range of services and has historically included such services as needle exchange programs, drug consumption sites, drug checking, and safe supply. Harm Reduction International also includes opioid agonist treatment (OAT) as a harm reduction service (Frank, 2020; Harm Reduction International, 2022; Russell et al., 2021).

OAT is a highly effective pharmacological treatment prescribed in Canada by a healthcare provider and helps to reduce the harms associated with opioid addiction (Government of Canada, 2022; Korownyk et al., 2019). People receiving treatment report improved mental and physical health and overall quality of life (Morozova et al., 2017). OAT has been found to reduce mortality (Amato et al., 2005; Hsu et al., 2019; Korownyk et al., 2019) and criminal activity related to substance use (Fischer et al., 2002). In a small qualitative study in Nova Scotia (Canada), youth using injection drugs reported that treatment with methadone, one of the medications used for OAT, helped them to re-establish family relationships, return to school, and focus on other areas of their life (Adamson et al., 2017). However, the accessibility of OAT is limited in many communities across North America, including the province of Nova Scotia, for reasons such as long waitlists, distance to programs or pharmacies where one can access OAT, as well as stigma and discrimination that can limit the accessibility of OAT (Atlantic COAST Study, 2021; Brooklyn & Sigmon, 2017; Dooley et al., 2012; Drucker et al., 2007; Fraser et al., n.d.).

OAT has been available in Canada since the 1970s through a variety of clinical settings such as hospitals, community programs, primary care settings, as well as private clinics (Dooley et al., 2012; Livingston et al., 2018; MacNeil et al., 2021; Priest et al., 2019). Historically,

however, the provision of OAT has primarily been provided through specialized opioid treatment programs (Dooley et al., 2012; MacNeil et al., 2021). For this thesis, the term specialized opioid treatment program refers to programs and clinics that provide specialized treatment for addictions; however, these programs do not necessarily offer preventative healthcare or ongoing medical care for an individual's other healthcare needs (Korthuis et al., 2017; Morozova et al., 2017). The emphasis on specialized opioid treatment programs as the main point of access for OAT is likely related to the general focus on specialized healthcare services within the healthcare system (Crowley & Kirschner, 2015; Livingston, 2020), the regulation of OAT prescribers (Andraka-Christou & Capone, 2019; Chan et al., 2014; Priest et al., 2019; Van Hout & Bingham, 2014; Van Hout et al., 2018), perceived barriers to prescribing OAT (Andraka-Christou & Capone, 2019; Hutchinson et al., 2014; Livingston et al., 2018), as well as stigma (Bates & Martin-Misener, 2021; Livingston et al., 2018; Wakeman et al., 2016). Specialized opioid treatment programs have played a vital role in the provision of OAT in Canada; however, there are limitations to the accessibility of OAT in specialized clinics in terms of where they are located or how many people can be treated in a clinic (Brooklyn & Sigmon, 2017; Drainoni et al., 2014; Fraser et al., n.d.). Accessibility refers to how easy it is for an individual to find, start, and stay on treatment (Fortney et al., 2011).

Increasing access to OAT in other settings, such as primary care, may help to improve the accessibility of OAT (Brooklyn & Sigmon et al., 2017). For this study, primary care included any practice setting that provides primary care services by a family physician or a primary care nurse practitioner. Many specialized programs are located in urban settings, which means some individuals living in rural communities may be unable to easily access treatment (e.g., extensive travel to another place or centre is required) (Brooklyn & Sigmon, 2017; Fraser et al., n.d.;

Parker et al., 2012). Primary care practices are often located in urban and rural settings throughout Nova Scotia (Nova Scotia Health, n.d.-a). For some individuals, it may be easier to access a primary care clinic than a specialized opioid treatment program (Morozova et al., 2017). In addition, some people may be more willing to receive OAT in a primary care setting than in a specialized OAT program for reasons such as a perceived reduction in stigma or greater privacy in primary care settings (Drucker et al., 2007; Fischer et al., 2002; Fox et al., 2016; Sullivan et al., 2005).

Accessing OAT in primary care may also help to integrate and coordinate healthcare services for people who use substances. Specialized services often result in people receiving healthcare services from multiple providers in different locations, which means that services are disconnected, and this can be a barrier to accessing healthcare (Browne et al., 2012; Livingston, 2020; Morozova et al., 2017; Spithoff et al., 2019). Integrating OAT in primary care settings may help reduce some of the barriers people experience when trying to access healthcare services and may help to coordinate care for people who use substances, given that primary care providers offer a broad range of healthcare services, including acute and chronic disease management, health promotion, primary prevention, health maintenance, patient education, and counselling (AAFP, 2022; NSHA 2017). Accessing OAT and ongoing primary care in one setting by one provider may be more convenient for some individuals (Haddad, Zelenev, & Altice, 2014; Hsu et al., 2019; Korownyk et al., 2019; Morozova et al., 2017) and help to coordinate healthcare services (Drainoni et al., 2014; Hsu et al., 2019).

There is a need to improve access to OAT for people seeking treatment in many Canadian provinces, including Nova Scotia (Bates & Martin-Misener, 2021; Fraser et al., n.d.; Special Advisory Committee on the Epidemic of Opioid Overdoses, June 2022). The literature

has highlighted that there are several barriers to prescribing OAT in primary care, which include a lack of education and training to prescribe OAT, negative attitudes towards people who use substances, a lack of administrative support, and inadequate remuneration for prescribing OAT (Andraka-Christou & Capone, 2018; Bates & Martin-Misener et al., 2021; Dooley et al., 2012; Hutchinson et al., 2014; Livingston et al., 2018). However, despite these barriers, the number of primary care providers prescribing OAT has reportedly increased in North America, including Nova Scotia, over the last decade (Livingston et al., 2018; McBain et al., 2020). Although the exact number is currently unknown, the Nova Scotia Prescription Monitoring Program (NSPMP) estimated that there were 386 OAT prescribers in 2021, which increased from 213 in 2017 (NSPMP, personal communication, February 4, 2022).

Study Context

This study was conducted in the province of Nova Scotia, situated on the east coast of Canada. Nova Scotia (Mi'kma'ki) is the ancestral and unceded territory of the Mi'kmaq. The Mi'kmaq are First Nations Peoples living throughout Nova Scotia (as well as other areas in northeastern Canada and parts of New England) (Province of Nova Scotia, 2011). Nova Scotia is one of four Atlantic Canadian provinces and consists of a large peninsula and the island of Cape Breton. In December 2021, Nova Scotia had a population of approximately one million people (Province of Nova Scotia, 2021). Halifax, the largest metropolitan area in the province, is the capital of Nova Scotia and is located on the mainland, but there are many smaller urban and rural communities. Just under 43% of the population lives in rural areas (Statistics Canada, 2017). Many specialized healthcare services in Nova Scotia are centrally located in metropolitan areas; the centralization of some specialized services, particularly in the Halifax Regional Municipality, can limit the accessibility of healthcare services, especially for those living in rural places.

At the time of the study, Nova Scotia was experiencing a shortage of primary care providers (Curry, Hiltz & Buckle, 2019; DNS, 2018; NSHA, 2022a), as well as the global COVID-19 pandemic. As of June 1, 2022, there were 94,855 Nova Scotians on the registry seeking a primary care provider (NSHA, 2022a). In Nova Scotia, primary care is delivered through various settings, such as community-based primary care clinics or hospital-based primary care clinics, where providers may work independently or as part of a collaborative practice. Collaborative practice refers to primary care that is provided by a multidisciplinary team (e.g., physicians, nurses, pharmacists, social workers, dieticians) who work together to provide comprehensive, coordinated, effective and patient-centred healthcare (Nova Scotia Health, n.d.-b). The number of collaborative practices in the province has significantly increased since 2000, when four collaborative pilot practices were introduced in Nova Scotia (Maritime SPOR SUPPORT Unit, 2018). In 2022, there were 96 collaborative practices in the province (NSHA, 2021-b). However, the type and number of providers in each of the 96 collaborative practices vary from site to site (Nova Scotia Health, n.d.). Therefore, the services available (e.g., dietician or counselling) may vary according to the team members at each practice site. The objective of expanding collaborative practices in Nova Scotia was to facilitate the delivery of patient-centred care for complex health issues (DNS, n.d.; MSI, 2014; Nova Scotia Health, n.d.-b; NSHA, 2017).

In Nova Scotia, primary care physicians are often paid fee-for-service, with some physicians who are paid a salary (i.e., an alternative payment plan) (DNS, n.d.; Marshall et al., 2019; MSI, 2014). Although it is not explicitly prohibited in the Nursing Act (Nova Scotia Legislature, 2019), it is unclear if any nurse practitioners are paid fee-for-service in the province,

as literature currently suggests that most nurse practitioners in Nova Scotia are paid a salary (Bates & Martin-Misener, 2021; Martin-Misener et al., 2015).

Research Problem

There are some primary care providers in Nova Scotia who are prescribing OAT in primary care. However, we know relatively little about what influences providers' decisions to prescribe OAT, their perspectives, or their experiences when prescribing OAT, and this creates a gap in our knowledge.

Research Purpose & Questions

This qualitative study aimed to develop an understanding of the experiences of primary care providers prescribing OAT in Nova Scotia. From a health promotion point of view, I knew how important it was to improve the accessibility of OAT. As a provider, I wanted to learn why some participants decided to prescribe and what they did in preparation, which influenced the research questions and research methods of the study.

This study addressed the following research questions: (1) How do primary care providers explain their decision to prescribe OAT? (2) How do providers organize and provide OAT in primary care, and have there been any changes over time? (3) Have there been any changes in attitudes (personally and professionally) toward substance use and treatment since providing OAT, and if so, why? (4) What would primary care providers, who are prescribing OAT, or have recently prescribed OAT, recommend to improve policy, practice, OAT education and training to encourage more providers to start prescribing OAT in primary care?

Significance of the Study

Understanding why some providers decide to prescribe OAT, how they incorporate OAT into their practice, what makes it difficult to prescribe and what helps providers to prescribe in

primary care can provide useful information. Information may be used to understand what influences the decision to prescribe OAT, how 'barriers' might be addressed, or how to support OAT prescribing. Findings may point to contexts where perhaps providers are not experiencing significant barriers and provide useful data not captured in the literature. Findings from the study may provide data for policy and practice development by identifying interventions to help address barriers and identify contexts or factors that may support OAT prescribing through primary care in Nova Scotia.

Locating the Researcher

'Locating the Researcher' describes my positionality and influence on this research. According to Homes (2020), positionality describes "an individual's world view and the position they adopt about a research task and its social and political context" (p. 1), which influences how the research is conducted, the outcomes, and the results. Research is never value-free (Homes, 2020), so it is necessary to articulate researcher positionality and reflexivity as a part of qualitative research (Creswell & Poth, 2018; Homes, 2020). Articulating positionality and reflexivity enables the researcher to possibly understand their role in the research and their influence on the study (Creswell & Poth, 2018; Homes, 2020). Researcher reflexivity is an active process of identifying preconceptions, values, beliefs, culture and experiences that influence our worldview, attitudes, and knowledge through which we interpret our world (Amineh & Asl, 2015; Denzin & Lincoln, 1994; Homes, 2020). Researchers often describe their positionality or reflexivity within their methodology; however, I felt it was important to include my positionality at the beginning of my thesis because it was central to the research process and my reason for embarking on my graduate studies in health promotion.

Following is a brief personal narrative to help position myself in the research process. As described by du Preez (2008), my goal in providing a personal narrative is to explain how this research began and why it was important to me, and to provide readers with information so they might understand how data were interpreted.

My Roots

I am from Cape Breton, Nova Scotia, which was where I grew up and went to school. My community was a coal mining town with low to middle-income families. However, neither of my parents were coal miners, and my family struggled financially when I was growing up. My father was a pipefitter, and it was difficult for him to find employment in Cape Breton, and when I was a teenager, he started travelling to Western Canada for months to work. My mother worked three jobs for many years as I was growing up until she graduated with a business degree when I was in junior high school. From a young age, I was aware of the significant impact of social class, education, and income on health and well-being.

After high school, I studied nursing in the undergraduate program at Cape Breton University. After several years of working as a nurse, I started the Master of Nursing-Nurse Practitioner program at Dalhousie University (Halifax, NS). Given my early experiences, I've always been interested in health promotion and was drawn to the health promotion content in my nursing curricula. I realized early in my career that I wanted to pursue research as part of my clinical role as a nurse. At the same time, I was drawn to primary care, given the emphasis on health promotion through primary prevention, screening, early intervention, and education. I worked as a primary care nurse practitioner for several years. The significant influence of the social determinants on an individual's health and well-being was very apparent working in primary care, particularly for people who use substances, and I realized that this was the time for

me to pursue my aspiration of doing research and started the Master of Arts in Health Promotion program at Dalhousie University.

My Connection to the Study

After completing the nurse practitioner program at Dalhousie University in 2012, I accepted a position and worked in a primary care clinic in Maine, USA. As a nurse practitioner working in primary care, I saw many people suffering from substance use issues who wanted treatment but were experiencing several barriers to accessing treatment, such as long wait lists, stigma, and discrimination. I was interested in prescribing OAT but had no OAT education or training in my graduate program and felt unprepared to prescribe OAT. However, I believed access to OAT needed to be improved and primary care needed to be more accessible and flexible to meet the needs of people with substance use issues. When I started to work in primary care, there was a growing emphasis on decreasing opioid prescribing and providers were encouraged to taper people off opioids. However, there was no clear plan of how providers should help care for individuals who had developed an opioid addiction, except for suggesting individuals seek treatment through an OAT program. In the community where I worked, OAT programs had lengthy wait times to access these programs (e.g., 6-12 months). Several supportive providers in my practice were interested in prescribing OAT, but there seemed to be many obstacles to prescribing in primary care. For example, I did not feel adequately trained or supported to prescribe OAT and I did not have the required license to prescribe OAT, which the Drug Enforcement Administration (DEA) provided. To obtain the necessary license to prescribe OAT in Maine, I needed to complete specific education related to OAT prescribing and apply for a waiver through the Substance Abuse and Mental Health Services Administration (SAMHSA, 2022). Similar requirements were also present in Canada to prescribe OAT until 2018

(Government of Canada, 2017). Looking back, if I had known someone who was prescribing OAT or someone in my office was prescribing OAT, I believe I would have started to prescribe OAT in my practice.

I could relate to many of the social problems I saw working in primary care personally, having grown up in Cape Breton. In the early 2000s, when I started my career as a nurse, unemployment and poverty were rising, and the community seemed to be socially and economically declining. Substance use (e.g., alcohol, cannabis, cocaine, and opioids) increased substantially among people of all ages, and several people had died from an opioid overdose (Ayers, 2021; CBC News, 2007). Since the early 2000s, people have continued to die from opioid overdoses throughout the country, including Cape Breton. Although death rates from an opioid overdose in Nova Scotia have been relatively stable over the past six years, deaths have continued to rise in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec and the Yukon (Special Advisory Committee on the Epidemic of Opioid Overdoses; 2022). The increase in opioid-related deaths has been linked to a toxic drug supply in the illegal drug markets (Lyden & Binswanger, 2019; Special Advisory Committee on the Epidemic of Opioid Overdoses, 2022). Then in 2018, my brother died from an opioid overdose when he was only 25. His death devastated my family, and his absence continues to be a hole in our lives. These experiences have influenced this study and identified why this research is important to me. I conducted this study aware that I personally support the provision of harm reduction services and advocacy efforts to destigmatize substance use and decriminalize people who use substances. I believe in access to OAT across various venues, including primary care settings.

A Note on Language and Terms

The language and words we use are not objective symbols without meaning. We use language, words, phrases, and stories to convey meaning and messages (Kelly et al., 2010; Riessman, 1993). Our words have an impact and influence. Terms often used when discussing addiction and substance use issues can be stigmatizing (Kelly et al., 2010; Kelly et al., 2016; Research Recovery Institute, n.d.). The terms often oppress and marginalize people who use substances by contributing to negative attitudes and stereotypes about substance use issues (Kameg, 2019; Kelly et al., 2016; Research Recovery Institute, n.d.). Therefore, it is critical that we thoughtfully consider the terminology and language used when discussing substance use issues as it reflects our attitudes and approach to care, research, and policy (Kelly et al., 2010). In this thesis, I wanted to avoid stigmatizing language as much as possible. The terms I used in this thesis and research were consciously selected and considered based on what is currently used in the literature, feedback from committee members, and reviewing terminology in the web-based application 'Addictionary' from the Recovery Research Institute (https://www.recoveryanswers.org/addiction-ary/). However, I am aware that the preferred language may change over time, and some terms may be less than ideal.

Chapter 2 – Literature Review

The literature provides an overview of key issues and debates related to prescribing OAT in primary care, including the following: a) the need to improve accessibility to OAT; b) regulations and reluctance to prescribe OAT; c) prescribing OAT in primary care (efficacy of OAT prescribed in primary care, patient preference to access OAT in primary care, providing comprehensive and coordinated healthcare); d) influences on providers' decisions to prescribe OAT (provider-related, primary care practice-related, and context related); and e) a critical look at OAT.

The Need to Improve Accessibility to OAT

In Canada, like many other countries around the world, healthcare services for substance use issues and addictions are often provided as specialized healthcare services (Brooklyn & Sigmon, 2017; Chan et al., 2014; Dooley et al., 2012; Hutchinson et al., 2014; Livingston et al., 2018; Morozova et al., 2017; Van Hout et al., 2014). However, growing rates of opioid use, deaths from opioid overdoses, and an increase in the number of people seeking treatment for an opioid addiction identified a need to improve access to OAT in other settings, such as primary care. Accessibility needs to be improved because the infrastructure and resources, such as the location of specialized opioid treatment programs, the number of treatment spots in programs and the number of OAT prescribers, are unable to meet the needs of a large proportion of people seeking access to OAT (Brooklyn & Sigmon, 2017; Dooley et al., 2012; Fiellin et al., 2001; Quan et al., 2020; Sullivan et al., 2005). Access to OAT in primary care may help to improve the accessibility of OAT.

Primary practices are often located in a variety of locations in both urban and rural settings (Dooley et al., 2012; Fiellin et al., 2001), whereas specialized opioid treatment programs

are often centrally located in more urban centers (Brooklyn & Sigmon, 2017; Drainoni et al., 2014; Fraser et al., n.d.). In addition, primary care providers already provide care for other chronic medical conditions. In North America, prescribing OAT in primary care has been suggested as a viable option to improve the accessibility of OAT since the early 2000s (Fiellin et al., 2001; Kallen & Latowsky, 1997; Salsitz et al., 2000). However, since the early 2000s, the practice of OAT prescribing in primary care has been slow to change in North America, and relatively few providers prescribe OAT in primary care (Dooley et al., 2012; Hutchinson et al., 2014; Wakeman et al., 2016).

Regulations and Reluctance

One reason the practice of prescribing OAT in primary care may have been slow to change over the last two decades was that federal regulation had limited who could prescribe OAT since the 1970s (Priest et al., 2019). In Canada, primary care providers were required to obtain special approval to prescribe methadone or suboxone (i.e., OAT) for an opioid addiction until 2018 (Government of Canada, 2017; Priest et al., 2019). Provider reluctance may be another reason the practice was slow to change (Dooley et al., 2012; Hutchinson et al., 2014; Wakeman et al., 2016). Literature suggests that providers have been reluctant to integrate OAT into their practice because of various reasons, such as stigma, negative attitudes toward people who use substances, a lack of education and training for prescribing OAT, and a lack of administrative support (Andraka-Christou & Capone, 2019; Bates & Martin-Misener, 2021; Dooley et al., 2012; Hutchinson et al., 2014; Livingston et al., 2018; Wakeman et al., 2016). However, the limited research on the efficacy of OAT in primary care in the late 1990s and early 2000s may have also contributed to providers' reluctance and the relatively slow uptake of prescribing OAT in primary care. Before 2000, a large proportion of research on OAT had

primarily focused on the efficacy of OAT prescribed by specialized opioid treatment programs, not primary care (Fiellin et al., 2001; Weinrich & Stuart, 2000), and providers may have been concerned about the efficacy of OAT prescribed in primary care settings. Since the early 2000s, there has been a growing body of research exploring the efficacy of OAT in primary care (discussed below) and has included several different studies by various researchers (See Drucker et al., 2007; Dooley et al., 2012; Fiellin et al., 2001; Hutchinson et al., 2014; Keen et al., 2003; Livingston et al. 2018; and Tuchman et al., 2006 for examples).

Prescribing OAT in Primary Care

Efficacy of OAT Prescribed in Primary Care

Korownyk et al. (2019) point out that OAT in any setting can improve an individual's overall well-being compared to no treatment or waitlisted comparison groups. Since the early 2000s, there have been several studies which demonstrated that OAT is an effective treatment regardless of setting, where efficacy has been defined as treatment retention, clinical stability, concurrent substance use, as well as patient satisfaction with access to OAT in primary care (Drucker et al., 2007; Fiellin et al., 2001; Keen et al., 2003; Korownyk et al., 2019; Morozova et al., 2017; Soeffing et al., 2009; Tuchman et al., 2006). In either specialized treatment programs or primary care settings, access to OAT has been shown to help reduce illicit opioid use (Drucker et al., 2007; Tuchman et al., 2006; Weinrich & Stuart, 2000). Several studies have demonstrated that access to OAT in primary care had similar, or improved, adherence rates and treatment retention when compared to OAT prescribed through specialized treatment programs (Drainoni et al., 2014; Haddad et al., 2014; Hsu et al., 2019; Korownyk et al., 2019; Mamakwa et al., 2017; Weinrich & Stuart, 2000). Many people accessing OAT in primary care have also been very satisfied with their experience (Drucker et al., 2007; Fiellin et al., 2001; Morozova et al., 2017;

Tuchman et al., 2006). Morozova et al. (2017) found that patient satisfaction with OAT significantly increased ($p = 0.016$) in participants who transferred from a specialized OAT clinic to receive their OAT in a primary care clinic. Therefore, the evidence supports that prescribing OAT in primary care is safe and effective, and providing OAT in primary care may help improve the accessibility of OAT (Brooklyn & Sigmon, 2017; Korownyk et al., 2019; Soeffing et al., 2009; Weinrich & Stuart, 2000).

Some providers and policymakers, however, have argued that prescribing OAT in primary care may increase the diversion of OAT medications (e.g., methadone and buprenorphine) to illegal drug markets (Bourgois, 2000; Weinrich & Stuart, 2000) and thus pose a risk to public safety. However, the risk of death from an overdose is far greater from the toxic supply of opioids in the illegal drug markets than from medications prescribed by a healthcare provider for OAT (Frank, 2020; Korownyk et al., 2019; Weinrich & Stuart, 2000). If individuals had reasonable and easy access to treatment through OAT and a safe supply of opioids, the demand for opioids obtained through the illegal drug market may decrease, given that many people use illicit substances to treat and manage their opioid addiction on their own (e.g., symptoms of withdrawal) (Adamson et al., 2017; Cioe et al., 2020; Fischer et al., 2002; Frank, 2018; Frank, 2020; Spithoff et al., 2019). Several studies have identified that access to OAT reduced the need for individuals receiving treatment to seek illicit opioids (Adamson et al., 2017; Cioe et al., 2020; Fischer et al., 2002; Frank, 2020). Access to treatment is critical and can help to reduce opioid-related deaths and harms from substance use issues. Whether prescribed in primary care settings or specialized opioid treatment clinics, OAT is an effective treatment that helps reduce the harms associated with opioid addiction and can help improve the quality of life for individuals on treatment.

Patient Preference to Access OAT in Primary Care

Some individuals prefer to access OAT in primary care (Drucker et al., 2007; Fiellin et al., 2001; Fox et al., 2016; Sullivan et al., 2005; Tuchman et al., 2006). Fiellin and colleagues (2001) found that 91% of participants accessing OAT in a primary care clinic and 58% of participants accessing OAT in a specialized OAT clinic preferred to access OAT in a primary care setting ($p = 0.01$). Some individuals may prefer to access OAT in primary care because of convenience (Drainoni et al., 2014; Drucker et al., 2007; Fox et al., 2016; Morozova et al., 2017), the primary care clinic setting (Drucker et al., 2007; Fox et al., 2016; Morozova et al., 2017; Soeffing et al., 2009; Sullivan et al. 2005), and some individuals perceive there is less stigma associated with primary care clinics when compared to specialized opioid treatment programs (Drucker et al., 2007; Fox et al., 2016; Morozova et al. 2017; Sullivan et al., 2005; Tuchman et al., 2006). For some people, it may be more convenient to access OAT in a primary care clinic because primary care settings may be more conveniently located for them (i.e., physically closer to where people live) compared to a specialized OAT clinic and can help to reduce travel time (Drucker et al., 2017; Fox et al., 2016; Morozova et al., 2017). Drucker et al. (2007) found that office hours in a primary care clinic were more convenient for some individuals than at a specialized OAT clinic. In addition, accessing OAT and other primary care services in one location may be convenient for some people and a reason why they may prefer to access OAT in primary care (Drainoni et al., 2014; Fox et al., 2016; Morozova et al., 2017).

A handful of studies have identified that accessing OAT through primary care was preferred by some people because of the primary care clinic setting (Drucker et al., 2007; Morozova et al., 2017). A primary care setting may be preferred because of how primary care is typically organized with scheduled appointments and the daily volume and diversity of patients

who access primary care services. Some people prefer to avoid personal interactions with individuals who use substances (Drucker et al., 2007; Morozova et al., 2017). Socializing or gathering with other people who also use substances is sometimes difficult for some individuals. Some individuals report that it is harder to reach and maintain their treatment goals when socializing with others who also use substances (Drucker et al., 2007; Fischer et al., 2002; Morozova et al., 2017). Accessing OAT in primary care may be preferable for some individuals who wish to avoid these social interactions (Drucker et al., 2007; Fox et al., 2016; Morozova et al., 2017). Primary care practices serve a large volume of people with diverse health needs. Appointments are usually scheduled throughout the day, and people may be less likely to encounter and interact with other people who also use substances in a primary care setting compared to a specialized opioid treatment program (Drucker et al., 2007; Fox et al., 2016; Morozova et al., 2017). Morozova et al. (2017) found that 26% of participants transferring from a specialized opioid clinic to a primary care setting reported that they wanted to avoid others with substance use issues as a reason why they preferred to access OAT in a primary care setting. However, not everyone prescribed OAT or who uses substances feels the same way about avoiding social interactions. Drainoni et al. (2014) found that some individuals enjoyed and benefited from group counselling sessions. Group counselling provided peer support which was important for some individuals. Therefore, providing individuals with options to access treatment is essential for people to be able to decide what treatment setting best meets their needs.

Some individuals may also prefer to access OAT in primary care because they believe there is less stigma associated with receiving OAT in primary care than receiving treatment in specialized opioid treatment programs (Drucker et al., 2007; Fox et al., 2016; Morozova et al. 2017). Opioid use is highly stigmatizing, and some people may wish to keep their opioid use

hidden from family, friends, colleagues, employers, and broader social groups (Cioe et al., 2020; Drucker et al., 2007; Fox et al., 2016). A systematic review by Cioe et al. (2020) found that stigma was a barrier to accessing treatment in 24 studies. Literature suggests that some individuals believe there is greater privacy and confidentiality afforded in primary care settings compared to specialized opioid treatment programs (Drucker et al., 2007; Fox et al., 2016; Morozova et al., 2017). Unlike specialized opioid treatment programs which provide specialized care for opioid use issues, people utilize primary care services for a variety of reasons, such as routine screening and chronic disease management, without others in the community knowing why a person is accessing primary care services (Drucker et al., 2007; Fox et al., 2016). Accessing a specialized OAT program may be undesirable if an individual would prefer to keep their substance use issues discreet, particularly in smaller communities where the locations of specialized OAT clinics are well known (Drucker et al., 2007; Fischer et al., 2002). Some individuals identified that there was greater privacy and confidentiality in accessing a primary care clinic than accessing a specialized OAT program for OAT, which helped reduce stigma in accessing treatment (Fox et al., 2016). The sense of privacy, confidentiality and less stigma were valued by some individuals and reported as reasons why they preferred to access OAT in primary care (Fox et al., 2016). Some individuals may therefore be more willing to seek OAT that is prescribed in a primary care setting if they perceive there is less stigma than OAT that is prescribed in a specialized OAT program (Soeffing et al., 2009; Sullivan et al., 2005).

Comprehensive and Coordinated Healthcare for People Who Use Substances

Integrating OAT into primary care practices may help improve access to healthcare services that are comprehensive and coordinated. Comprehensive care refers to connected and coordinated services, providing holistic care to individuals by assessing, screening, and

coordinating treatment for multiple medical conditions while also understanding the individual's overall personal, social, and medical contexts. Providing comprehensive healthcare that is convenient to access may help to improve health outcomes for people who use substances (Drainoni et al., 2014; Haddad et al., 2014; Hsu et al., 2019; Livingston, 2020; Morozova et al., 2017; Spithoff et al., 2019). People who use substances often experience barriers to accessing healthcare services, as well as multiple co-morbidities and complex health needs (Hsu et al., 2019; O'Toole et al., 2014). In a study by O'Toole et al. (2014), primary care patients with an opioid addiction receiving OAT had more chronic conditions than matched controls. O'Toole et al. (2014) found that patients with an addiction were more likely to have a psychiatric illness, respiratory disease, and infectious disease than their matched controls. A siloed and disconnected healthcare system exacerbates barriers to healthcare services and can negatively impact an individual's health and well-being. For example, barriers to healthcare services can cause ongoing medical conditions to deteriorate because people may not be able to readily access needed healthcare services to maintain, support, or promote health. Barriers can delay the diagnosis and treatment of new medical conditions and limit preventative care measures (such as immunizations and cancer screening) (Drainoni et al., 2014; Hsu et al., 2019; Morozova et al., 2017). Spithoff et al. (2019) found that people receiving OAT in specialized OAT clinics were less likely to receive routine cervical, breast, and colorectal cancer screening than the general population. Barriers, delays, and limited preventative healthcare contribute to poor health outcomes often experienced by people who use substances (Livingston, 2020; Parker et al., 2012; Spithoff et al., 2019).

Given the focus in primary care on disease prevention, care coordination and health promotion, integrating OAT into primary care services can help to coordinate, connect, and

provide comprehensive healthcare services for people who use substances (Haddad et al., 2014; Hsu et al., 2017; Livingston, 2020; Morozova et al., 2017). Comprehensive and coordinated healthcare services can positively impact the health and well-being of people who use substances accessing OAT in primary care settings (Drainoni et al., 2014; Haddad et al., 2014; Hsu et al., 2017; Morozova et al., 2017). Haddad et al. (2014) found that primary care utilization and screening were increased for people receiving OAT and ongoing medical care that was provided by a primary care provider. Morozova et al. (2017) found that after six months of treatment in primary care settings, 93% of participants who transferred from specialized opioid treatment programs to primary care clinics reported that their health and overall care improved from somewhat to considerably better. Some individuals who use substances may already be accessing integrated and comprehensive healthcare services, but the literature suggests that this is not the case for many people who use substances, and there is a need to ensure people who use substances have easy access to healthcare services (Abraham et al., 2020; Andrilla et al., 2019; Livingston et al., 2018; Livingston, 2020; McBain et al., 2020; Morozova et al., 2017; Spithoff et al., 2019). Prescribing OAT in primary care can help to make it easier for individuals to access healthcare services and reduce travel time and travel expenses by providing comprehensive and coordinated healthcare for people who use substances.

Regardless of the setting, OAT can help reduce the overall healthcare costs associated with substance use issues, given that OAT helps to reduce harms related to opioid addiction (Brooklyn & Sigmon, 2017; Hsu et al., 2019; Lee et al., 2019; Schackman et al., 2011). A few studies have reported that OAT has been linked to reduced overall healthcare costs when compared to no treatment (i.e., no OAT) regardless of where OAT was prescribed (Hsu et al., 2019; Lee et al., 2019; McCarty et al., 2011; Schackman et al., 2011). However, two recent

studies by Hsu et al. (2019) and Lee et al. (2019) suggest that improving access to comprehensive healthcare services for people who use substances by integrating OAT into primary care may help to reduce overall healthcare costs further. Hsu et al. (2019) found that the total annual healthcare costs were lower (by approximately $4500) for individuals who received OAT and primary care from one provider compared to individuals receiving OAT and primary care from different providers. Both Hsu et al. (2019) and Lee et al. (2019) found that reduced overall medical costs were mainly due to reduced emergency room visits, decreased hospitalizations, and improved access to comprehensive and coordinated care.

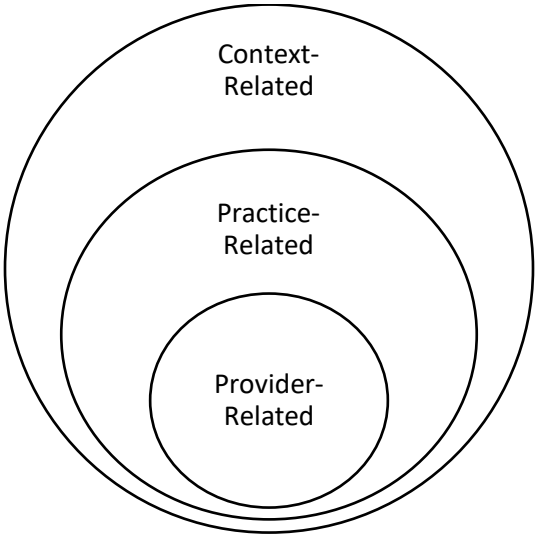
Influences on Providers' Decisions to Prescribe OAT

Several studies have explored why some providers do not prescribe OAT but research on what influences the decision *to* prescribe OAT is relatively limited. This literature review identifies factors that have been found to influence OAT prescribing. It highlights how changing or eliminating some of the reported barriers may help influence the decision to prescribe OAT. Factors influencing the decision to prescribe are organized into three key areas: provider-related, practice-related, and context-related (Andraka-Christou & Capone, 2018; Andrilla et al., 2019; Hutchinson et al., 2014; Livingston et al., 2018; Van Hout & Bingham et al., 2014; Wakeman et al., 2016). *Provider-related influences* in this literature review are defined as personal experiences, perceptions, attitudes, and characteristics of primary care providers that may influence their willingness and decision to prescribe OAT. *Practice-related influences* are qualities of a provider's practice setting that may influence the decision to prescribe OAT. *Context-related influences* identify social and contextual influences on the decision to prescribe OAT that are not within the control of any one individual.

A conceptual model of the three areas influencing the decision to prescribe OAT (See Figure 1) was developed by adapting the social-ecological framework (ATSDR, 2015; CDC, 2022) and a conceptual model developed by Livingston et al. (2018) to capture findings within the literature. The following is a discussion of these influences.

Figure 1

Conceptual model of influences on the decision to prescribe OAT



Note. Adapted from the social-ecological framework (ATSDR, 2015; CDC, 2022) and Livingston et al. (2018)

Provider-Related Influences

Provider-related influences identified in the literature include providers' personal attitudes toward substance use issues and OAT, as well as education, training, and experience prescribing OAT. Gender identity may also influence the decision to prescribe OAT, but at the time the study was conducted, there was relatively little evidence to support this as an influencing factor. Each of the key influences are outlined below.

Providers' Personal Attitudes. Providers' personal attitudes toward people who use substances and OAT can influence the decision to prescribe OAT (Andraka-Christou & Capone,

2018; Bates & Martin-Misner, 2021; Dooley et al., 2012; Livingston et al., 2018; Wakeman et al., 2016). Providers with positive attitudes were more likely to prescribe OAT than providers with negative attitudes (Dooley et al., 2012; Spithoff et al., 2019; Wakeman et al., 2016). Wakeman et al. (2016) found that primary care providers with favourable attitudes toward people who use substances were more likely to prescribe OAT themselves rather than refer patients for treatment. Providers' personal attitudes appear to be partly influenced by their knowledge, education, training, and experience prescribing OAT (Dooley et al., 2012; Hutchinson et al., 2014), as discussed below.

Education, Training, and Experience Prescribing OAT. Research indicates that receiving OAT education and training can influence the decision to prescribe OAT in primary care (Dooley et al., 2012; Hutchinson et al., 2014; Livingston et al., 2018; Tong et al., 2018). Education, training and experience were identified as important influences because they appear to influence providers' personal attitudes and the likelihood that a provider will prescribe OAT in practice (Dooley et al., 2012; Hutchinson et al., 2014; Tong et al., 2018). Dooley et al. (2012) found that providers with higher knowledge test scores about substance use issues and treatment had more positive attitudes toward people who use substances and OAT than providers with lower knowledge test scores. Lower knowledge test scores were correlated with negative attitudes towards people who use substances and OAT. Education, training, and experience in prescribing OAT may help to improve attitudes toward substance use issues over time (Matheson et al., 2007; Merrill et al., 2005; Morozova et al., 2017) and thus may influence the decision to prescribe OAT.

Studies by Tong et al. (2018), Hutchinson et al. (2014), and Kunins et al. (2013) highlight that OAT education and training increase the likelihood that a provider will prescribe OAT in

their primary care practice when compared to no education and training. Tong et al. (2018) found that nearly 32% of providers who received OAT education and training, compared to 4% of providers who did not receive any OAT education and training, started to prescribe OAT in their practice. In another study, Hutchinson and colleagues (2014) found that 28% (n=22) of the 78 physician participants who received OAT training started to prescribe OAT in their practice. Kunins et al. (2013) evaluated rates of prescribing OAT after the introduction of a brief buprenorphine (a medication used for OAT) training course for primary care residents and found that 17.5% (n = 7) started to prescribe buprenorphine in their primary care practice.

Education, training, and experience prescribing OAT appear to influence the decision to prescribe OAT because they contribute to a provider's knowledge, confidence, comfort, and interest in prescribing OAT (Chan et al., 2014; Dooley et al., 2012; Hutchinson et al., 2014; Kunins et al., 2013; Livingston et al., 2018; Tong et al., 2018). However, the current literature indicates that there is often a lack of education and training provided to primary care providers on prescribing OAT. Many primary care providers may feel unprepared to prescribe OAT because of the limited education and training (Andraka-Christou & Capone, 2018; Fraeyman et al., 2016; Hutchinson et al., 2014; Livingston et al., 2018; Tong et al., 2018). Providers who do not prescribe OAT are more likely than providers who do prescribe to report a limited awareness of the risks, benefits, and value of OAT as a pharmacological treatment for opioid addiction and report uncertainty about their ability to manage OAT prescribing (Andraka-Christou & Capone, 2018; Fraeyman et al., 2016; Hutchinson et al., 2014; Livingston et al., 2018).

Primary Care Practice -Related Influences

Primary Care Practice Type and Size. The current literature suggests that there are primary care practice-related influences on the decision to prescribe OAT, including the type and

size of the practice. The type of primary care practice (i.e., solo, or collaborative practice) may influence the decision to prescribe OAT. Literature has identified that there are particular challenges to prescribing OAT in primary care, such as remuneration, time constraints, limited mental health services, as well as the complex and multifaceted nature of substance use issues (Andraka-Christou & Capone, 2018; Bates & Martin-Misener, 2021; Hutchinson et al., 2014; Livingston et al., 2018). However, these challenges may be amplified for providers working in a solo practice (Livingston et al., 2018). Whereas working in a collaborative primary care practice may help mitigate some of these challenges through access to extra staff and resources that may not be available in a solo practice (Andraka-Christou & Capone, 2018; Livingston et al., 2018). Therefore, working in a collaborative practice may influence a provider's decision to prescribe OAT in primary care (Andraka-Christou & Capone, 2018; Livingston et al., 2018; Marshall et al., 2019). Livingston et al. (2018) found that providers who worked in a collaborative practice benefited from access to a collaborative practice's resources, support, and staff.

The primary care practice size (e.g., solo practice vs a practice with an increased number of staff or providers) may contribute to a provider's sense of safety when contemplating the decision to prescribe OAT (Marshall et al., 2019) and thus may influence the decision to prescribe. A couple of studies have highlighted that some providers are concerned that prescribing OAT may create unsafe situations in their practice (Andraka-Christou & Capone, 2019; Livingston et al., 2018). Some providers believe people who use substances are violent or aggressive without understanding the context of specific negative behaviours (Andraka-Christou & Capone, 2019; Livingston et al., 2018). In some studies, providers reported that violent or aggressive behaviours are often related to a person's untreated opioid addiction and that negative behaviours decrease with OAT (Andraka-Christou & Capone, 2019; Livingston et al., 2018).

Regardless, for some providers working in a larger practice with more staff or providers may provide a greater sense of personal safety compared to working in a solo practice and may influence the decision to prescribe OAT.

Collaborative Models of OAT Delivery. A collaborative relationship between a primary care practice and a specialized opioid treatment program may influence the decision to prescribe OAT (Andraka-Christou & Capone, 2018; Andrilla et al., 2019; Brooklyn & Sigmon, 2017; Korthuis et al., 2017; Livingston et al., 2018). Several studies identified that primary care providers do not feel prepared to prescribe OAT. A collaborative relationship between specialized opioid treatment programs and primary care providers may help provide access to resources and help to support providers who are willing to prescribe OAT but perhaps do not feel prepared. One type of collaborative relationship identified in the literature was the hub-and-spoke model of OAT delivery (Brooklyn & Sigmon, 2017; Korthuis et al., 2017; Livingston et al., 2018).

With a hub-and-spoke model, the 'hubs' are often specialized opioid treatment programs, and the 'spokes' are often primary care practices in the surrounding communities (Brooklyn & Sigmon, 2017; Korthuis et al., 2017; Livingston et al., 2018). People are often initiated and stabilized on OAT in the 'hubs'. Once stable, individuals may be transferred to a 'spoke' to continue their treatment. Starting and stabilizing a dose of OAT is sometimes viewed as the more challenging aspect of prescribing OAT (Korthuis et al., 2017). A proposed benefit of a hub-and-spoke model is that some of the more challenging aspects of prescribing, such as starting OAT, are carried out by specialized opioid treatment programs (Korthuis et al., 2017). Another reason a collaborative relationship with specialized clinics may play a role in prescribing is that primary care providers may be able to contact the specialized treatment programs to seek advice or

support. These various benefits of a collaborative 'hub-and-spoke' model of care may be necessary for providers who feel unprepared to prescribe OAT and therefore influence their decision to prescribe.

Context-Related Influences

The literature suggests that social, political, and healthcare system contexts influence the decision to prescribe OAT (Andraka-Christou & Capone, 2018; Bates & Martin-Misener, 2021; Hutchinson et al., 2014; Livingston et al., 2018; Wakeman et al., 2016). When deciding to prescribe OAT, providers consider prescribing OAT from within a particular context that is influenced by the social and political context, including the healthcare system (Bates & Martin-Misener, 2021; Livingston et al., 2018). Decriminalization, stigma, and the conceptualization of substance use issues, the deregulation of OAT prescribers, as well as appropriate remuneration for prescribing OAT were identified as contexts that may influence the decision to prescribe OAT (Bates & Martin-Misener, 2021; Livingston et al., 2018; Matheson et al., 2007; Priest et al., 2019; Van Hout & Bingham, 2014; Van Hout et al., 2018).

Decriminalization, Stigma, and the Conceptualization of Substance Use Issues. A number of national and international organizations have argued for the decriminalization of substance use which may help to reduce the stigma associated with substance use issues (Canadian Association of People Who Use Drugs, 2022; Rajagopalan, 2022). Decriminalization of substances for personal use may help to reduce social stigma (e.g., negative stereotypes about people who use substances) as well as structural stigma (e.g., organizational policies and practices that limit resources and opportunities for people who use substances) (Jesseman & Payer, 2018; Livingston et al., 2011; Provincial Health Officer's Special Report, 2019). Such a reduction in stigma may influence the decision to prescribe OAT, at least for some providers

(Bates & Martin-Misener, 2021; Dooley et al., 2012; Livingston et al., 2018; Wakeman et al., 2016). For example, reducing social stigma may mean some providers who previously had negative personal attitudes toward substance use issues may decide to prescribe OAT. By reducing structural stigma, processes or policies may change to make it easier to prescribe OAT in primary care settings, thus also influencing some providers' decision to prescribe (Andraka-Christou & Capone, 2018; Bates & Martin-Misener, 2021; Chan et al., 2014; Livingston et al., 2018). Decriminalization and a reduction in stigma may also support the development and implementation of training programs for health professionals, which may further support OAT prescribing.

Decriminalization may also help to change the dominant conceptualization of substance use issues. Currently, a dominant conceptualization is that people who use substances and have substance use issues are 'criminals', and criminalization perpetuates the perception that addiction is a personal choice. Wakeman and colleagues (2016) found that 6 % of primary care physicians and 12% of physicians working in the Massachusetts General Hospital believe people who use substances are committing a crime and deserve to be punished. Decriminalization may support the conceptualization of substance use issues as health issues, and if providers conceptualize substance use issues as a health issue they may decide to prescribe OAT in their practice

Deregulation of OAT Prescribers. Federal and provincial legislation can also influence the decision to prescribe OAT because it directly affects providers' ability to prescribe OAT (Andraka-Christou & Capone, 2019; Chan et al., 2014; Priest et al., 2019; Van Hout & Bingham, 2014; Van Hout et al., 2018). In Canada, nurse practitioners have only been authorized to prescribe OAT since 2014 (Bates & Martin-Misener, 2021; Province of Nova Scotia, 2014), and all Canadian primary care providers were required to obtain a Health Canada Exemption to

prescribe OAT until 2018 (Government of Canada, 2017). In 2018, the need to obtain a Health Canada Exemption to prescribe OAT was removed (Government of Canada, 2017). No longer requiring providers to obtain an exemption may influence providers' decision to prescribe OAT; however, it was unclear at the time of the study whether or not the change in legislation has influenced the decision to prescribe OAT, given that it has been a relatively recent policy change (Bates & Martin-Misener, 2021).

Remuneration for Prescribing OAT. Adequate remuneration for prescribing OAT in primary care may influence the decision to prescribe OAT (Andraka-Christou & Capone, 2018; Andrilla et al., 2019; Livingston et al., 2018). Literature suggests that prescribing OAT requires more of a provider's time than prescribing treatment for other chronic conditions because of longer patient appointment times, the complexity of substance use issues, and administrative time associated with prescribing OAT (Andraka-Christou & Capone, 2018; Andrilla et al., 2019; Livingston et al., 2018). Some practices may need or wish to hire additional staff to help manage OAT prescribing in primary care (Drainoni et al., 2014; Hsu et al., 2019). However, existing literature indicates that providers are not always adequately remunerated for their time (e.g., longer patient appointments and the associated administrative work) (Andraka-Christou & Capone, 2018; Andrilla et al., 2019; Livingston et al., 2018). Providing adequate remuneration, where remuneration compensates providers for their time and work involved with prescribing OAT, may influence the decision to prescribe (Andraka-Christou & Capone, 2018; Andrilla et al., 2019; Livingston et al., 2018).

Remuneration may be particularly important for providers who are paid fee-for-service (Livingston et al., 2018). In a fee-for-service payment model, physicians are paid for their services based on a designated set of fee codes outlined in the *MSI Physician's Manual* (MSI,

2014). Physicians must first bill for services they provide before receiving payment. The payment they receive is expected to cover clinic expenses (e.g., supplies, equipment, rent, staff) and the provider's income. The fee-for-service payment model and remuneration in Nova Scotia have been identified as barriers to providing comprehensive, patient-centred care (DNS, 2018). Two studies conducted in Nova Scotia (Dooley et al., 2012; Livingston et al., 2018) found that primary care physicians reported that inadequate remuneration was a barrier to prescribing OAT (Dooley et al., 2012; Livingston et al., 2018). Physicians that are paid by an alternative payment plan are guaranteed a minimum funding level which helps to provide income stability and cover expenses of operating a primary care practice, contingent on adequate shadow billing, and therefore may influence the decision to prescribe OAT. Alternative payment plans were implemented in Nova Scotia to help facilitate the delivery of care that may not be supported by a fee-for-service model, such as complex, multifaceted conditions that require longer appointments, as well as support new models of care such as collaborative practices (DNS, n.d.).

In Nova Scotia, the literature suggests that fee-for-service payment models may not support OAT prescribing in primary care (DNS, n.d.-b; Dooley et al., 2012; Livingston et al., 2018; NSHA, 2017). To facilitate OAT prescribing in Nova Scotia, specific OAT billing codes were introduced in Nova Scotia in 2016. The OAT billing codes increased financial remuneration for providers prescribing OAT and included a monthly management fee (MSI, 2016a; MSI, 2019). However, at the time the study was conducted the introduction of OAT billing codes was relatively new, and it is unclear if the new codes influenced the decision to prescribe OAT.

A Critical Look at OAT

Although OAT is an effective treatment reducing the harms associated with opioid addiction, there are also some important critiques of OAT noted within the literature (Bourgois, 2000; Cioe et al., 2020; Drainoni et al., 2014; Fischer et al., 2002; Frank, 2020). One critique is that OAT 'controls' or 'disciplines' people who use substances (Bourgois, 2000; Frank, 2020; Kelly et al., 2010; Wood et al., 2019). Historically, policies, programs, and practices related to OAT have often been structured and organized in a rigid and restrictive manner (Bourgois, 2000; Frank, 2018; Frank, 2020) or in other words, as a means to control the body and behaviours of individuals who use substances (Bourgois, 2000; Fischer et al., 2002; Frank et al., 2021). Sometimes individuals seeking treatment have been required to access daily dosing of their medications from the pharmacy or a dispensary (Cioe et al., 2020; Frank et al., 2021; Wood et al., 2019). Daily dosing of medication limits an individual's ability to work, go to school, take a holiday, and can present financial costs to individuals on treatment (e.g., travel costs) (Cioe et al., 2020; Fischer et al., 2002; Frank et al., 2021; Russel et al., 2021; Wood et al., 2019). In some instances, individuals can obtain take-home doses (or carries), but this can be challenging if there are rigid rules related to the carriers (Frank et al., 2021).

Chapter 3- Methodology

The purpose of this qualitative study was to develop an understanding of the experiences of providers in Nova Scotia who are prescribing OAT in a primary care setting. The focus was placed on understanding what influenced participants' decision to prescribe OAT, how providers prepared to prescribe OAT in their practice, if there have been any changes over time to their OAT prescribing or personal attitudes, and to identify what providers recommend to support OAT prescribing.

This chapter outlines the philosophical worldview, the research design, and the research methods. The philosophical worldview and research design provided a framework for the study. The research methods are the specific procedures used to obtain and analyze the data (Creswell & Creswell, 2018; Polkinghorne, 1988). The discussion of the research methods includes an outline of the study population and recruitment strategies utilized, the data collection process, and how the data were analyzed. This chapter also highlights relevant ethical considerations and the proposed knowledge translation activities.

Philosophical Worldview

The philosophical worldview and research design of a study provide a lens, or lenses, through which a researcher conducts the study (Weaver & Olson, 2006). As a health promotion thesis, this study was grounded in the social determinants of health using the philosophical tenets of social constructivism and narrative theory to guide this study, which are briefly outlined below.

Social Determinants Influencing Health

There are many social determinants of health including income, education, race, ethnicity, the physical environment, and access to healthcare (Braveman & Gottlieb, 2014;

WHO, 2010). This study focused on access to healthcare and, more specifically, access to OAT because OAT is an effective treatment for opioid addiction. This study was conducted through this lens and explored providers' experiences prescribing OAT.

Social Constructivism

The ontological position of social constructivism is based on the premise that for an individual, reality and knowledge are constructed through their interpretation and understanding of lived experiences (Amineh & Asl, 2015; Creswell & Creswell, 2018; Creswell & Poth, 2018; Price, 2011; Schwandt, 1994). Reality is relative to the individual, and therefore, multiple realities can exist at any given time (Creswell & Poth, 2018; Denzin & Lincoln, 1994; Price, 2011). Social constructivism posits that individuals create these realities and knowledge jointly, assuming a shared understanding of meaning and significance from within their specific context (e.g., social, cultural, and political) (Amineh & Asl, 2015). Social constructivism as a worldview allows researchers to examine the vast and diverse realities of human experiences and the influence of social contexts on participants' realities (Creswell & Poth, 2018; Schwandt, 1994). By acknowledging social constructivism as a worldview, I also recognize that this study and the findings are influenced by my lived experiences (Creswell & Poth, 2018).

Narrative Theory

This study also employed narrative theory as a theoretical lens to guide the study. Narrative theory suggests that our lives are a series of connected stories and that through stories, we can share knowledge and information (Carson, 2019; Clandinin & Connelly, 2000; Polkinghorne, 1995; Polkinghorne, 1988). Narrative theory suggests that creating a narrative is a dynamic process that provides a way of knowing through a search for meaning in our existence (Beiter, 2007; Polkinghorne, 1995). Narrative configuration is the process of creating a narrative

and is accomplished through emplotment (Polkinghorne, 1995). Emplotment is the process of organizing, interpreting, and internalizing lived events that give meaning to our experiences (Polkinghorne, 1995). Through emplotment, we integrate our experiences into a united whole (i.e., the narrative) that provides understanding and knowledge (Clandinin & Connelly, 2000; Polkinghorne, 1995; Price, 2011). Given this dynamic process, a narrative is not fixed and can change over time depending on what information we are trying to share (Polkinghorne, 1995; Price, 2011).

Research Design

The research design for this study was a qualitative narrative inquiry. Little is known about the experiences and perspectives of primary care providers who prescribe OAT in Nova Scotia. Qualitative research is a valuable approach to exploring issues we know relatively little about. Qualitative research designs and data collection methods allow researchers to collect rich and meaningful data that contributes to our knowledge and understanding related to the research problem (Beiter, 2007; Polkinghorne, 2005).

Narrative Inquiry

Narrative inquiry was used for this study to understand participants' experiences by examining how they described their decision to prescribe OAT, how they prepared to prescribe OAT, their experiences prescribing OAT in practice and their recommendations. Narratives allow individuals to describe their experiences in a way that conveys complex, personal, and contextual information (Lapum, 2009; Pitre et al., 2013; Polkinghorne, 1995; Riessman, 1993). The use of narrative inquiry allowed for an exploration of the broader socio-cultural context of Nova Scotia and how this influenced participants' experiences. Narrative inquiry was viewed as an effective research design to help encourage descriptive and rich data collection from

participants. Narrative inquiry is the study of stories (Pitre et al., 2013), and humans are intuitive and intentional storytellers (Clandinin & Connelly, 2000; Pitre et al., 2013). Healthcare providers are familiar with stories as a means of communication through collecting data from patients and conveying information in the form of a patient history. For these reasons, this study employed narrative inquiry to explore participants' experiences.

Research Methods

Study Population and Recruitment

The study population was individuals who were or had recently prescribed OAT in primary care in Nova Scotia. To be eligible, participants had to be a family physician or primary care nurse practitioner working in a primary care practice in Nova Scotia and currently prescribing OAT or were previously prescribing. If previously prescribing, participants had to have prescribed within the previous two years so that data could reflect relatively recent experiences and perspectives of OAT prescribers in Nova Scotia. Excluded from the study were primary care providers who were not prescribing OAT, had not prescribed OAT in primary care within the previous two years, or were not practicing in Nova Scotia. All participants had to be fluent in English to complete the interview.

Although the number of nurse practitioners prescribing OAT in Nova Scotia was expected to be relatively low, I thought it was important to include nurse practitioners in the study. There are nurse practitioners prescribing OAT in the province as well as in other places throughout North America. The perspective of nurse practitioners prescribing OAT has not been well studied, and therefore exploring the perspectives of nurse practitioners is important. Their perspective is very relevant to my own experience, and I wanted to understand how nurse practitioners prescribe OAT. In addition, with a growing number of nurse practitioners working

in Nova Scotia (Curry et al., 2019), nurse practitioners may help to improve the accessibility of OAT (Bates & Martin-Misener, 2021).

Purposeful sampling techniques were used to recruit participants for the study as this recruitment method ensures the recruitment of participants who can speak to the research questions (Creswell & Creswell, 2018; Creswell & Poth, 2018). Three recruitment strategies were utilized: gatekeepers, snowball sampling and personal/social network recruitment. Gatekeepers were identified as organizations connected with primary care providers or OAT. Three key gatekeepers assisted with recruitment: A community-based opioid treatment program in Halifax, Nova Scotia Health, and a professional organization for physicians. These two gatekeepers distributed study recruitment posters (See Appendix A for recruitment poster 1- physicians and nurse practitioners, and Appendix B for recruitment poster 2 - physicians) and/or a recruitment email (See Appendix C) to potential participants. Gatekeepers distributed study information via email and/or an advertisement in a newsletter and/or social media such as Twitter, Facebook, and Instagram. Additionally, gatekeepers could contact potential participants via telephone to inform them of the study, provide contact information, and share the recruitment material. Gatekeepers were not responsible for recruiting participants or scheduling interviews. Gatekeepers were asked to notify potential participants about the study and provide contact information for the primary investigator to learn more about the study. The second recruitment strategy was snowball sampling which involved asking participants to speak to their colleagues who fit the eligibility criteria and who might be interested in participating in the study. The third recruitment strategy involved direct contact with a potential participant via an individual who had professional connections with the study population.

Data Collection

Eight individuals volunteered to participate in the study. I conducted one-on-one, semi-structured qualitative interviews by telephone. Interviews were conducted from January 2021 to July 2021 and lasted 45 to 90 minutes. All participants were offered the opportunity for a second interview, but no one opted to have a second interview. The interview guide explored participants' experiences through broad, open-ended questions to help encourage a conversation, storytelling, and a meaningful account of the participants' experiences. (See Appendix D for a copy of the interview guide) and was developed with input from committee members. The guide was reviewed by a healthcare professional familiar with OAT and primary care who provided written feedback. The interview guide helped to facilitate discussion while allowing flexibility to ask probing questions that were responsive to emerging concepts (Price, 2011). At the end of the interview, two socio-demographic questions were asked related to age range and self-reported gender identity. Prior to the interview, voluntary informed verbal consent was obtained, and with permission from each participant, the interview was audio recorded. (See Appendix E for a copy of the consent form). I transcribed the audio recordings verbatim and checked the transcripts for accuracy by listening to the audio recordings and comparing them to the transcripts.

Memoing was a valuable tool to help capture my initial thoughts, feelings, key points, and emerging concepts (Beiter, 2007; Carson, 2019; Price, 2011). Memoing was carried out throughout data collection and analysis. A memo was completed after each interview, which allowed me to capture initial thoughts, concepts, and tone, and between interviews, to note my evolving questions, ideas, or emerging concepts. Memoing helped me reflect on the data and my role in the study.

Data Analysis

Data analysis for this study was informed and guided by Polkinghorne's (1995) theory of narrative configuration because it aligned well with the objectives of this study by attending to plot, context, and temporality. Attending to plot, context, and temporality allowed analysis to identify broader sociopolitical contexts influencing OAT prescribing in primary care. A series of guiding questions were used in data analysis (See Appendix F). Guiding questions were adapted from Carson (2019), Miller (2017) and Pitre et al. (2013), as well as suggestions by Polkinghorne (1995) for attending to context. Guiding questions helped to explore and analyze what the participant was saying with their story, how they narrated their story and the context of their story.

Developing the Story Structure. Analysis began by first understanding the interview/narrative account as a whole story. As participants narrated their experiences, they would go back and forth in their timeline, weaving the meaning and significance of events from their past to their current practice. Therefore, the analysis began by first listening to their interview. Then I read and re-read the transcripts until I could develop an understanding of their experiences as a whole narrative by putting events and experiences into chronological order. This provided structure to the narrative. This structure provided a reference point I returned to throughout the analysis to ensure the story remained the central focus as the analysis progressed. After familiarizing myself with the participant's story, I developed a plotline or timeline of the narrative. I accomplished this by creating a graphic depiction of the plotline in a Microsoft Word document for each participant, noting meaningful events or points they emplotted in their narrative. For example, a point was made when a participant went to medical school, decided to

prescribe OAT, discussed challenges to prescribing, or factors that helped them to prescribe OAT. The timeline helped to organize significant events and actions in each participant's story.

Emplotment and Narrative Configuration. After identifying a storyline of participants' experiences, I explored the significance and meaning of events or experiences that influenced participants' narratives guided by Polkinghorne's (1995) theory of narrative configuration. I analyzed what participants reported was significant in their experiences prescribing OAT. I analyzed how participants communicated this information to understand how they emplotted meaning to those events and experiences by listening to their tone of voice when they emphasized words or events and how they connected those events and experiences to their actions prescribing OAT. For example, when participants were asked about when they started to prescribe OAT, several participants began by first discussing the limited accessibility of OAT in their communities (e.g., long wait times and individuals in their practice seeking treatment). Several participants then reported that this was one of the reasons why they started to prescribe OAT, which identified that this was an important event for them. When participants were discussing these events, they became very animated in their storytelling (e.g., they started to talk more rapidly, and their voice would rise). For me, those descriptions identified a need for access to OAT in those communities. How participants described those experiences suggested that participants empotted value and importance to the accessibility of OAT. In addition, how participants described their experiences indicated that participants were passionate about prescribing OAT.

I used a visual mapping technique described by Lapum (2009) and Price (2011) to capture key concepts, themes, and patterns of emplotment in each participant's interview. Visual maps were created in a Microsoft Word Document with text boxes, lines, and arrows to connect

concepts. Using the guiding questions and Polkinghorne's (1995) suggestions for attending to the context, I identified the patterns of emplotment and refined the visual maps as the analysis progressed. Similar concepts (e.g., education, policy, supportive factors, recommendations) were colour coded to help identify these concepts in the visual map. I referred back to the initial timeline to maintain data within an individual's narrative context. I reviewed memos alongside transcripts while creating visual maps.

I used the visual maps to understand the data and patterns of emplotment as well as temporality. Initially, I had intended and even tried using qualitative software. However, I found maintaining the story as a whole challenging and decided to use the visual mapping technique described above. Using visual maps, I felt I could maintain the wholeness of each participant's narrative and identify significant events, key concepts, patterns of emplotment, and themes that contributed to the narrative more effectively than I was when using qualitative software. I use the term theme(s) to refer to a concept(s) identified as significant or meaningful to the narrative irrespective of the frequency that a participant used a term in the interview (Price, 2011).

Paradigmatic Analysis. Paradigmatic analysis is a form of thematic analysis but one that is used for narrative inquiry. Both paradigmatic and thematic analysis methods identify similarities, differences, and exceptions among concepts and themes across the data set (Braun & Clarke, 2008; Carson, 2019; Polkinghorne, 1995; Price, 2011). For the paradigmatic analysis, I analyzed the collection of individual narratives to identify similarities, differences, and exceptions in the collection of narratives by looking at the narrative structures, key concepts, and patterns of emplotment. Findings are presented in the following chapter and reflect key themes identified in participants' narratives. Direct quotes are used from participants' interviews to help support key themes/concepts.

Ethical Considerations

Informed Consent.

Participation in the study was entirely voluntary. A consent form was emailed to each participant before the scheduled interview to ensure participants were fully informed about their participation. The consent form discussed the rationale and purpose of the study, how the study would be conducted, expectations of participant involvement, the expected length of data collection, and the risks and benefits of participating in the study. I verbally reviewed the consent form with each participant and obtained their verbal consent to participate in the study before the interview. Consent was obtained verbally because interviews were conducted via the telephone and collecting written consent would have been challenging for participants given that primary care providers are often busy and written signatures would have required more time and the necessary resources to provide written signatures (e.g., fax machine, printers, or e-signature capabilities). Verbal consent was documented with the researcher's signature on the consent form.

As part of the consent process, participants were made aware that they could stop the interview at any point and that they had the right to withdraw from the study up to one week after the interview. Participants were also informed that after one week, the interview audio recordings would be transcribed and become part of the data set. Once interviews were part of the data set, individual interviews could not be removed.

Risks and Benefits.

Participants were informed that select socio-demographic information would be collected as part of this study, including their age range, self-identified gender identity, profession, practice details and practice setting. Participation in the study presented minimal risks to the

participants, but one risk was the potential for research participants to be identified. To mitigate the risk, minimal identifiers were used when speaking about a particular interview or presenting a quote, and participants were asked about their age range rather than a specific age.

Privacy and Confidentiality

To protect participants' privacy and confidentiality, audio recordings were transferred to two password-protected hard drives after each interview and then deleted from the audio recorder. No research data were kept on any personal computers. After one week, recordings were transcribed and checked for accuracy, and then the audio recordings were deleted from the hard drives, given that voices are recognizable. Personal identifying information (e.g., names, places, and dates) was not transcribed. When research documents were shared for debriefing and consulting with the academic supervisor or the research committee, steps were taken to protect the data. Any electronic records shared were password protected in Microsoft Word and sent via a password-protected file exchange to institutional emails only. Passwords were communicated to the research team in a separate email. After consultation, all documents and emails were permanently deleted from the file exchange and the research team's email inboxes.

All study data on the external hard drives have been locked in a filing cabinet in my (Alicia Grant-Singh) personal residence. I am the only one with access to the filing cabinet. After completion of the study and a written thesis, the data will be maintained and remain in the locked filing cabinet for seven years. After seven years post thesis completion, I will physically destroy both hard drives (i.e., study data) as per NSH IT destruction policy.

Knowledge Translation

Findings from the study are shared in a written MA thesis. A lay community report will be created to share findings in an accessible format. A copy of the community report will be sent

to research participants who expressed an interest in receiving a copy of the community report and select stakeholders. Stakeholders are defined as people or organizations that may have an interest or stake in this research, as well as people who may be affected by the research outcomes (Vitae, 2021). Some of the identified stakeholders include the following: Nova Scotia Health, Dalhousie University School of Medicine and School of Nursing, Doctors Nova Scotia, as well as community-based OAT programs in Nova Scotia (e.g., Direction 180). Primary care providers may also be interested in the results as the findings are relevant to primary care and primary care practices in Nova Scotia. Findings may also be useful for primary care providers in other provinces, given that some similarities exist between provinces with respect to primary care and OAT prescribing, and some of the findings may be transferrable.

Findings from this study may also be shared in a peer-reviewed journal article. The study results may also be presented at conferences targeting primary care providers and health researchers in Nova Scotia.

Chapter 4 – Findings

Study Participants

Eight primary care providers were interviewed for the study. This study defined a primary care provider as a family physician or a primary care nurse practitioner. Of the eight primary care providers, four self-identified as male and four self-identified as female. The age of participants ranged from 31 to 60 years. Over half of the participants (n=5) ranged in age between 31 to 40 years. Two participants were 41 to 50 years of age, and one participant was 51 to 60 years of age. Participants worked in rural (n=6) and urban (n=2) settings throughout mainland Nova Scotia. In terms of payment models, half of the participants were paid by salary (n=4) and half were paid fee-for-service (n=4), but most participants had some experience working with fee-for-service. At the time of the study, all the participants were prescribing OAT in primary care practice and had been prescribing OAT for fewer than ten years.

Overview of Key Themes

Participants described their experiences and perspectives over time, starting with their decision to prescribe OAT and what influenced their decision. After deciding to prescribe OAT, participants discussed what needed to be in place for them to be able to prescribe OAT. Once prescribing OAT in primary care, participants discussed their experiences prescribing OAT in practice identifying some key challenges which made it difficult to prescribe OAT as well as what helped to make it easier to prescribe. Four broad themes emerged from the analysis of participants' narratives. The themes are as follows: 1) *Influences on participants' decision to prescribe OAT,* which identifies what participants reported as influencing their decision to prescribe OAT, including an interest in prescribing OAT, a need for access to OAT in the community, proximity to mentors, work expectations, and peer support; 2) *Acquiring the*

necessary pre-requisites to prescribe OAT, which reports how participants prepared to prescribe OAT. This theme discussed how participants obtained OAT education and training, obtained the Health Canada exemption (during the time period when it was required), and incorporated OAT into their practice; 3) *Experiences prescribing OAT in primary care* which highlights the positive aspects of prescribing OAT in primary care, the challenges to prescribing OAT, and what helped them to prescribe OAT; and, 4) *Participants' recommendations* identifies what participants believed may help to make it easier to prescribe OAT in primary care and hopefully encourage more providers to prescribe OAT in primary care. Each of these themes are discussed below.

Quotes from participants are identified by participant number. After completing recruitment, I decided that linking quotes to the profession (i.e., family physician or nurse practitioner) would be too identifying. This is because most primary care providers in the province are family physicians with fewer numbers of nurse practitioners (1142 family physicians vs approximately 122 primary care nurse practitioners) (College of Physicians & Surgeons of Nova Scotia, n.d.; Curry et al., 2019). More specifically, there were only approximately 21 nurse practitioners prescribing OAT in any setting (e.g., specialized OAT programs, primary care) in Nova Scotia in 2021 (NSPMP, November 2022).

Theme 1 – Influences on Participants' Decision to Prescribe OAT

Analysis of participants' narratives highlighted three important influences on their decision to prescribe OAT. Influences were not mutually exclusive, and many participants identified more than one influence on their decision to prescribe OAT.

An Interest in Prescribing OAT

Several participants reported their decision to prescribe OAT was influenced by an interest in prescribing OAT, which was often connected to a previous clinical experience. One

participant, for example, reported they initially experienced prescribing OAT in primary care through a clinical rotation in family medicine which 'sparked' their interest in prescribing OAT and stated that, "I did a 6-week rural family [medicine] rotation … the family doc [prescribed OAT] and I found it quite interesting. So that kind of sparked my initial interest in [prescribing OAT]" *(*P6). Several participants, who identified a clinical experience with prescribing OAT as a student, connected their interest in prescribing OAT to their clinical experiences.

A few participants indicated that they were interested in prescribing OAT because they believed it was important to provide access to treatment for people regardless of their medical condition. As one participant shared:

> Patients sometimes will have a stigma around them. It's not always fair, and not a lot of docs are willing to invest time in that group or even willing to see them in their own office, and for me, that's just important. I feel like [this] is a group of patients that needs attention just as much as anywhere else. (P6)

A Need for Access to OAT in the Community

Several participants reported that limited access to OAT in the community influenced their decision to prescribe OAT. Through their narratives, participants reported that some of their patients, and other individuals within the community, had trouble accessing or staying on treatment for reasons such as long wait lists, limited OAT prescribers, and distance to OAT programs. One participant explained that they were influenced to prescribe OAT because a patient in their practice was having trouble accessing OAT due to long wait lists. This participant stated that:

> There was one case that I had … someone with chronic pain that was struggling with opioids … At that time, there was a long waiting list to get access to opiate agonist

> treatment, and my thought was, why can't we get [them] treatment in primary care, why [must they] go to another location for this treatment when it's kind of something that a family doctor can probably do. (P4)

Other participants reported that access to OAT was limited in their community because of the limited number of OAT prescribers and the location of specialized opioid treatment programs. Several participants indicated that the specialized opioid treatment programs were often located in more urban communities/areas, which made it challenging for individuals living outside these areas to access the clinic for reasons such as time, cost, or a lack of reliable transportation. One participant explained the need for access to OAT in their community as influencing their decision to prescribe OAT as follows:

> A couple of years ago, … [I] decided that it might be a good thing to start prescribing [OAT] or at least offer. There is nowhere, I think [within 1-1.5hr drive] that was prescribing … And so, most people had a lot of transportation issues, and we knew there was a need … a lot of these folks were having trouble getting to [an OAT program]. (P5)

'Proximity' to Mentors, Work Expectations, & Peer Support

A couple of participants identified that their 'proximity' to mentors (i.e., colleagues who were already prescribing OAT) or the expectation to prescribe OAT when joining a clinic influenced their decision to prescribe. These participants indicated that when they finished their medical or nursing training, they had not necessarily intended to prescribe OAT but started working in a collaborative practice where their colleagues were prescribing OAT. They explained that their proximity to colleagues with experience prescribing OAT who could mentor them precipitated their decision. As one participant shared, they started to prescribe mainly because there were others in their clinic prescribing OAT who could mentor them and because

they wanted to provide coverage if their colleagues were away from the office. According to this participant:

> Mentoring would be the main thing that influenced my decision. I can't remember exactly when I started but probably within my first year of practice. … So, partly out of necessity for cross-coverage for my colleagues and also because of the proximity of mentors, I did the training. (P7)

Another participant indicated that prescribing OAT was an expected part of their job when hired, which was why they started to prescribe OAT. As this participant explained, "So, it was known when I came into practice that this was going to be a large part of my role in the position" (P3).

For a few participants, working with others who were interested in prescribing or already prescribing OAT provided a sense of peer support and improved personal comfort and confidence in their ability to prescribe OAT in primary care, thus influencing their decision to prescribe. One participant explained that the peer support influenced their decision to prescribe, and they stated that, "It was kind of like we're all in this together, and even if we're not sure what [we're] doing with it, we'll figure it out" (P5).

Theme 2 –Acquiring the Necessary Pre-requisites to Prescribe OAT

Once participants decided to prescribe, many reported that there were prerequisites they needed to address before they could start prescribing. The first prerequisite was gaining OAT education and training so that they were adequately prepared and knowledgeable about prescribing OAT. For providers who started to prescribe before the Health Canada Exemption to prescribe OAT was removed, the second pre-requisite was obtaining a Health Canada Exemption. The third pre-requisite was deciding how they would incorporate OAT into their practice.

Obtaining OAT Education and Training

All the participants indicated that once they decided to prescribe OAT, they needed to gain OAT education and training before they were able to prescribe OAT in practice. For some, education and training were necessary to obtain the Health Canada Exemption (discussed below). However, almost all of the participants reported that they thought they needed additional education and training before they could prescribe OAT. For many participants, OAT education and training were not part of their formal medical or nursing curricula. Therefore, before participants started prescribing OAT, they identified that they needed to gain the necessary knowledge and training. Participants reported that they acquired the knowledge and training required through continuing medical education courses and clinical learning experiences. However, participants explained that they needed to seek out learning opportunities on their own, and one participant stated, "I realized that I wanted to do that [prescribe OAT]. But I found I had to seek out those opportunities, you know, and still do" (P1).

A few participants indicated that they had decided to prescribe OAT before finishing their medical or nursing program. These participants were able to seek learning opportunities to prescribe OAT while they were still in training, so they were able to start prescribing OAT shortly after graduating. Some of these participants opted to use their elective clinical rotations in addiction medicine or with preceptors already prescribing OAT, which provided them with some experience, knowledge, and skill related to prescribing OAT. However, several participants decided to prescribe OAT after they were already practicing in primary care. These participants needed to acquire the necessary education and training while also managing their primary care practice.

Obtaining a Health Canada Exemption

Several participants who started to prescribe OAT before 2018 needed to obtain a Health Canada Exemption to be allowed to prescribe OAT. A few participants identified that the need to obtain an exemption was yet another step they needed to complete before they could prescribe OAT. A couple of participants noted that they did not believe obtaining an exemption was necessary or helpful for them. A few other participants acknowledged that although it was a 'pain' for them, they thought it was important to obtain an exemption. One participant explained they believed the exemption was important to ensure providers were sufficiently prepared to prescribe OAT given the lack of substance use education and training provided to physicians in their medical education. This participant noted that:

> When I started prescribing [OAT], I had to do the Health Canada Exemption. … That was a barrier and kind of a pain, but I also think that at the time, that was actually quite important because it wasn't taught very well, and it still isn't. (P1)

Incorporating OAT into Primary Care Practice

After deciding to prescribe, participants indicated that they needed to determine how to incorporate OAT into their practice. Participants indicated that they considered the administrative workload, the availability of staff, and how they would schedule patient appointments (e.g., length of patient appointments, having designated appointments or integrating OAT appointments into the day) when deciding how to incorporate OAT into their practice.

Administrative Workload and Availability of Staff. Participants reported that there was a significant amount of administrative work associated with prescribing OAT, which creates an additional workload burden for providers who prescribe OAT. To help manage the

administrative workload, several participants indicated that they needed another staff member to assist with the work. As one participant shared, they needed to have a "designated" administrative staff member available to help manage the administrative workload, and they described the situation below by stating:

> I needed to have [a] designated [staff] to [help] manage this caseload, specifically surrounding urine drug screening and just some of the other administrative tasks that are associated with OAT. That would be like pharmacy phone calls, prescription adjustments, and some of the more difficult scheduling items like patient no-shows or patients that don't have phones. (P4)

Patient Appointments. Many participants reported that scheduling appointments for OAT was challenging for a variety of reasons, including that many providers have fully booked schedules and thus limited availability for new patient appointments or appointments for urgent patient needs. Several participants indicated that they prioritized patient appointments for OAT because people seeking or receiving treatment often need to be seen urgently. Many participants also reported they often 'fit' individuals in for appointments even if their schedule was fully booked. Several participants identified that fitting people in for appointments was difficult but important. One participant explained why it was necessary to 'fit people in' and described their scheduling process as follows:

> It's hard to find the time to fit people in, but I think it's important, so I do. … I would still see them, and I prioritize them within days. I put them in somewhere because there's a lost opportunity if they show up to my office and can't be seen for three weeks, right. They might never come back. (P2)

Several participants scheduled patient appointments for OAT by integrating them into their daily practice, but a few had designated appointment times solely for prescribing OAT. A few participants had designated appointment times for OAT because it helped to coordinate and organize patient care and providers' schedules. One participant explained that designated appointment times helped them to plan and manage their schedule, stating that:

> I try to do all of my OAT prescriptions on [a specific day of the week], and I do that just for organizational purposes in my brain. So that allows me to know that if I miss [that day], I need to be prepared to extend prescriptions. If I take a vacation, I have to not schedule that [day] and then push them to a different [day], and it's just easier for my brain to manage. (P4)

Participants who incorporated OAT patient appointments into their daily schedule indicated that they did so because of a high volume of patients for whom they prescribed OAT or because it helped to ensure patient confidentiality. One participant reported that they incorporated patient appointments for OAT into their day-to-day practice because other patients would not know why the OAT patients were at the office. As this participant explained:

> Yeah, and the opioid treatment visits are kind of mixed in with everything else that is different in the day for a family practice. In other words, they're not all on a separate clinic; they're not all on the same day – they're just seeing their family doctor [and] nobody knows why, which is the way I kind of like it. (P2)

Several participants also reported that they try to book longer patient appointments for OAT than other conditions that may be less complicated.

Theme 3 – Experiences Prescribing OAT in Primary Care

Once participants decided to prescribe and were prepared to prescribe OAT, they started to prescribe in their primary care practice. Participants described their experiences prescribing OAT in terms of the positive aspects of prescribing OAT, the challenges of prescribing OAT, and what helped them to prescribe OAT.

Positive Aspects of Prescribing OAT

All the participants described prescribing OAT as a very positive experience. Participants used various terms such as rewarding, enjoyable, meaningful, and privileged when discussing the positive aspects of prescribing OAT. Participants identified that as a provider, there are many positive aspects of prescribing OAT in primary care. For several participants observing an improvement in an individual's quality of life was positive and rewarding. Several participants noted that often by the time people seek treatment, their quality of life has been significantly impacted. For some individuals receiving OAT, the treatment can have a rapid, positive, and dramatic effect that can improve an individual's quality of life. One participant explained this type of patient improvement as follows:

> By the time you get there [seeking OAT], you've probably lost most of the things that matter to most of us. [I have had patients] that have gone back [to school], and they're out in the workforce. They've stopped going to jail, you know, they were in the jail like every year. (P8)

Some participants reported that patients appreciate accessing OAT in primary care, indicating that individuals feel less stigmatized and more respected receiving treatment in primary care. A few providers identified that being able to provide treatment so that individuals felt respected

was a positive aspect of prescribing OAT. One participant indicated this during their interview, arguing that:

> [Patients] just feel so much more respected. They enjoy the process; they don't feel like people are staring at them when they cross the street into the [OAT] clinic. And so just allowing them to feel a little bit more humane and respected. I mean to be able to provide that is, I can't quite put anything on that in terms of a price tag. So, that's why I say it's rewarding. (P6)

Several participants reported that they had developed positive patient-provider relationships over time by prescribing OAT. Participants indicated that building therapeutic relationships with patients was a positive aspect of prescribing OAT. For some participants, creating a positive patient-provider relationship was important because individuals seeking OAT have often been treated poorly within the healthcare system. One participant described this positive relationship by stating:

> You're working with people, … who have had bad experiences in healthcare, and you have the great privilege to build trust with somebody who otherwise has lost trust in the system. I mean, even if the work is hard and long, and whatever, I mean that's a special privilege that we get to do that kind of work. (P1)

Challenges to Prescribing OAT

In their narratives, participants identified three key challenges that made it difficult to prescribe OAT in primary care: the billing process, selecting a medication, and adhering to OAT guidelines.

The Billing Process. Many participants indicated that the billing process for prescribing OAT made it challenging to prescribe in primary care. Participants explained that several

requirements needed to be met for physicians to receive payment for prescribing OAT. The specific requirements are outlined in the *MSI Physician Handbook*. The MSI Physician handbook is a working document developed by Doctors Nova Scotia and the Department of Health and Wellness that outlines all of the fee codes available for billing purposes and the amount to be paid for each code (MSI, 2014). Many participants reported that billing and ensuring the requirements were met created additional administrative work and reported that they believed that some of the requirements were not always clinically indicated. However, several participants explained that they would not be adequately paid for prescribing OAT if they did not meet all requirements.

Selecting a Medication. A few participants reported that remuneration had influenced the type of medication prescribed for OAT by incentivizing one medication over another, which made it challenging to prescribe. They explained that when suboxone was first approved for treating opioid addiction in Canada, providers were paid less for prescribing suboxone and more for prescribing methadone. A few participants noted that this practice provided inconsistent and inadequate remuneration if suboxone was prescribed. A few participants identified that inconsistent remuneration made it challenging to prescribe OAT because it affected the revenue for the clinic, the ability to cover clinic expenses and the providers' income. A few participants also believed that it was problematic to incentivize or disincentivize care in this manner. In the case of suboxone, one participant expressed their concern about disincentivizing treatment with suboxone by explaining that:

> Suboxone is really a very positive, treatment-enhancing, low-stigma form of treatment, but providers might be dissuaded from using it if, if they can't, or at least not incentivized to offer it to patients if they're going to be financially penalized for doing so. (P7)

One participant described the inconsistent remuneration based on the prescribed medication as unethical because physicians are not paid according to the medications they prescribe for other chronic conditions. This participant noted that:

> When [the OAT billing codes] first came out, the billing code stated that it was only for methadone, you couldn't bill it for suboxone. So, that's unethical. …. [For other chronic conditions], we bill based on the illness we're treating. And if I choose a different agent for a diabetic, I don't bill differently based on that. (P1)

Adhering to Guidelines. Participants reported mixed experiences with using OAT guidelines (e.g., the Methadone Maintenance Handbook). Several participants reported that it was helpful to have a set of guidelines to follow when they first started to prescribe OAT. However, applying the guidelines to practice was sometimes difficult because the guidelines were currently outdated and did not include newer treatments such as suboxone. One participant commented, "There's an old Nova Scotia College of Physicians and Surgeons MMT handbook which was made probably 4 or 5 years ago, and that is completely outdated and quite frankly irrelevant like it doesn't even include suboxone or buprenorphine products" (P4).

Several participants suggested that there has been an expectation that providers strictly adhere to the OAT guidelines, and a few participants indicated that they were fearful that if they did not strictly adhere to guidelines, they might be reprimanded by the provincial regulatory bodies such as the College of Physicians & Surgeons or the Nova Scotia College of Nursing. However, many participants reported that it was not always possible for them to adhere to OAT guidelines in primary care. For instance, a few participants explained that patients missed or rescheduled appointments because of holidays, snowstorms, and pharmacy closures. A few participants identified that there had been instances when they needed to deviate from the

guidelines prescribing OAT to refill a prescription early or without a recent urine drug test, or to allow more take-home doses but were worried about being penalized for not adhering to the OAT guidelines. According to one participant:

> It's like if you don't do it exactly this way, then you know bad things will happen to you - the College will come down on you, all that kind of stuff. And then you realize that these are people, and you have to make calls on things, and you can't do everything by the book all the time. (P5)

What Helped to Prescribe OAT

All participants highlighted that what helped to make it easier to prescribe OAT were adequate remuneration, ongoing mentorship, flexible OAT guidelines, and the support available in collaborative practice settings.

Adequate Remuneration. Many participants identified that adequate remuneration has been key to supporting OAT prescribing in primary care. Participants explained that there had been some changes to remuneration for prescribing OAT in the last five years, with the introduction of designated OAT fee codes in 2016 and an update in 2019. The designated OAT fee codes paid physicians more for prescribing OAT than they were being paid previously for prescribing OAT with routine visit codes. The new billing codes also included a monthly maintenance fee for prescribing OAT. Most participants identified that prescribing OAT takes more time than prescribing treatment for other conditions. Participants reported that prescribing OAT requires longer appointments, frequent appointments, and more administrative work (e.g., phone calls, booking, scheduling, refill requests, and organizing urine drug testing). Before the designated OAT fee codes were introduced, several participants reported that they had not been

adequately remunerated for all the work that comes with prescribing OAT, which made it difficult to prescribe OAT in primary care.

Several participants reported that the designated OAT fee codes made prescribing OAT in primary care easier. The improved remuneration associated with the designated OAT fee codes helped to reduce the financial challenges associated with prescribing OAT and helped to support OAT prescribing in primary care. One participant explained how the OAT fee codes helped to support OAT prescribing by stating the following:

> The OAT codes, … were an absolute life saver [because what] this allows [us] to do is pay [our] staff, purchase the urine drug screen kits, and spend time with people who need it and really try to serve all of their health care needs as best [we] can. (P1)

Several participants who were paid a salary or had an alternative payment plan indicated that these payment models helped to support OAT prescribing in their practice. A couple of participants had switched from a fee-for-service payment model to a salary-based or alternative payment plan, which helped support OAT prescribing for these providers. One participant explained that when they started prescribing OAT, they were paid fee-for-service before the introduction of the designated OAT fee codes. They reported that it was not financially sustainable for them to prescribe OAT while they were being paid fee-for-service, and they needed to change their payment model to an alternative payment plan (APP). This participant recounted that:

> When I first [started prescribing OAT] [I] didn't have the APP [alternative payment plan], I was doing this fee-for-service, [and] you can't see people in 10 minutes and do[it] well … I could've started turning people into my practice every 10-15 minutes, [to] pay my staff, keep the lights on, and [earn an adequate income]. But there was no way it was

> sustainable, and that's not how I wanted to practice. … [but] when I got the APP [it] stabilized everything, and now I can do the full-scale work that I want to do and approach care in a holistic way. (P1)

Ongoing Mentorship. Many participants reported that ongoing mentorship helped to support prescribing OAT in primary care. Participants explained that it was helpful to have someone with experience prescribing OAT to discuss cases or complex situations as they arose in practice. Several participants indicated that the current telephone consult service was helpful as it was easy and quick to access. One participant reported that without the ongoing support of mentors, they may not have continued to prescribe OAT even after they had decided to prescribe. This participant explained why mentors helped them to continue to prescribe by stating:

> I think I found it [prescribing OAT] a little bit frightening … I don't think I would have stuck with it if I didn't have colleagues that were a lot more experienced that could help troubleshoot when I ran into concerns with patients that I was prescribing for. (P7)

Flexible OAT Guidelines. Several participants indicated it would be helpful if providers had more flexibility and control over prescribing OAT by using OAT guidelines as a guide rather than being applied as strict instructions. Several participants reported that they believed providers should be able to use their clinical judgement in prescribing OAT. However, a few participants reported that policies and practices had dissuaded them from using their clinical judgment. For instance, a few participants reported that if they use their clinical judgement and do not strictly adhere to guidelines or billing practices, they may not be adequately paid for prescribing OAT or fear that their regulatory organization may reprimand them (e.g., the College of Physicians and Surgeons of Nova Scotia or the Nova Scotia College of Nurses). However, several participants noted that due to COVID-19 public health restrictions prescribing practices

related to OAT were relaxed. The relaxed practices provided participants with more flexibility, and they could use their clinical judgment more freely to guide practice. For instance, participants indicated that patient appointments could be conducted over the telephone, and patients could obtain take-home doses of medications (i.e., 'carries') sooner and get a longer supply which was more convenient for patients. One participant noted that they could use more clinical judgment regarding scheduling appointments, take-home doses, urine drug testing, and prescription refills during COVID-19. This participant noted that:

> In the time of COVID, it's very different because … basically, all of those rules sort of went out the window. So, I think everyone has this feeling that there's way more lee-way and personal judgement that can be applied to how many carries are issued, the length of the prescription, or the frequency of [urine drug testing]. (P7)

Supports Available in a Collaborative Practice Setting. Most of the participants in the study reported that they were working in a collaborative practice at the time of their interview, and several participants identified that they were working in a collaborative setting when they decided to prescribe OAT. Working in a collaborative practice gave participants access to needed staff who could help with some of the administrative aspects of prescribing OAT, which helped them prescribe in primary care. Participants identified that the support of additional staff members reduced some of the administrative demands on the prescriber by helping with billing, scheduling patient and urine drug testing appointments, prescription refills, and telephone calls.

Several participants indicated that the availability of a multidisciplinary team in their collaborative practice made it easier to prescribe OAT. Participants noted that the various providers, such as family practice nurses, social workers, and professional colleagues, which made up the multidisciplinary teams in their practices contributed to various aspects of

prescribing OAT and thus helped to support their OAT prescribing. Social workers provided counselling services and assisted patients with some of their social concerns. Nurses, the participants reported, helped organize and conduct urine drug testing, completed initial screening, and assisted in visits. Several participants reported that patients receiving OAT often experience barriers when accessing mental health services such as counselling. A few participants indicated that some patients could readily access counselling services through their collaborative practice, which helped support patients receiving OAT and thus helped support OAT prescribing. Therefore, access to a multidisciplinary team's additional support and skills was identified as a supportive context for OAT. During their interview, one participant noted that:

> Having nursing staff involvement has been key. Our social worker here always makes sure to be free [at that time], so if anyone comes in with housing issues, mental health issues, or any kind of issues, they might be able to offer their services. (P5)

Theme 4 – Participants' Recommendations

Based on their experiences, participants provided recommendations to help support OAT prescribing in primary care. Three key recommendations were provided: 1) incorporate substance use education and training into the medical and nursing curricula for primary care providers; 2) review and update OAT guidelines and billing practices; and 3) improve the accessibility of mentors.

Substance Use Education and Training

A key recommendation suggested by many participants was for substance use education and training to be incorporated into the formal medical and nursing curricula for all primary care providers (i.e., physicians and nurse practitioners) in Canada. Participants identified that

substance use education and training in primary care programs are essential so that providers are prepared to prescribe OAT in practice after they complete their degree, just as they are prepared to treat other common chronic conditions. Participants emphasized that clinical, 'hands-on' learning needs to be central to providers' education and training to prescribe OAT. Participants explained that their clinical learning opportunities were crucial in developing their knowledge, comfort, and confidence in prescribing OAT in primary care. One participant indicated that the necessary skills for prescribing OAT, such as interpreting a patient's history, understanding an individual's personal, social, and medical needs, as well as communicating with patients is not attainable through theory alone, and therefore, incorporating clinical learning into medical and nursing curricula is critical. According to this participant:

> Comfort communicating with the patient and obtaining information from somebody that, you know, may have lots of different things happening, both socially, psychologically, and physically. And just being able to interpret all those different data pieces from the person and integrate that into your care plan. So that's the part you can't really gain through theoretical learning. (P4)

Review and Update OAT Guidelines and Billing Practices

Several participants indicated that OAT guidelines could support OAT prescribers, particularly when providers are just starting to prescribe. However, a few participants noted there was a need to update guidelines. When interviews were conducted, the Methadone Maintenance Handbook was 'retired' by the College of Physicians & Surgeons of Nova Scotia (College of Physicians & Surgeons of Nova Scotia, 2022). However, several participants reported using the handbook when they started prescribing or referring to it as they continued to prescribe OAT in practice. A couple of participants identified that they used guidelines from other provinces, such

as Ontario. Guidelines reportedly helped to support OAT prescribing in primary care and a few participants recommended creating new guidelines or a clinical resource for providers prescribing OAT in Nova Scotia. One participant suggested that:

> [One thing to] consider would be an updated OAT handbook for the province. Or just a kind of collaboratively produced resource that people could use to further educate themselves and get a little bit of support on the ground. … So, a working group could either develop a new document or a new kind of guide to treatment would definitely be something that would help. (P4)

It was noted by several participants, however, that guidelines need to be patient-centred rather than a set of rigid and restrictive rules to follow. A few participants noted that strictly adhering to the OAT guidelines made it difficult for patients to stay on treatment. They explained that guidelines rigidly applied in practice, have not provided patient-centred care, and have been stigmatizing for individuals receiving treatment. For example, one participant noted that punitive measures such as withholding treatment or take-home doses ('carries') from patients if they miss an appointment is not an appropriate way to treat people and not how people are treated with other chronic conditions. This participant explained that this type of treatment is not 'fair' by stating:

> Really lots of programs have been [very paternalistic], like 'if you don't show up, you're not getting your prescription, if you don't do this, you're not getting carries', … We've all decided in our practice, that's not fair. That's not taking into consideration the challenges of people living with opioid use disorder, the challenges people in the community have regarding their socioeconomic standings, and what that means in real life. (P3)

A few participants recommended updating billing practices. Participants identified that billing practices need to be flexible and reflect changes to practice in a timely manner. As one participant explained, the current billing practices are not flexible and having the ability to change in response to patients' needs would be helpful. This participant stated that "our billing bureaucracy is not nimble and not changeable easily, and so having a more timely response to changes in therapy would be helpful" (P7).

Improve the Accessibility of Mentors

Access to ongoing mentorship was helpful for many participants. However, finding providers who prescribe OAT can be difficult for providers with limited experience prescribing OAT. Therefore, participants recommended making it easier for providers to identify and contact colleagues who can mentor new prescribers. Participants suggested this could be achieved through informal and formal mentorship networks. One participant suggested that informal mentorship groups would be helpful as they explained that:

> I think almost like an informal mentorship group. I mean [here] we have [few] prescribers, including myself [and] I can call [them] if I have a question … [but] someone who's starting to prescribe in a vacuum they might not know who else is doing it, or might not have the resources to reach out on an informal basis to get some advice. (P2)

Participants reported that over the last few years, there has been a growing number of mentorship opportunities in the province, which have been helpful. For instance, several participants identified that the telephone consult service was helpful and that this type of service could be expanded. A couple of participants suggested that mentoring services or groups, such as the telephone consult service or informal mentoring groups, be more broadly advertised as there may be primary care providers working in rural and isolated communities who are not aware of

these resources. A few participants also recommended formal collaborative/mentorship relationships with specialized opioid treatment programs such as the hub-and-spoke model of OAT delivery.

Participants reported difficult situations, such as 'conflicts with patients,' 'patients not engaging with treatment,' patient relapse, and safety concerns, such as patients verbally threatening providers, occur in practice. A few participants noted that although these situations can be challenging, they can be managed well when providers are adequately supported through training and mentorship. One participant explained this point by stating:

> I think there are aspects of it that perhaps I don't like, but I think those are anticipated; those are the negative outcomes. [The] patient relationships that don't flourish, those are the challenging components. But with all of those bad ones, there are usually some good ones, and the good ones are really nice. … As long as you're supported by colleagues, I think those negative experiences can be managed really well and easily. (P4)

Chapter 5 - Discussion

OAT can help support and promote the health and well-being of people who use substances (Adamson et al., 2017; Amato et al., 2005; Hsu et al., 2019; Korownyk et al., 2019; Morozova et al., 2017). For this reason, it is essential that treatment is easily available for those individuals who want it. Currently, in Nova Scotia, many people who use substances experience barriers to accessing OAT (Dooley et al., 2012; Fraser et al., n.d.; Knight et al., 2017; Maina et al., 2021). One possible strategy to help improve accessibility is to increase the number of primary care providers who prescribe OAT. Existing literature has highlighted why some providers are not prescribing OAT in primary care (Andraka-Christou & Capone, 2018; Bates & Martin-Misener, 2021; Dooley et al., 2012; Hutchinson et al., 2014; Livingston et al., 2018). This literature does not provide an in-depth understanding of what may influence the decision *to* prescribe or what influences providers' practices when prescribing OAT in primary care. It is important to understand what influences the decision to prescribe OAT and OAT prescribing practices, as this knowledge can help inform policy and practice to help support OAT prescribing in primary care. From a health promotion point of view, supporting OAT prescribers is necessary to improve the accessibility of OAT.

To understand the influences on providers' decision to prescribe and their experiences prescribing OAT in primary care, eight interviews were conducted with primary care providers prescribing OAT in Nova Scotia. All of the participants reported challenges to prescribing OAT in primary care, which were consistent with existing literature (Andraka-Christou & Capone, 2018; Andrilla et al., 2019; Hutchinson et al., 2014; Livingston et al., 2018). However, participants in the study indicated that they were able to overcome or mitigate some of the challenges and point to contexts where some of the barriers or challenges were reduced. There

was some diversity among participants in terms of age, gender identity and practice setting. Participants identified the various influences on their decision to prescribe, what they did to prepare to prescribe OAT, their experiences when prescribing, and recommendations to help make it easier to prescribe OAT in primary care. Following is a discussion of key findings, which include viewing OAT prescribing as a positive and rewarding experience and the structural challenges that make it difficult to prescribe. The following discussion provides recommendations from the study to help support OAT prescribing in primary care. This section also presents study limitations and areas for future research.

Prescribing OAT Can Be a Positive and Rewarding Experience

Findings from the study have highlighted that prescribing OAT in primary care can be a positive and rewarding experience for primary care providers. Once participants started prescribing OAT, they continued to be increasingly interested in prescribing, and many participants increased the number of patients to whom they prescribed OAT over time. All the participants described the positive and rewarding aspects of prescribing OAT. This finding has yet to be discussed extensively in the literature, although Andrilla et al. (2019), Livingston et al. (2018), and Fiellin et al. (2001) do draw attention to this in their research. The literature thus far has primarily emphasized the barriers to prescribing. Although it is important to understand the barriers, focusing on barriers without discussing the positive aspects of prescribing may contribute to providers' perceptions that prescribing OAT is too challenging or too much work for primary care. Presenting the positive elements of prescribing OAT may help change how providers perceive OAT prescribing and thus may influence the decision to prescribe. Therefore, it is essential that providers are made aware of the many positive and rewarding aspects of prescribing OAT in primary care, which were highlighted in this study. The key positive

experiences identified in the current study included OAT prescribing was meaningful and rewarding work, positive patient- provider relationships, and observing positive changes to some individuals' quality of life after starting treatment.

Structural Challenges That Make It Difficult to Prescribe

Findings from this study also draw attention to several challenges facing primary care providers who want to prescribe, including the lack of education and training to prescribe OAT. For those prescribing, other challenges included inadequate remuneration, the administrative workload associated with prescribing, the lack of current guidelines, and guidelines that do not 'fit' a particular practice or patient situation. Participants in this study reported that they were able to address these challenges. Still, these structural challenges may be too difficult for other providers to address. As of 2022, there were approximately 1264 primary care providers in Nova Scotia (1142 family physicians and 122 primary care nurse practitioners), and it is estimated that only 386 of these providers prescribe OAT in primary care (College of Physicians & Surgeons of Nova Scotia, n.d.; Curry et al., 2019; NSPMP, personal communication, February 4, 2022). Many providers not prescribing may view the challenges as too daunting, but given the limited accessibility of OAT, helping to support primary care providers to take on the task of prescribing is necessary.

Opioid-related harms present a major public health concern. Improving access to healthcare services, such as OAT, is essential to help support and promote the health and well-being of people who use substances. OAT must be readily available for people seeking treatment. Access to OAT that is readily available, and part of routine primary care services, can help to reduce stigma and improve the accessibility of OAT. Incorporating OAT into routine primary care services will require structural and long-term social changes that address the

structural and social stigma towards substance use issues. Decriminalizing can help to reduce stigma, influence healthcare funding for harm reduction programs and treatment services, influence providers' personal attitudes, influence the curricula for primary care providers, and may also help change how substances use issues are conceptualized. Creating long-term social change and practice change will take time and cross-sector collaboration between the healthcare, social, and justice systems to achieve this goal. In the interim, however, there are some recommended interventions that can help to support OAT prescribing in primary care, which are discussed below.

Recommendations to Support OAT Prescribing in Primary Care

Three key recommendations have been identified to help support OAT prescribing in primary care. These recommendations include 1) including substance use education and training in the curricula for healthcare providers; 2) updating OAT guidelines and billing practices in Nova Scotia; and 3) appropriate remuneration for prescribing OAT. Recommendations are based on participants' specific recommendations and the study's overall findings

Substance Use Education and Training

A key recommendation from the study is to include substance use education and training in primary care providers' medical and nursing curricula. Substance use education and training are necessary to prepare providers to prescribe OAT (Chan et al., 2014; Dooley et al., 2012; Hutchinson et al., 2014; Kunins et al., 2013; Livingston et al., 2018; Tong et al., 2018). Participants identified that clinical, 'hands-on' learning was an essential part of their education and training and therefore needs to be part of providers' education and training. Clinical learning opportunities foster personal interactions between nursing and medical students and people who use substances. Personal interaction can influence providers' attitudes over time (Matheson et al.,

2017; Morozova et al., 2017; Muzyk et al., 2019; Silns et al., 2007), challenge prevalent negative stereotypes (Silns et al., 2007; Muzyk et al., 2019), and can influence the decision to prescribe OAT. Theory alone cannot provide students with the clinical interactions that participants in this study indicated were important and, therefore, may be less effective in changing attitudes and practice (Livingston et al., 2011; Matheson et al., 2017; Morozova et al., 2017; Muzyk et al., 2019; O'Neil et al., 2021; Silns et al., 2007).

A few studies have suggested that programs and professors can promote interactions between students and people who use substances in the classroom setting by inviting people with lived experiences to provide guest lectures and having individuals with lived experience present for clinical skills labs with students (Silns et al., 2007; Muzyk et al., 2019). Engaging students in critical learning and self-reflection that challenge commonly held negative stereotypes may also help to improve personal attitudes towards people who use substances (Silns et al., 2007; Muzyk et al., 2019). These learning opportunities can help promote new learning and understanding and allow students to practice and apply communication, assessment, and planning skills (Muzyk et al., 2019; Silns et al., 2007).

Changing curricula, however, may be challenging given that many educators may also lack the education, training, and experience to prescribe OAT. Another challenge will be addressing the pervasive and systemic stigma (Bates & Martin-Misener, 2021; Livingston et al., 2018; Livingston, 2020; Provincial Health Officer's Special Report, 2019) because although it is important to provide students with the necessary information, it is perhaps more important that teachings and discourses do not further perpetuate stigma and harm toward people who use substances (Biancarelli et al., 2019; Krishnamurthy et al., 2016; Livingston, 2020; Provincial Health Officer's Special Report, 2019). Incorporating treatment for addiction and substance use

issues into curricula will require a paradigm shift in healthcare services for people who use substances. Stigma and negative stereotypes are pervasive among healthcare providers, embedded in textbooks, media, and teachings (Biancarelli et al., 2019; Kelly et al., 2010; Kelly et al., 2016; Quan et al., 2020; Wakeman et al., 2016). To facilitate this paradigm shift, it would be helpful to seek advice and input from those providers who are prescribing OAT, as well as people with first-hand experience of substance use issues, to identify how they may contribute to or support the necessary paradigm shift. In addition, interprofessional education sessions may help to support this shift among healthcare providers. Nursing and medical programs would benefit from consultation with other departments or programs within their institution, such as health promotion, sociology, social work, and psychology, in the planning, development, and implementation phases of changing the curricula. Applying these interprofessional departments' expertise could help develop a comprehensive curriculum with a health promotion focus that includes harm reduction.

Update OAT Guidelines and Billing Practices

A second recommendation to help support OAT prescribing identified by participants in this study was to update OAT guidelines and billing practices for Nova Scotia. Findings identified that OAT guidelines can help support OAT prescribing in primary care. However, if guidelines lack a patient-centred focus or are applied as a set of rigid rules to follow rather than being seen as a resource, the utility of the guidelines is limited. Participants identified that rigid OAT guidelines and billing practices made it difficult to prescribe OAT in primary care, and the literature identified rigid guidelines and practices made it difficult for people to stay on OAT (Fischer et al., 2002; Frank et al., 2018; Wood et al., 2019). However, research studies have identified that the relaxed and more flexible OAT policies and practices observed during

COVID-19 have positively impacted some individuals on OAT (Frank et al., 2021; Russel et al., 2021; Wood et al., 2019). Participants noted that telemedicine appointments and increased access to take-home doses were positive changes associated with the relaxed OAT policies in Nova Scotia, findings which have also been reported in recent studies by Wood et al. (2019), Russel et al., (2021), and Frank et al. (2021). There are some individuals, however, that may benefit or feel more comfortable with in-person visits, regular urine drug testing, or fewer take-home doses (Russell et al., 2021), and therefore it is important that individuals have input into their own treatment (e.g., management and goals).

Guidelines, billing practices, drug policies, and addiction programs must be developed with a patient-centred, strength-based approach. Policies related to substance use issues that are not patient informed are often ineffective and can cause further harm to people who use substances, with adverse and long-lasting effects (Brown et al., 2019; Jürgens, 2008; Lygren et al., 2019). Working with individuals on OAT to incorporate a patient-centred focus that integrates individuals' areas of strength could help to address some of the critiques and limitations of OAT noted in the literature. People with lived experiences must be involved in the process and decision-making related to drug and healthcare policies (Canadian Association of People Who Use Drugs, 2022; & Payer, 2018). Providers, policymakers, and managers may not have the lived experiences of people who use substances and may not know what services are important or what barriers exist from the perspective of people seeking services (Brown et al., 2019; Lygren et al., 2019). Therefore, a review and update of OAT guidelines as well as the OAT billing practices should be developed. Policymakers and professional organizations could bring together a working group of key stakeholders to develop and update guidelines and billing practices. It is important to include stakeholders from different sectors within and outside of

government so that practices and guidelines address the complex and diverse social, physical, and mental health needs of people who use substances. Supporting the social, physical, and mental health needs of this population will require collaboration across sectors, such as government (e.g., Department of Health), professional organizations (e.g., Doctors Nova Scotia, Nova Scotia College of Nurses), community programs, and front-line primary care providers, to address the broader socio-political aspects of addiction care.

Appropriate Remuneration for Prescribing OAT

The third recommendation based on findings and participants' recommendations was to ensure adequate remuneration for all of the work of prescribing OAT, as this was identified as a key support for OAT prescribing in primary care practices. Several studies have identified that inadequate remuneration made it difficult to prescribe OAT in primary care (Andraka-Christou & Capone, 2018; Hutchinson et al., 2014; Livingston et al., 2018). Relatively few studies have identified what appropriate remuneration might be or how this influences practice. This study was not designed to identify adequate remuneration, but participants indicated that the designated OAT fee codes have helped support OAT prescribing in their practice. Therefore, it is recommended that the OAT fee codes be maintained and updated regularly to ensure they continue to provide adequate remuneration for providers prescribing OAT, as costs, practices, and work will change over time.

Salary-based remuneration models also help support OAT prescribing in primary care because providers are guaranteed a minimum funding level, which provides income and financial stability for the practice. However, not all providers may wish to have an alternative payment plan or salary.

Limitations of the Study

There were three limitations of this qualitative study. The first limitation of the study was that any potential differences in experiences between a physician and nurse practitioner working in primary care and prescribing OAT could not be explored, given the relatively small sample size. Participants were grouped as primary care providers, who had been defined as family physicians and primary care nurse practitioners. Findings reflect the experiences of these eight primary care providers but do not make any distinction between their professions. Further research is needed to explore the experiences and perspectives that might be specific to nurse practitioners in primary care prescribing OAT in Nova Scotia.

A second limitation is that participants in the study were all primary care providers working in rural and urban communities in mainland Nova Scotia. The experiences of primary care providers who might be prescribing OAT in Cape Breton are not part of the results.

A third limitation is that recruitment occurred during the early months of the COVID-pandemic, thus potentially impacted who volunteered to participate in the study. Also, some primary care providers prescribing OAT may have wanted to participate and share their experiences but may have been busy and unable to participate due to time constraints related to COVID-19. Some OAT prescribers may have preferred to conduct their interview in person and therefore did not volunteer for the study.

Future Research

Future research is needed to focus explicitly on the experiences of nurse practitioners in Nova Scotia, given that their experiences may differ from physicians' perspectives. For instance, nurse practitioners in Nova Scotia are typically paid by salary rather than fee-for-service (Martin-Misener et al., 2015) and often work in a collaborative practice (NSHA, 2022b), which

may influence their experiences of prescribing, including influences on their decision to prescribe.

Evaluation research is also needed to assess changes in substance use education and training curricula of physicians and nurse practitioners. Ongoing evaluation is key to ensuring that implemented policies and practices are effective and remain current. Evaluation is a vital part of planning health care services and should be viewed as part of an ongoing process in which policies, practices, and treatment are continually assessed, implemented, evaluated, and changed as needed (Rural Health Information Hub, 2022). It is essential that policies and practices are evidenced-based; therefore, evaluations are required to assess the efficacy of policies and programs and to inform future changes to practice.

This thesis has explored the experiences of providers who prescribe OAT in primary care, but it does not provide data on the experiences of people accessing OAT in primary care. A handful of studies have explored individuals' experiences accessing OAT in primary care (Drainoni et al., 2014; Fox et al., 2016; Morozova et al., 2017). These studies have identified some information about what is important for individuals seeking OAT in primary care and some of the challenges of seeking OAT. However, the patient perspective of receiving OAT in primary care has not been well studied within Nova Scotia, and people who use substances may have a different perspective that is not captured in the existing literature. Firsthand experiences and perspectives of Nova Scotians accessing OAT in primary care would contribute to our knowledge and help inform policy and program development, as well as identify gaps in our knowledge that cannot be addressed by examining only healthcare providers' perspectives.

Conclusion

This study has highlighted the experiences of eight primary care providers prescribing OAT in Nova Scotia and has drawn attention to why participants decided to prescribe OAT, how they prepared to prescribe OAT and how they incorporated OAT prescribing into their practice. Findings from this study indicate that despite some prescribing challenges, providing OAT in primary care can be a positive and rewarding experience. A few key recommendations for changes related to the curricula for family physicians and primary care nurse practitioners, adequate remuneration for prescribing OAT, and updating OAT guidelines and billing practices have emerged from the study that may help support OAT prescribing among primary care providers in Nova Scotia, with the ultimate goal of improving the accessibility of OAT in the province.

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Appendix A – Recruitment Poster 1

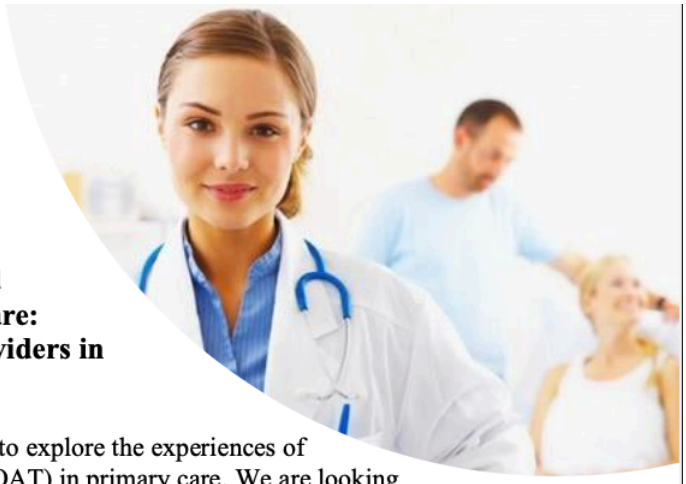
Physicians and Nurse Practitioners

Appendix B – Recruitment Poster 2

Physicians

Appendix C – Recruitment Email

DALHOUSIE UNIVERSITY



Research Study

Experiences of providing opioid agonist treatment in primary care: Narratives of primary care providers in Nova Scotia

We are conducting a qualitative study to explore the experiences of prescribing opioid agonist treatment (OAT) in primary care. We are looking for physicians and nurse practitioners who are currently prescribing OAT in primary care or have recently (within the past two years) prescribed OAT in primary care.

As part of the study you will be asked to participate in one telephone interview with a member of our research team. The interview should take approximately 30-60 min.

Your participation will help to provide information about this understudied area. Data from this study may provide valuable information for policy, program and education development.

The study is being conducted by Alicia Grant-Singh, a graduate student at Dalhousie in the MA in Health Promotion Program. Results from the study will be included in a written thesis and a community report for key stakeholders.

To learn more about the study or to participate please contact Alicia Grant-Singh at agrant5@dal.ca or 902-329-2752

BRIC NS SPOR

nova scotia health authority

Appendix D – Interview Guide

Draft Interview Guide (Sept 25 2020)

Title: Experiences of providing opioid agonist treatment in primary care: Narratives of primary care providers in Nova Scotia

Interview Guide

Preamble

I would like to know about your experiences and how they may have occurred overtime since you started prescribing OAT in primary care to today. I am interested in your decision to provide OAT, how you organize and provide OAT in your practice, how this has influenced you personally and professionally. There are no right or wrong answers but if you feel there is something relevant that I have not asked please feel free to talk about this. You can stop at any time during the interview or skip over any questions.

Rapport building

1) Can you tell me about how long you have been working in primary care and why you decided to go into primary care?
2) Could you tell me a bit about your clinic? The type of clinic, staffing, and payment model type(s).

    Probes:

    (i) Collaborative

    (ii) Solo practice, Multiple providers

        1. The number of clinic staff and position (healthcare providers, administrative) and rationale for the positions.

    (iii)Salary, fee-for-service model

(iv) Rural, urban

Decision to Provide

1a) Can you tell me about when, and why, you first started providing OAT and anything that may have influenced your decision to prescribe OAT?

Probes:

i. Why was it important to prescribe (values and beliefs) – were there any personal, or professional reasons (family, friends, patients, colleagues)?

ii. Education/Training – Could you tell me about your education/training on substance use and OAT. How this education/training may, or may not, have influenced your decision?

   a. More needed?

   b. On-site support/contact person if needed – would this be helpful?

1b) Could you tell me about your experiences when making your decision to prescribe?

iii. Any challenges you faced or considered when deciding to prescribe?

iv. Anything that might have been helpful or encouraged you to prescribe? provide OAT?

v. Policy, regulations or medical culture

vi. Clinic structure

Organize & Provide

2a) Can you tell me about how you organize and provide OAT in your practice, changes that may have occurred overtime and if so why? For example, how do you schedule patients for OAT, does someone see them before you do?

i. Follow-ups

ii. Monitoring measures (e.g., urine drug screen, pill count, bottle recall for methadone, prescription monitoring program)
    a. Cost (covered vs out of pocket expense) – prohibitive/helpful?
    b. Notification/Collection – who is responsible to organize, obtain and log – does this influence practice?
iii. Relationship with patients
iv. Choice of medication
v. Collaboration with patients, specialists or community pharmacy staff and pharmacists

2b). Since you began providing OAT have there been any challenges or positive changes/opportunities to providing OAT in primary care? Has

Personal Changes (Attitude)

3. Since you have been providing OAT, have there been any changes for you personally?

Recommendations to Improve Policy to Engage More Healthcare Providers

4. How might you improve policies, practice (training/education) to encourage more providers to prescribe OAT?

Closing

Is there anything else you want to tell me about your experiences of providing OAT in primary care?

Demographic Questionnaire

Before we end the interview can you answer a few short demographic questions.

1) Can tell me what age range you fall within?

□ 20- 30 years

□ 31 – 40 years

□ 41 – 50 years

□ 51 - 60 years

□ 61- 70 years

□ ≥ 71 years

2) Can you tell me your gender identity (e.g., trans, man, woman, non-binary)

_____

or

□ Not applicable

Appendix E – Consent Form

Informed Consent Form Non-Interventional Study

STUDY TITLE:	Experiences of providing opioid agonist treatment in primary care: Narratives of primary care providers in Nova Scotia
Informed Consent.	
PRINCIPAL INVESTIGATOR:	Alicia Grant-Singh, Graduate Student (MA candidate) School of Health and Human Performance, Dalhousie University, Stairs House – 6230 South St, PO Box 15000, Halifax, NS B3H 4R2, 902-329-2752

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1. **Introduction**

You have been invited to take part in a research study that is part of a MA thesis (Alicia Grant-Singh MA student) A research study is a way of gathering information on a treatment, procedure or medical device or to answer a question about something that is not well understood. Taking part in this study is voluntary. It is up to you to decide whether to be in the study or not. Before you decide, you need to understand what the study is for, what risks you might take and what benefits you might receive. This consent form explains the study, the risks and benefits, and what your participation in the study will include.

You are being asked to consider participating in this study because you are a physician or nurse practitioner who is prescribing opioid agonist treatment in primary care. You may take as much time as you wish to decide whether or not to participate. Feel free to discuss it with your friends, family, and/or colleagues. Please ask the interviewer to clarify anything you do not understand or would like to know more about. You are also free to contact the other members of the research team for further clarification(s). Please feel free to ask as many questions as needed to ensure all your questions are answered to your satisfaction before deciding whether to participate in this research study. Participation in the study is entirely voluntary. If you do decide to participate in the study, you also have the ability to withdraw from the study (within 1 week from your interview) without any repercussions.

The researcher will:

- Discuss the study with you
- Answer your questions
- Be available during the study to deal with problems and answer questions

2. Why is there a need for this study?

Opioid agonist treatment (OAT) is an effective pharmacological treatment for opioid use disorder that has been shown to improve the physical, psychological and economic well-being of people receiving treatment. Unfortunately, the accessibility of OAT is limited in many communities throughout North America, including Nova Scotia due to long wait times, limited availability of programs/prescribers of OAT, geography, and pharmacy availability.

Throughout North America, including Nova Scotia, only a small proportion of primary care providers are prescribing OAT in primary care. The current research on OAT in primary care has largely focused on the barriers to prescribing OAT in primary care. However, we know

relatively little about the experiences of those providers who are prescribing OAT in primary care and what influences their decision to prescribe OAT.

This qualitative study will explore the unique experiences of those providers who are prescribing OAT in primary care, or recently (within the past two years) have prescribed OAT and will explore what influenced their decision to prescribe. This study will help to fill a gap within the current research. Findings from the study may be valuable for education, policy, and. program development. In addition, findings from the study may encourage other primary care providers to prescribe OAT which might help to increase the accessibility of OAT.

3. How Long Will I Be in The Study?

Your participation in the study would include one telephone interview that will be approximately 60 minutes. You will have the opportunity for a follow up telephone interview, if you would like. A follow up interview can provide an opportunity to provide any clarifications or elaborations from your first interview, but it is not mandatory for participation in the study. You can request a follow up interview at the time of your initial interview, or you may contact the PI (Alicia Grant-Singh) within two weeks to schedule a follow-up interview.

4. How Many People Will Take Part in This Study?

The study will include 8-12 primary care providers (physicians and/or nurse practitioners) from across Nova Scotia. The study is expected to take approximately 8-12 months to complete. This will include the entire process from recruitment to data analysis to a written report (thesis) of the findings. There may be unforeseeable challenges, however, such as an extended period of recruitment in order to obtain up to 12 participants, and this may change the estimated study duration.

5. How Is the Study Being Done?

This will be a qualitative study. Data will be collected over 8 to 12, one-on-one, telephone interviews with Nova Scotia primary care providers who are prescribing OAT in primary care or have prescribed OAT in primary care within the past two years. Interviews will be used to collect information on the experiences of prescribing OAT in primary care. Each study participant will be asked to participate in one telephone interview. Interviews will be conducted over the telephone due to social distancing recommendations from Nova Scotia Public Health to limit exposure and transmission of COVID-19. Interviews will be audio-recorded. If participants do not wish to be audio-recorded handwritten notes will be taken during the interview in a word document. Field notes will be written by the researcher following each interview to capture initial interpretations and concepts that emerge. Field notes also will be useful for the researcher to provide some context to the transcript(s).

After the interview is complete, the audio-recorded interview with be transcribed and analyzed. Data will be analyzed for key concepts and themes following the processes for narrative and thematic analysis. Findings from the study will be reported in a written MA thesis by Alicia Grant-Singh, a Health Promotion graduate student at Dalhousie University. Findings from the study are planned to be submitted to a peer-reviewed journal, discussed in presentations and written reports.

6. **What Will Happen If I Take Part in This Study?**

If you decide to participate in this study, the PI will schedule a time with you for the interview. The interview will be conducted via the telephone. The PI will call you at the scheduled time for the interview. All of the interviews will be conducted by the PI for the study, Alicia Grant-Singh.

With your permission interviews will be audio-recorded. If you do not want to be audio-recorded handwritten notes will be taken during the interview in a word document. Handwritten notes taken during the interview will try to capture as much information as possible. Interviews (audio-recordings and handwritten notes) will be transcribed verbatim, but no personally identifying information will be transcribed. Transcription is taking the words and dialogue on the audiotape and writing, or typing, its word for word. After transcription is complete and checked for accuracy the audio-recordings will be destroyed. It is your choice to decide if you want to be audio-recorded or not. Before the interview starts the PI (interviewer) will ask for your permission to audio-record the interview.

The interview will be one-on-one and will take approximately 60 minutes. During the interview you will be asked questions about your decision to prescribe OAT, what may have influenced that decision (e.g., when, and why, you first started providing OAT), any challenges and/or supportive factors you may have experienced prescribing OAT in primary care, as well as how you organize and deliver OAT in your practice (e.g., how you schedule patients for OAT). We ask that you consider your experiences as a whole. We are looking to see how your experiences and decision may have evolved and changed over a period of time throughout your practice, and what may have influenced those changes/decisions. You may refuse to answer some of the questions or stop the interview at any time. You will be offered an opportunity to take a break during the interview; however, you may also request a break at any time. If you choose a follow-up interview, the same process will occur. For privacy and confidentiality reasons, it is expected that both you (the participant) and the PI (conducting the interview) will conduct the interviews from a private, quiet location that ensures confidentiality.

The transcripts will be analyzed using narrative and thematic analysis which simply means we will look at your experience prescribing OAT in primary care and how it has developed over time as a narrative. In your narrative, we will look for possible significant events (e.g., people, place, time, actions) that influenced your decision and experiences prescribing OAT. Throughout this process we will be looking for key concepts in your narrative that we will then code and theme.

Prior to the interview, a consent form will be emailed to potential participants and reviewed at the time of the interview. The consent form will be verbally reviewed by the PI at the time of the interview. Since the interview will be conducted via telephone, your verbal consent to participation in the study will be obtained and then documented by the PI who will sign and date that she has received your verbal consent to participate in the study.

Findings from the study will be submitted in a written thesis by Alicia Grant-Singh as a required component of Dalhousie's MA in Health Promotion Program. Additionally, findings from the study may be reported in peer-reviewed publications, reports and presentations. Participation in the study is voluntary and confidential. You may refuse to answer any question(s), stop the interview and/or withdraw from the study without any repercussions. You can withdraw from the study at any point *up to one week* after the initial interview. After one-week, interviews will be transcribed, analyzed and become part of the data set and participant information will be unable to be removed. To withdraw from the study, you will need to contact the PI (Alicia Grant-Singh). The contact details for the PI can be found at the top of this consent form.

7. Are There Risks to The Study?

Participation in the study will present very minimal risk to you. There are no medical risks to you from participating in this study but taking part in this study may make you feel uncomfortable. You may refuse to answer questions or stop the interview at any time if you experience any discomfort. If after the interview you wish to speak to someone about your discomfort, you might wish to contact free services through the appropriate organization listed below.

Direct quotes from the interviews will be used to provide examples of themes and to support the study findings. When a direct quotation is used, you will not be personally identified in the quotation. However, we will identify quotes by participant number as well as select sociodemographic information (e.g., physician or nurse practitioner, gender identity, urban vs rural setting, and/or fee-for-service vs collaborative practice). There is the possibility that a quote might identify you because it is linked to the select sociodemographic information. This is a risk of participation and therefore we ask that you only share information that you are comfortable sharing.

Doctors Nova Scotia

Physicians can contact the Doctors Nova Scotia Support Program which has a professional support program. You can access services for the Professional Support Program by calling **902-468-8215** or **1-855-275-8215**(toll-free) or by emailing professionalsupport@doctorsns.com.

Nova Scotia Health Authority Employee and Family Assistance Program (EFAP)

Employees (nurse practitioners, physicians) or family of NSHA employees can contact the Assistance Program (EFAP) by telephone (English Service: 1-800-461-5558
French Service: 1-800-363-3872) or online at workhealthlife.com

211

211 is a free, confidential information and referral service that will connect people to mental health services and programs.

You can contact 211 by calling 211 or visit https://ns.211.ca for more information.

8. Are There Benefits of Participating in This Study?

There are no direct benefits to participating in this study. However, your participation may help to improve access to OAT by providing data that may help to inform policy and program development. For example, this data may highlight positive aspects of a particular policy (or program) that facilitates prescribing OAT in primary care or highlight some barriers to prescribing OAT in primary care. Therefore, this data may provide valuable information to policy makers to help develop policies and programs that will support prescribing OAT in primary care.

9**. What Happens at the End of the Study?**

After all the study interviews are done the data will be analyzed and the findings from the study will be presented in a written thesis by Alicia Grant-Singh, the PI for the study. Findings from the study may also be reported in peer-reviewed publications, presentations and reports. If interested, you will be provided with a brief report of the study findings. If you would like to receive a copy of the report, you can request a copy during your interview, or you may contact the PI directly to request a copy.

Study records (e.g., external hard drives, consent forms) will be stored for a period of 7 years in a secure locked filing cabinet in the PI's home office. After 7 years the study records will be physically destroyed.

10. **What Are My Responsibilities?**

As a study participant you will be expected to:

- Participate in one telephone interview (approximately 60min)
- *Optional Follow up Interview* – You have the option for a follow-up interview, which is an opportunity to provide any clarification or elaboration, but it is not mandatory to participate in the study.
- Ensure you are in a private and quiet room/location during the interview.
- Ask the interviewer/PI for clarifications, or to discuss any of your questions and/or concerns.
- *Optional* - If you know of any other providers who are prescribing OAT in primary care you may inform them of the study and provide them with contact details for the study.

11. **Can My Participation in this Study End Early?**

Yes. If you chose to participate and later change your mind, you can say no and stop your participation in the study at any time up to *one week following your initial interview*. After one-week, interviews will be transcribed, analyzed and become part of the data set and participant information will be unable to be removed at this point. If you wish to withdraw your participation and interview from the study, please inform the PI (contact details will be emailed with your consent form). If you choose to withdraw from this study, there will be no repercussions or judgement. The PI and the Nova Scotia Health Authority Research Ethics Board have the right to stop participant recruitment or cancel the study at any time.

Lastly, the principal investigator may decide to remove you from this study without your consent for any of the following reasons:

We are unable to schedule/reschedule your interview.

Your interview is incomplete and/or does not provide data that can be adequately analyzed.

13. What About New Information?

If any new information, that might affect your participation in the study, becomes available before your interview you will be notified and will be asked whether you wish to continue taking part in the study or not.

14. Will It Cost Me Anything?

No. The PI will initiate the telephone interview and therefore any long-distance telephone charges will be the responsibility of the PI. If you need to contact a member of the research team, you will be provided with an email address and a telephone number for the PI. If long distance charges apply, you can email the PI and request a call back to avoid any personal expense.

Compensation

Your time is valuable, and we appreciate your participation in the study; however, we are unable to provide any compensation for you time or participation in this study.

Research Related Injury

Your participation in the study is unlikely to result in any physical injury. However, a personal injury (e.g., privacy breach), although unlikely, is a potential risk. If you become injured (privacy breach) as a direct result of participating in this study the following will apply. Your consent to participate in this study indicates that you have understood to your satisfaction the information regarding your participation in this qualitative research study. In no way does this waive your legal rights nor release the PI, the research team, the study sponsor or involved institutions from their legal and professional responsibilities.

15. What About My Privacy and Confidentiality?

Ensuring your privacy and confidentiality is extremely important when conducting a research study. As a research participant you have the right to know and control what information will be collected and how it may be used.

If you decide to participate in this study, the PI and her thesis supervisor will have access to your interview transcript. No personal health information will be collected as part of the study. Personal information, as it relates to your experiences prescribing OAT in primary care, will be collected as part of this study. Your name will not be on any study records; however, you may disclose other personal information during the interview that may be used in data analysis. In addition, the research team will collect information on:

- Gender identity
- Practice details (size of practice, fee-for-service, providers in office, collaborative practice)
- Age Range
- Practice setting (e.g., urban, rural)
- Profession (e.g., physician, nurse practitioner)

If you decide to participate in this study, we, the research team, will safeguard the information you have entrusted us to protect. *However, complete privacy cannot always be guaranteed. Under some circumstances, the principal investigator may be required by law to allow access to research records under some circumstances (e.g., if you were to disclose child abuse, if there is a risk to the wellbeing of yourself or others – intention to harm yourself or others).*

<u>Access to Records</u>

There will be no data stored on any computers. Study records (audiotapes, field notes, and transcripts) will be stored on an external hard drive (with a backup hard drive). Both of the hard drives will be password protected with a password only the PI will have. When not in use analyzing the data, all hard drives will be locked in a filing cabinet in the PI's home office. Post thesis completion, the study data will be stored in a locked filing cabinet in the PI's home office for a period of 7 years. After 7 years, the study data will be physically destroyed by the PI. All email and telephone contact (telephone number) will be deleted from phone and/or computer after each conversation.

Only the PI will be conducting the interviews. However, data analysis and written reports will be discussed with the Supervisor(s) and/or Research Committee members to ensure rigor and trustworthiness of the study. The Research Committee includes the PI, the PI's Academic Supervisor (Dr. Jackson), the NSH Affiliated Supervisor and Committee member (Dr. Gard-Marshall), and Dr. Hughes (committee member). When there is a need to share study information (transcripts) with the Supervisor(s) and/or Committee members additional measures will be taken to safeguard study records. For virtual meetings, electronic documents (e.g., transcripts) will be sent Supervisor/Committee members via institutional emails only, one at a time, via file exchange. The transcripts will be password protected through the WORD program. After reviewing the study records (e.g., interview transcript) the Supervisor/Committee member will ensure that the electronic documents have been deleted from their computer (if downloaded), and from their email system and the 'delete' box of their email system. If there are in-person meetings, the PI will bring a hard copy to the meeting and then collect at the end of the meeting and ensure they are safely stored or shredded if there are multiple copies. The research team will keep the information they <u>see</u> or <u>receive</u> about you confidential, to the extent permitted

by applicable laws. Even though the risk of identifying you from the study data is very small, it can never be completely eliminated.

People other than the research team may need to look at your personal information included in the study to check that the study followed the required laws and guidelines. These people might include:

The Nova Scotia Health Authority Research Ethics Board (NSHA REB) and people working for or with the NSHA REB because they oversee the ethical conduct of research studies within the Nova Scotia Health Authority.

Use of Your Study Information

No study data will be transferred outside of the research team or the NSHA REB. After your part (interview) in the study ends, we will continue to review your transcript and study data throughout the data analysis process. Findings from the study will be included in presentations and/or written reports (e.g., thesis, peer reviewed publication, conference presentations). Direct quotations from interviews will be used to provide examples and evidence for study findings. If a direct quotation is used from your interview, you will not be personally identified in the quotation. We will link such information as gender identity, urban vs rural setting, and/or fee-for-service vs collaborative practice to direct quotes from the interviews.

You have the right to access, review, and request changes to your study data *until one week* after your initial interview. After one week your interview will be transcribed, analyzed, and included in the study data at which point we will be unable to remove information from your study data (interview). If you wish to receive a copy of the community report, you can request a copy at the time of your interview. If you wish to review copy of the full written thesis by Alicia

Grant-Singh it will be available online through Dalhousie University following the thesis defense (in approximately 8 to 12 months).

16. Declaration of Financial Interest

This study is unfunded. The PI has no vested financial interest in conducting this study

17**. What About Questions or Problems?**

For further information about the study, you may call the PI, who is the person in charge of this study.

Principle Investigator - Alicia Grant-Singh

Telephone: (902)-329-2752.

Email: agrant5@dal.ca

If you wish to speak to someone about the conduct of the study, other than the PI, you may contact:

Academic Supervisor - Dr. Lois Jackson

No work number as working at home due to COVID-19.

Email: lois.jackson@dal.ca

NSHA Affiliated Research Supervisor – Dr. Emily Gard Marshall

Telephone: (902) 473-4155

Email: emily.marshall@dal.ca

Research Committee Member – Dr. Jean Hughes

Telephone: 902-494-2456

Email: jean.hughes@dal.ca

18. What Are My Rights?

You have the right to all information that could help you make a decision about participating in this study. You also have the right to ask questions about this study and your rights as a research participant, and to have them answered to your satisfaction before you make any decision. You also have the right to ask questions and to receive answers throughout this study. You have the right to withdraw your consent up to one week following the interview.

If you have questions about your rights as a research participant, and/or concerns or complaints about this research study, you can contact the Nova Scotia Health Authority Research Ethics Board manager at 902-473-8426 or Patient Relations at (902) 473-2133 or 1-855-799-0990 or healthcareexperience@nshealth.ca.

In the next part you will be asked if you verbally agree (consent) to join this study.

19. Consent Form Signature Page

I have reviewed all of the information in this consent form related to the study called:

Experiences of providing opioid agonist treatment in primary care: Narratives of primary care providers in Nova Scotia

I have been given the opportunity to discuss this study. All of my questions have been answered to my satisfaction.

Do you verbally consent to participate in this study?

☐ I **agree.** I understand that giving my verbal consent means that I agree to take part in this study. I understand that I am free to withdraw up to one week after the initial interview.

☐ I do not agree to participate in this study

_____ _____ _____ / _____ / ____

Signature of Person Conducting Consent Discussion (Alicia Grant-Singh) | Name (Printed) | Year | Month | Day*

_____ _____ _____ / _____ / ____

Signature of Principal Investigator (Alicia Grant-Singh) | Name (Printed) | Year | Month | Day*

Note: Please fill in the dates personally

<u>Audio-Recordings</u>

Do you consent to your interview being audio-recorded?

☐ I agree to have my interview audio recorded as described in this consent form.

☐ I do not agree to have my interview audio recorded as described in this consent form, but I agree to notes being taken.

Follow up Interview

Do you wish to be contacted for a follow up interview?

☐ **Yes**. I wish to have a follow up interview. I understand that the PI will contact me via email to schedule a follow-up telephone interview within two weeks.

☐ **No/Unsure**. I do not wish to be contacted for a follow-up interview. I understand that I can contact the PI within two weeks to schedule a follow- up interview if I wish to have a follow-up interview.

Appendix F – Guiding Questions

Part 1: Individual Questions

1) What is this storyteller telling me through this story? (Pitre et al., 2013).
2) What is my impression of the interview? (Carson, 2019).
3) How was this story brought to life? Emotion, inflection, what is the 'feeling' or tone of the interview? (Miller 2017; Carson, 2019).
4) What have I heard as I read and listened to this participants stories? (Pitre et al. 2013)
5) How do storytellers view themselves within the particular experiences? (Pitre et al. 2013)
6) What language/words are used/repeated/emphasised? (Miller)
7) What strands of discourse are apparent/drawn upon/rejected as individual's narrate their experiences? (Miller)
8) How might silences be 'read' (Carson, 2019; Miller, 2017)
9) What 'work' do individuals do in constructing particular versions of their selves? (Carson, 2019; Miller, 2017)
10) Is there a chronology/trajectory around which it seems appropriate to organize the events/storylines? If not, what might this suggest? What other ways of organizing the data seem appropriate (and why)? (Miller, 2017)

11) Contextuality & Temporality

   a. Who are the social actors/characters? (Can be non-human) (Pitre et al., 2013)?
   b. Do others feature (significant, powerful) feature in the narrative?
   c. (Carson, 2019; Miller, 2017).

d. What is unique about participants circumstances or social location? (Carson, 2019; Pitre et al., 2013).

e. How does the passage of time (even in a single narrative) shape what is voiced and shared or revised? (Miller)

Part 2: Collective Data Questions

12) Are there common words, phrases, language that are repeated or emphasized across the interviews?

13) What are the main similarities and differences in terms of social location, age, practice setting, or experience of participants? (Carson, 2019)

14) Who or what are the common characters/social actors (human or non-human) throughout these stories, including powerful others? (Carson, 2019)

15) What is similar discourse or narrative across interviews?

16) What are common silences, absences, or rejections?

17) Where do stories diverge? What might apparent contradictions across stores reveal about AOT in primary care?

18) Do participants situate themselves in similar ways? Do they do similar work to construct themselves in particular ways?

19) Are there similar revelations or risks of sharing certain experiences or ideas, across interviews?

Attending to Context – Polkinghorne's Guidelines

Polkinghorne (1995) has identified a series of factors a narrative researcher should consider when attending to contextual and temporal factors that influence experiences (Beiter, 2007; Price, 2011).

Polkinghorne (1995) has identified the researcher should:

(a) describe the cultural context (values, beliefs, social norms).

(b) recognize the embodied nature of the narrative.

(c) exploration of significant relationships as they relate to the plot.

(d) explore the choices, actions, plans, and motivations of the participant.

(e) ensure the historical continuity

(f) establish time frame (temporal period) and specific context of the plot (beginning, middle, end).

(g) provide an understanding of the experiences and the decision to provide OAT in primary care by configuring the individual narrative into a unified meaningful whole