Pharmacy Service Users’ Support for and Willingness to Use Community Pharmacist Prescribing Services in Ontario

by

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A thesis submitted in conformity with the requirements for the degree of Master of Science
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Abstract

Objective(s): In 2012, pharmacists in Ontario were authorized to independently prescribe, including renew, and adapt prescriptions. This study described Ontario pharmacy service users’ views, support for and willingness to use pharmacist prescribing services in the community.

Methods: Semi-structured interviews with adults who had filled or refilled prescription(s) at a community pharmacy within the past three months were conducted. Interview transcripts were coded and analyzed using thematic analysis.

Results: Participants expressed that community pharmacist prescribing services had potential benefits, including being personally convenient. They also had some concerns, such as pharmacists potentially lacking access to clinical information (e.g. laboratory results and health records) that might be required to safely prescribe. Support for and willingness to use pharmacist prescribing services appeared to be contingent on perceptions of personal convenience, complexity of prescribing service, and cultural authority of pharmacists.
Conclusion: Acceptance of pharmacist prescribing appears to be influenced by perceptions of benefits and risks. These findings could inform strategies to enhance public uptake of pharmacist prescribing services.
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Chapter 1
Introduction
This thesis describes a qualitative study that examines Ontario community pharmacy service
users’ views about pharmacist prescribing and explores the factors influencing their willingness
to use such services. In Chapter 1, the background informing the study is provided followed by
the statement of the research problem. The overall significance of the study is discussed together
with the research question and objectives. The chapter concludes with an overview of the thesis.

1.1 Background Informing the Study

Healthcare System Challenges
There are growing challenges facing healthcare systems in Canada and internationally. Key
among these challenges are timely access to primary care physicians, rising costs of care
(including pharmaceuticals and other evolving technologies) and increasing wait times for
treatments (e.g. orthopedic surgeries and radiation therapy) (1–4). One precipitating factor
underlying these challenges is that the Canadian population is aging and an increasing number of
patients are experiencing complex and chronic multi-morbidities (3). There is also an increase in
the number and complexity of medications to treat these chronic conditions, making patients
more susceptible to drug-drug interactions (a change in a medication’s effect when taken
together with another medication), preventable medication errors, and subsequently adverse drug
events (5). These issues have raised concerns among policymakers about the viability of the
healthcare system and have led to exploration of strategies that address patients’ needs while
minimizing system costs (1). One such strategy has been to expand scope of practices (activities
that practitioners are authorized to perform) of non-physician health professionals (e.g. nurses,
nurse practitioners, optometrists, and pharmacists) to provide services traditionally provided by
physicians but that fall within the full extent of other health professionals’ training, knowledge
and skills (6–9). In Ontario, this expansion of other professionals’ scope of practice was first
implemented for nurses in the early 1970s through the development of the role of nurse
practitioners (NPs) (10). Over the years, the scope of practice of other health professionals,
including pharmacists, have also been expanded to further improve patients’ access to quality care.

Expanded Scope of Pharmacist Practice

There are approximately 42,584 licensed pharmacists in Canada (11), making the pharmacy profession one of the largest groups of regulated health professions in the country. In addition to dispensing of medications, pharmacists are trained in medication therapy management (group of services that optimize therapeutic outcomes for individual patients) (12), health promotion and disease management. Pharmacists help manage healthcare costs by using their skills to improve the effectiveness and safety of drug therapy outcomes as well as ensuring the appropriate selection of cost-effective drug therapy (1). To better use pharmacists’ skills, some jurisdictions in Canada and other countries have expanded the scope of pharmacy practice to include prescribing. A pharmacist prescribes medications in one of two contexts, when s/he is managing (i.e., renewing or adapting) or initiating drug therapy. Pharmacist prescription renewal involves a pharmacist continuing drug therapy that was originally prescribed for a patient by another prescriber (with no authorized or remaining refills) (13). Pharmacist prescription adaptation involves a pharmacist changing the dose, route (e.g. oral to rectal), formulation (e.g. oral tablet to oral liquid), or regimen (e.g. once daily to twice daily) of the prescription to meet the specific needs of the patient (6). These can be done independently (pharmacist assesses patient, initiates therapy, and manages clinical outcomes) or dependently (other health professionals, who are independent prescribers, delegate their prescriptive authority to the pharmacist) (14,15). Herein, the act of a pharmacist prescribing a medication in either of these contexts will be referred to as “pharmacist prescribing”. Advocates for pharmacist prescribing argue that it improves patient access to services, enables pharmacists to increasingly use their knowledge and skills, and, in the case of dependent prescribing, facilitates a team-based approach to care (15–17).

Pharmacists currently have the legal authority to prescribe medications in a number of jurisdictions including the United Kingdom (UK), New Zealand, Israel, United States and Canada (15,18). In the UK, pharmacists can prescribe either through a supplementary model (a form of pharmacist prescribing done dependently) (19) or an independent model (16). Supplementary prescribing was introduced in 2003 and requires a pharmacist to work collaboratively with an independent prescriber and a patient through an agreed-upon clinical
management plan (20). Independent prescribing was implemented in 2006, and unlike supplementary prescribing, does not require a pharmacist to work collaboratively with another prescriber (although collaboration is encouraged). Another jurisdiction with both dependent and independent pharmacist prescribing models is New Zealand. In New Zealand, any registered health professional, including pharmacists, can prescribe dependently through standing orders or protocols (16,21). In addition, pharmacists who collaborate in teams with other health professionals can independently prescribe medications (22). In the United States, the majority of states (48 states, as of September 2016) permit pharmacist prescribing through a dependent model known as Collaborative Drug Therapy Management (CDTM) (23). In this model, an independent prescriber diagnoses and makes treatment decisions (e.g. diagnosing a patient with hypertension and deciding that medication therapy should be initiated), while the pharmacist orders drug therapy–related laboratory tests, administers drugs, and selects, initiates, monitors, modifies or discontinues drug therapy as indicated in an agreement (16,24,25). Israel has an independent prescribing model whereby pharmacists can renew medications for the management of chronic conditions, provided that the renewal occurs within six months of the original prescription (18).

Canadian healthcare is under provincial jurisdiction and while most provinces (and territories) have approved legislation that supports pharmacist prescribing, there are differences in the type of prescribing that pharmacists are allowed to perform. All provinces (and Northwest territories) in Canada can renew and adapt prescriptions (i.e., change the dose, regimen, route, or formulation) without prior approval by the initial prescriber (3,6,16). Jurisdictions differ in whether or not pharmacists can make therapeutic substitutions (i.e. switch a medication to an alternate in the same therapeutic class) or initiate therapy for smoking cessation, the management of minor ailments, or in emergencies (i.e., when immediate treatment is required, but another prescriber is not accessible) (26).

Research about Pharmacist Prescribing

There is robust evidence demonstrating the positive impact of pharmacist prescribing on patients’ clinical and health-related outcomes. In 2016, a systematic review was published by the Cochrane Collaboration to compare the impact of medical and non-medical prescribing on acute
and chronic disease management in primary and secondary care (27). The reviewers included 46 studies (37,337 participants), twenty of which were about pharmacist prescribing. The review found that patients experienced comparable outcomes (e.g. diabetes control) when prescribed to by non-medical and medical prescribers. In Canada, interventions featuring pharmacist prescribing have been shown to improve cardiovascular risk factor control in patients with prior stroke (28), reduce systolic blood pressure in patients with hypertension (29), improve glycemic control in patients with uncontrolled type 2 diabetes (30), and significantly reduce low-density lipoprotein cholesterol and help achieve lipid targets in patients with dyslipidemia (31).

Published research about pharmacist prescribing has also explored the perceptions of pharmacists, physicians and government stakeholders about pharmacist prescribing. Studies exploring the views of pharmacists have reported that pharmacists perceive their prescribing role favourably, with some stating that it could increase collaboration with other health professionals (32) and enable them to spend more time (than they would in non-prescribing consultations) with patients (33). However, some pharmacists have been hesitant to prescribe due to concerns that their relationship with the physician may be affected (3,34). The views of physicians and medical professional bodies about pharmacist prescribing have also been studied. Some studies have reported a lack of physician support with various concerns cited, including beliefs that pharmacists neither had the training to diagnose nor the skills to conduct adequate clinical examinations to inform prescribing (35–37). Other studies have indicated some level of physician support due to trust in pharmacists’ medication expertise (19,37–39). Studies exploring the perceptions of government stakeholders about pharmacist prescriptive authority have reported support for pharmacist prescribing due to its potential to enhance patient access to primary care and reduce physician workload (14,40).

Comparatively fewer studies, particularly of Canadian origin, have focused on the views of patients (those who have experienced pharmacist prescribing) or the public (those who have not experienced pharmacists prescribing or whose experiences are not known). As a first step toward addressing this gap, Famiyeh and McCarthy conducted a scoping review of published literature exploring the experiences and views of patients and the public regarding pharmacist prescribing from an international perspective (41). Participants in most studies included in the review reported that using a pharmacist prescriber improved their access to medications. In terms of views about pharmacist prescribing, participants in a number of studies believed that having an
existing relationship between pharmacists and patients was an important factor in the acceptance of pharmacist prescribing. There were concerns regarding the potential lack of privacy in community pharmacies and potential conflicts of interest given that some community pharmacies also operate on a for-profit business model (i.e., have a retail component) (6).

In Ontario, a focus group was conducted with 11 members of the public to explore their views about future models of pharmacist prescribing (42). Similar to the findings of the scoping review (41), participants reported concerns that the business aspects of community pharmacies posed a potential conflict of interest (i.e., pharmacists may be motivated by desire for profit to prescribe a medication when not in the best interest of patients). They also had concerns about a perceived lack of training and the skills pharmacists possess with respect to prescribing and about the capacity of pharmacists to manage an expanded scope of practice.

1.2 Statement of the Problem

While studies have explored the views of pharmacists, physicians and policymakers about pharmacist prescribing, less is known about the views of individuals who use community pharmacy services. Some published literature has explored the views of the general public but no studies have specifically explored the views of community pharmacy service users. In addition, published studies exploring public perceptions of existing pharmacist prescribing services have mostly been from the UK and no studies have been conducted in Ontario. Focusing on pharmacy service users (instead of the public in general) will help establish participants’ views in the context of their experiences with pharmacists and at the pharmacy. Also, exploring the views of Ontarians is of interest given that expansion of Ontario pharmacists’ scope of practice to allow independent prescribing is relatively new and discussions about further evolution in prescribing authority continues (to keep pace with other Canadian provinces).

1.3 Study Significance

This qualitative descriptive study was conducted to fill a gap in the literature about how people’s beliefs and experiences with the healthcare system shape their views about pharmacist prescribing in Ontario. Additionally, we sought to provide insight into the factors that influence their support for and willingness to use currently available prescribing services. This thesis aims to answer the research question, “What factors influence Ontario pharmacy service users’
support for and willingness to use community pharmacist prescribing services?” Understanding the factors that shape pharmacy service users’ support for and willingness to use community pharmacist prescribing services could contribute to designing prescribing models that meet patients’ expectations, policy changes to facilitate use of the prescribing services, and ultimately lead to improved health outcomes, cost savings, and other efficiencies in health system. Study findings can also be used to improve/enhance public education and outreach strategies about services available from community pharmacists.

1.4 Research Objectives

The specific objectives are to:

- Describe the views of Ontario community pharmacy service users about existing independent prescribing services (prescription renewal and adaptation services) provided by community pharmacists

- Describe the factors that influence pharmacy service users’ support for and willingness to use community pharmacist prescribing services

1.5 Scope and Delimitations

Even though pharmacists in Ontario can initiate prescription drug therapy for the purpose of smoking cessation, this study only focused on community pharmacy service users’ views about pharmacist renewals and adaptation of prescriptions. Views of community pharmacy service users about pharmacist prescribing medications for smoking cessation were not sought because research has shown that the uptake of this service has been mixed, occurring in very select areas within the province (43). Since the aim of the study was to recruit individuals who might have potentially experienced pharmacist prescribing services, the thesis focused only on renewals and adaptations. Further, this thesis did not explore pharmacy service users’ views about pharmacists’ independently prescribing for minor ailments since it is not an authorized type of prescribing in Ontario.
1.6 Organization of the Thesis

This thesis is organized into five chapters. The first chapter provided a rationale for the research and delved into the purpose of the study, the research question and specific objectives. Chapter 2 provides an overview of pharmacists expanded scope of practice, with a focus on pharmacist prescribing. It then discusses pharmacists’ prescriptive authority in the context of all health professionals and highlights the existing evidence about the impact of pharmacist prescribing on patients’ clinical outcomes. A summary of qualitative research exploring the views of stakeholders including pharmacists, other health professionals, patients and the public about pharmacist prescribing is also provided.

Chapter 3 provides an in-depth description of the research methodology and methods. Specifically, the ontological and epistemological assumptions along with the descriptive qualitative approach to data collection and analysis are discussed. The chapter also describes the study population and recruitment process. Results of the study are presented in Chapter 4 and a discussion of key findings in Chapter 5. The findings are discussed relative to the existing literature about pharmacist prescribing. Strengths and limitations of the study, and opportunities for future research are shared.
Chapter 2
Literature Review

This chapter begins with a list of operational definitions followed by an overview of the expansion of Ontario pharmacists’ scope of practice, with a focus on pharmacist prescribing. It then summarizes pharmacists’ prescriptive authority internationally and within Canada and then highlights the impact of pharmacist prescribing on clinical outcomes for patients. Next, a summary of existing research exploring the views of stakeholders including pharmacists, other health professionals, patients, and the public about this component of pharmacist services is provided. Chapter 2 concludes with presentation and justification of the research objectives, which are: 1) to describe the Ontario pharmacy service users’ views about independent prescribing by community pharmacists and 2) to determine the factors that influence their support for and willingness to use community pharmacist prescribing services.

Operational Definition of Key Terms

*Prescribing*: A process that involves initiating, monitoring, and modifying drug therapy (44).

*Pharmacist Prescription Renewal*: Pharmacists authorize continuation of drug therapy (with the exception of narcotics [e.g., oxycodone, hydromorphone] and controlled and targeted substances [e.g., benzodiazepines]) for patients with a previously diagnosed chronic and long-term condition who have tolerated the medication without serious side effects (13).

*Pharmacist Prescription Adaptation*: Pharmacists adjust the dose, dosage form (e.g., from a tablet to a liquid for patients who have trouble swallowing pills), regimen (e.g. from once a day to twice a day, based on pharmacists’ clinical judgment), or route (e.g., from oral to rectal) of administration to address patients’ unique needs and circumstances (13).

*Therapeutic Substitution*: Switching a drug within a defined therapeutic class with another drug that is expected to have an equivalent therapeutic effect (45). For example, both captopril and ramipril belong to the ACE Inhibitor class of anti-hypertensives and a switch from one to the other would be considered a therapeutic substitution.
**Medical Directives**: Written document that summarizes the specific conditions under which a pharmacist can prescribe through delegation by an authorized health professional, without requiring the authorizer to directly assess the patient (46).

**Scope of Practice**: Activities that regulated health professionals are authorized to perform based on their education, training, competency and expertise (47).

### 2.1 The Expansion of Pharmacists’ Scope of Practice

Internationally and within Canada, healthcare systems face many challenges including difficulties with accessing primary care physicians, escalating costs of care and increasing rates of drug-related morbidity and mortality (1–3). A Canadian study from the year 2000, estimated that of the approximately 2.5 million annual hospital admissions in Canada, about 185,000 were associated with adverse events and that medications were the second most common cause of these adverse events (48). Other Canadian studies have estimated that 1 in 9 emergency department visits are due to drug-related adverse events (49) and 17% of patients experience at least one drug-related adverse event after discharge from hospital (50). At the same time, the Canadian population is aging and an increasing number of patients experience complex multi-morbidities (3). To help address these issues, decision-makers are seeking strategies to optimize the contributions that different health professionals can make within the healthcare system (6).

One such strategy is the re-evaluation of the scope of practice of health professionals, including pharmacists (7). In Ontario, this re-evaluation began in the early 1970s with the introduction of the role of nurse practitioners (NPs) as an expansion of the scope of practice of registered nurses (RNs) (51). However, this role was not widely implemented due to lack of both government funding for positions and legislative support for the role. Through new initiatives with the Ministry of Health and Long Term Care, the Expanded Nursing Services for Patients Act was passed in 1998, making Ontario the first province in Canada to include the NP role in legislation. This legislation gave registered NPs the authority to practice with a broader scope (beyond those done by RNs), including, communicating a diagnosis, prescribing specific medications, ordering diagnostic tests, and suturing wounds (51). More recently (April 2017), the Ontario government approved changes to the regulation under the Nursing Act, giving NPs the authority to prescribe
controlled substances provided that they successfully complete an approved controlled substances education program (52).

Over the years, other regulated health professions in the province, notably pharmacists, have also experienced changes (e.g. administering injections or inhalations, prescribing) to their scope of practice (53). Given their medication management expertise, pharmacists are an integral part of the healthcare system. In addition to dispensing medications, pharmacists help prevent adverse drug events and improve drug therapy outcomes by ensuring the safe and effective use of medications (54). In Canada, patients most often turn to primary healthcare services, (including services provided by pharmacists in the community) as their first point of contact with the healthcare system (55). Pharmacists therefore address patients’ medication needs, provide timely access to medications and assist with medication therapy management (services provided to patients to optimize therapeutic outcomes) in collaboration with other health professionals.

An expanded role for pharmacists to improve patient care and drug therapy outcomes has been promoted by the World Health Organization (WHO) (56) as well as many jurisdictions worldwide (21). Professional organizations and academia have advocated for expansion of services provided by pharmacists with the argument that expansion would have many clinical (better health outcomes) and economic (system-wide cost savings) benefits (57). More specifically, it is argued that expanding the scope of community pharmacists’ practice encourages the effective, safe and appropriate use of medications, promotes the prevention and management of chronic diseases, and encourages care delivery, all of which may reduce physician office and emergency department visits, hospitalizations and re-admissions (57,58). Healthcare systems worldwide are hence reforming and formally expanding the role of pharmacists to incorporate more patient-centered services, including prescribing (2,16,18,57,59).

2.2 Pharmacist Prescribing as Part of Expanded Scope

A newer component of pharmacists’ changing scope of practice, observed over the last decade, is the expansion to include prescribing (60). Historically, physicians, dentists and veterinarians have been the only regulated health professions with the legal authority to prescribe drugs (61).

Proponents of pharmacist prescribing describe its aims as improving patient access to services (e.g. offering care when other providers’ offices are closed or when pharmacists are more
geographically accessible), optimizing use of pharmacists’ skills and building a team-based approach to care (3,14–17). Some have also argued that pharmacists were involved with prescribing even before legislative changes (through formulary development, prescriber education, medication reviews and participation in team-based care), and as such, pharmacist prescriptive authority is a natural progression, simply formalizing an existing process (3,21,62). Those in opposition have, however, raised concerns regarding pharmacists’ lack of adequate skills to prescribe (35) stating that pharmacists lack training to diagnose (37). Some also argue that there is a conflict of interest when a pharmacist both prescribes and then dispenses a drug (63).

Currently, most Canadian provinces and many other countries have adopted legislation allowing pharmacists and other health professionals to prescribe medications in a variety of situations and for many medical conditions (21,59). For the purpose of this thesis, prescribing is defined as a process that involves initiating, monitoring, and modifying therapy (44). Pharmacist prescribing can be conceptualized as involving two levels of prescriptive authority: managing (i.e., renewing or adapting) and initiating drug therapy (14). Within these levels of authority, pharmacists can either prescribe independently or dependently (14,15). Independent pharmacist prescribing occurs when a pharmacist is solely responsible for the assessment and subsequent management of a patient’s condition (14,21). Dependent prescribing is when a pharmacist is granted prescriptive authority through delegation from an independent prescriber (14). Eight dependent prescribing models have been reported in the literature (18,21), four of which will be discussed in this thesis. These four models, namely, prescribing by protocol, prescribing by formulary, supplementary prescribing and collaborative prescribing were selected because they are the prevalent models in place around the world.

**Prescribing by protocol**

Pharmacist prescribing by protocol takes place when an independent prescriber delegates authority through a formal written agreement (e.g. medical directive). The agreement is explicit, detailing the procedure that the pharmacist must follow when prescribing, as well as the types of diseases and drugs permitted. It also includes the responsibilities of each of the parties involved (18,21).
**Prescribing by formulary**

Formulary-based pharmacist prescribing is less explicit than protocol prescribing. The formulary is agreed upon between participating medical practices and community pharmacies and lists the medications, symptoms to be treated, length of treatment, criteria for referrals and other limitations for prescribing (21).

**Supplementary prescribing**

Supplementary pharmacist prescribing is a voluntary partnership between an independent prescriber (usually a physician or another authorized prescriber [e.g., nurse practitioner]), a pharmacist and a patient to implement an agreed upon patient-specific clinical management plan (16,21,64). The clinical management plan is specific to each patient and includes detailed guidance for care provided over a given time period. The independent prescriber undertakes the initial assessment and the supplementary prescriber writes the prescriptions. The supplementary prescriber’s roles include contributing to the clinical management plan, monitoring therapy, adjusting medications and referring to the independent prescriber where appropriate. Patients are involved in decision-making and consent for their care to be transferred to the supplementary prescriber.

**Collaborative prescribing**

Collaborative prescribing involves an agreement negotiated between a pharmacist and an independent prescriber. The independent prescriber (usually a physician) diagnoses and makes initial treatment decisions for the patient, and the pharmacist selects, initiates, monitors, modifies and continues or discontinues pharmacotherapy under specified parameters to achieve the agreed patient outcomes (18,21). Unlike supplementary prescribing, the agreement made in collaborative prescribing is not specific to a particular patient but rather is a generalized agreement that can be applied to all eligible patients.

Pharmacists currently have the legal authority to prescribe medications in a number of jurisdictions. Models of pharmacist prescribing, the types of prescribing services, the level of training required and the prescribing settings differ between these countries and across jurisdictions within the countries.
2.2.1 Pharmacist Prescribing Across Jurisdictions

Pharmacists currently have the legal authority to prescribe medications in a number of jurisdictions including United Kingdom, New Zealand, Israel, United States and Canada (15,18).

**Pharmacist prescribing in United Kingdom**

Pharmacists in the United Kingdom (UK) practice under two models of prescribing: supplementary and independent prescribing. Supplementary prescribing, which is the most common form of prescribing, was introduced in 2003 and independent prescribing in 2006 (62). Independent pharmacist prescribers can make a diagnosis and prescribe autonomously, without consulting other independent prescribers (65). They are responsible for the initial assessment of the patient, for formulating a treatment plan and prescribing medications under that plan (34). Independent pharmacist prescribers can prescribe medications for any condition in accordance with guidelines published by the Royal Pharmaceutical Society of Great Britain (RPSGB) (16). Further, with the exception of three controlled drugs (diamorphine, cocaine and dipipanone), independent pharmacist prescribers can prescribe other controlled drugs for the treatment of addiction. They are also authorized to supply or administer the drugs they prescribe (20). To qualify as an independent prescriber, pharmacists must complete a General Pharmaceutical Council-accredited program involving a minimum of 26 days of teaching and learning activity (face-to-face teaching sessions and self-directed study) and successfully complete at least 12 days of learning in a practice environment under the mentorship of a medical practitioner (66). Independent and supplementary pharmacist prescribers work in both secondary and primary care (including community pharmacy settings), with research reporting primary care as the predominant setting (67).

**Pharmacist Prescribing in New Zealand**

In New Zealand, any registered health professional, including pharmacists, can prescribe dependently through standing orders or protocols (16,21). In 2013, pharmacists who work in a collaborative team with other health professionals were further granted the authority to independently prescribe medications. Pharmacist prescribers can write a prescription for patients in their care to initiate or modify medication therapy. They can also discontinue or renew therapy
originally initiated by another prescriber, depending on the identified clinical needs of the patients (16,68). Legislation ensures the separation of prescribing and dispensing by mandating pharmacist prescribers not to dispense prescriptions they write. A postgraduate certificate and at least three years of working experience in a collaborative health team environment are required to become a prescriber (22).

**Pharmacist Prescribing in Israel**

Pharmacists in Israel with at least five years of practice experience can renew medications for the management of chronic conditions, provided that the renewal is issued within six months of the original prescription (18). In Israel, patients receive government coverage for health-related services (including medications) by registering for one of four health funds (69). In addition, some community pharmacies, known as health fund pharmacies, are publicly-owned (i.e. government operated) and supported by the health fund. Patients obtain greater coverage for prescriptions that are filled at the health fund pharmacies and some medications that are covered are only available through these pharmacies. Only pharmacists working in health fund pharmacies are provided access to patients’ medical records during a prescribing consultation. Pharmacists who work in privately-owned pharmacies can still prescribe but are unable to access patients’ medical records (18).

**Pharmacist Prescribing in the United States**

The prescribing model adopted by most jurisdictions in the United States is called Collaborative Drug Therapy Management (CDTM). In this dependent prescribing model, the independent prescriber diagnoses, while the pharmacist selects, initiates, monitors, modifies and continues or discontinues therapy accordingly (16). As of 2017, this form of pharmacist prescribing had been authorized in 48 states (23). The main difference between this model and the UK supplementary prescribing model is that the CDTM model involves a generic management plan for specific groups of patients (e.g., everyone with a particular medical condition) whereas the UK supplementary model involves a patient-specific clinical management plan (16). In addition to CDTM, Florida also allows community pharmacies to provide formulary-based prescribing, specifically the scopolamine transdermal patch, to prevent symptoms of motion sickness (70). Oregon and California also have legislation allowing pharmacists to independently prescribe
hormonal contraceptives. California further provides pharmacists with the authority to prescribe other types of medications, such as nicotine replacement therapy (71).

**Pharmacist Prescribing in Canada**

In Canada, healthcare regulation is under provincial jurisdiction and most provinces (and territories) have approved legislation that supports pharmacist prescribing. There are similarities and differences amongst the jurisdictions, regarding pharmacists’ prescriptive authority (i.e., whether pharmacists can prescribe independently or as part of a collaborative practice) and the types of prescribing services they can provide.

Pharmacists in all provinces (and Northwest Territories) can renew and adapt prescriptions (i.e., change the dose, regimen, route or formulation) without prior approval by the initial prescriber (3,6,16). In Ontario, pharmacists can renew prescriptions (except for narcotics and controlled substances) for patients with chronic and stable conditions (quantity renewed cannot exceed the lesser of the quantity that was originally prescribed or six month’s supply). They can also change the dosage, regimen (e.g. once a day to twice a day), route (e.g. oral to rectal) or formulation (e.g. tablet to liquid) of prescribed medications (26).

The jurisdictions differ in whether or not pharmacists can make therapeutic substitutions (i.e. switch a medication to an alternate that falls within the same therapeutic class such as a switch between ACE inhibitors) and whether they can initiate therapy for smoking cessation, the management of minor ailments or in emergency situations (i.e., when immediate treatment is required, but another prescriber is not accessible).

**Authority to Make Therapeutic Substitutions:** All pharmacists in Alberta, Saskatchewan, Nova Scotia, New Brunswick, Newfoundland and Prince Edward Island have authority to make therapeutic substitutions. In British Columbia, only pharmacists who have completed orientation to the British Columbia College of Pharmacy’s Medication Management Protocol can make therapeutic substitutions (26).

**Authority to Initiate therapy:** In Alberta, pharmacists who have completed a peer-reviewed standardized application process to obtain the Additional Prescribing Authorization (APA) can initiate and manage prescription-only medications (except controlled drugs and substances) at
initial access or for management of ongoing therapy (3,7,26,72). Pharmacists in New Brunswick and Nova Scotia, as well as those with additional training and authorization in Saskatchewan and Manitoba, can independently initiate drug therapy within a collaborative setting and in accordance with the terms of an agreement with a licensed practitioner (26). British Columbia is currently in the process of expanding pharmacists’ prescriptive authority to include initiating prescription-only medications through the Certified Pharmacist Prescriber Initiative (73). In 2015, a framework that proposed the eligibility criteria as well as the standards, limits, and conditions to qualify as a Certified Pharmacist Prescriber was developed and submitted to the College Board for approval.

Pharmacists can initiate therapy (bupropion and varenicline) for the purpose of smoking cessation in Ontario, Alberta, Quebec City, New Brunswick, Newfoundland and Nova Scotia (26). In Manitoba and Prince Edward Island, pharmacists can initiate therapy for smoking cessation provided that they have obtained additional training and authorization. The authority to prescribe for smoking cessation is pending legislation for implementation in Saskatchewan.

Minor ailment prescribing by a pharmacist currently takes place in Quebec, New Brunswick, Nova Scotia, and Newfoundland (26). In Alberta, Manitoba, Saskatchewan and Prince Edward Island, additional training and authorization is required for pharmacists to initiate therapy for minor ailments.

In most jurisdictions, community pharmacists are permitted to provide prescribing services despite not having the authority to order or interpret laboratory tests to inform prescribing practices. Currently, only pharmacists in Alberta, Quebec, and Nova Scotia can independently order and interpret laboratory tests. In Manitoba, pharmacists can independently order laboratory tests but are not legally authorized to interpret findings (26). Community pharmacists in Ontario are authorized to provide these prescribing services without having access to patient’s medical records, prescription records from other pharmacies or the legal authority to order or interpret laboratory results (26).

2.2.2 Impact of Pharmacist Prescribing on Health Outcomes

As the number of jurisdictions with pharmacist prescriptive authority continues to grow, the need to evaluate the impact of these services on health outcomes increases. A Cochrane review has
been conducted of studies published before July 2016 comparing the outcomes of medical and non-medical prescribing on acute and chronic disease management (27). The review included forty-six studies (37,337 participants): 26 studies (28,621 participants) compared nurse prescribing with medical prescribing and 20 studies (8716 participants) compared pharmacist prescribing with medical prescribing. The majority of the studies (n=42/46) were based in ambulatory settings (defined by the authors as primary care clinics, medical centres, general practices, hospital outpatient clinics and community pharmacies). With respect to outcomes, the review authors concluded that non-medical prescribers were comparable to medical prescribers for: the management of high blood pressure, hemoglobin A1c for diabetes, high levels of low density lipoprotein [LDL-c] cholesterol, adverse drug events, patient adherence to medication regimens, patient satisfaction with care, and health-related quality of life.

It is important to note however that the certainty of evidence for all outcomes, except hemoglobin A1c, was rated as moderate or low for varying reasons. For example, the certainty of evidence for blood pressure and LDL-c outcomes was downgraded to moderate due to considerable statistical heterogeneity and differences in prescribing models (i.e., autonomy of prescribers [dependent versus independent], settings [community pharmacies versus primary care settings] and scope of prescribing [initiating versus changing doses]). Also noteworthy is that the systematic review did not distinguish between studies featuring nurse and pharmacist prescribing for the purposes of reporting outcomes. As such, one cannot draw conclusions from this systematic review about how pharmacist prescribing impacts outcomes. Beyond this, only two of 42 primary care studies were about pharmacist prescribing in community pharmacies and both were conducted in Alberta, Canada (29,74).

The first of these studies, a randomized controlled trial conducted by Tsuyuki, Rosenthal and Pearson included 99 adults with uncontrolled dyslipidemia. The study sought to investigate the impact of independent prescribing by Alberta community pharmacists on the management of dyslipidemia (31). The intervention group received pharmacist-led dyslipidemia care, which included assessment of cardiovascular risk, ordering appropriate laboratory tests (e.g., fasting lipid panel, creatinine, and A1c for diabetic patients), prescribing dyslipidemia therapies (initiated or a dosage adjusted), and providing health behavior interventions (e.g. diet, exercise, smoking cessation). Usual care patients received standard care from their physician and pharmacist, and were also provided with their lipid results and a pamphlet on cardiovascular
disease. Results for the primary outcome demonstrated that the prescribing intervention significantly increased the proportion of patients achieving LDL-c target (43% in the intervention versus 18% control group, p=0.007). The results however are not applicable to all community pharmacists practicing in Alberta, given that study pharmacists had additional prescribing authorization (APA), and were arguably more trained than those without APA. The study also has limited applicability in the Ontario context where community pharmacists do not have the legal authority to order and/or interpret laboratory results and where additional prescribing authorization does not exist.

The second study, another randomized controlled trial set in Alberta, was conducted in 56 community pharmacies and enrolled 723 patients at high risk for cardiovascular events. The trial sought to explore impact of a community pharmacist-initiated vascular risk reduction program that involved prescribing (vs. usual care) on the primary outcome (the difference in change in estimated cardiovascular risk between the intervention and usual care groups at 3 months) (74). Participants randomized to the intervention group received a medication therapy management consultation from their pharmacist. The consultation involved a number of clinical services including pharmacist initiation and adaptation of prescriptions when necessary to meet lipid, blood pressure, and glycemic targets. Patients randomized to the usual care group received usual pharmacist care with no specific interventions for 3 months. The study found that the pharmacist medication therapy management intervention led to a 5.37% absolute risk reduction in estimated cardiovascular risk compared to usual care (p<0.001). However, the study’s applicability to community pharmacist prescribing practices in Ontario is limited because pharmacists in the study had APA and were able to initiate therapy and order laboratory tests as per their scope of practice, to achieve treatment targets. Ordering laboratory tests and initiating therapy (except for smoking cessation) is currently not a scope of practice for Ontario community pharmacists.

In summary, the impact of Ontario pharmacist prescribing on clinical outcomes is currently unknown. The Cochrane systematic review did not explore pharmacist prescribers separately from nurse prescribers and the two Canadian RCTs demonstrating positive clinical outcomes, resulting from multi-faceted interventions that included pharmacist prescribing, have limited generalizability to Ontario given the differences in scopes of practice between pharmacists in Alberta and Ontario.
2.2.3 Views and Experiences about Pharmacist Prescribing

*Views and experiences of pharmacists*

Studies have explored the views and experiences of pharmacists about pharmacist prescribing. In a scoping review by Faruquee and Guirguis, results from ten Canadian studies exploring perceptions about pharmacist prescribing were presented (75). Three of these studies explored the views of pharmacists and pharmacy owners (or managers) about pharmacist prescribing (9,32,76). In one study exploring community pharmacists’ views about the potential to prescribe for hormonal contraceptives in the future, despite having concerns about liability, the majority of pharmacists were willing to implement this authority. They believed that prescribing hormonal contraceptives would increase collaboration with other health professionals and potentially reduce pressure on the healthcare system through the prevention of unintended pregnancies (32).

A cross-sectional survey conducted in 2017 with 350 pharmacists in Alberta to characterize pharmacist prescribing practices found that pharmacists were mostly renewing prescriptions for continuity of therapy (92.3%), altering doses (74.3%), and performing therapeutic substitutions (80.6%) (3). Pharmacists in this study also reported situations where they were hesitant to prescribe, with some of the reasons being prior experience with the patient’s physician (53.5%) and concerns that their relationship with the physician may be affected (32.6%).

Three UK studies have explored pharmacists’ views about prescribing. Weiss et al. reported that pharmacist supplementary prescribers valued spending more time with patients and optimizing their medications in comparison to when they were not having prescribing consultations (33). Pharmacist prescribers have also reported feeling competent and confident about providing prescribing services (19,37,38). George et al. interviewed pharmacist supplementary prescribers who expressed that prescribing increased their job satisfaction and autonomy (38). In 2016, Maddox et al. described the factors influencing nurse and pharmacist independent prescribers’ decisions to assume prescribing responsibilities (34). Twenty-five nurse and five pharmacist prescribers working in community and primary care settings across England were sampled. Both nurse and pharmacist prescribers adopted a cautious approach to prescribing due to worries about the professional consequences of making errors and concerns about criticisms by other health professionals (the specific professionals were not reported in the study).
Views of other health professionals

Studies have also explored the views of the medical profession about pharmacist prescribing. While some research suggests that both medical professional bodies and individual physicians have reservations about pharmacists prescribing (39), others have reported support to some degree (19,37–39). Some physicians and medical organizations have expressed concerns about pharmacists’ lack of access to medical records, lack of training to diagnose, and about pharmacists not having adequate skills to prescribe (35,36). Physicians who have shown support for pharmacist prescribing have reported that pharmacist prescribing could be beneficial due to pharmacists’ medication knowledge and competence (19).

Views of government, professional organizations and other stakeholders

Other viewpoints represented in the published literature about pharmacist prescribing include those of professional organizations and government representatives. Pojskic et al. explored the perceptions of Ontario government officials and health professional organizations about pharmacist prescriptive authority before regulations permitting pharmacist prescribing were approved (14). The researchers used data from policy documents (released between 2007 and 2011) and seventeen semi-structured interviews. Both pharmacy professional organizations and the Ontario government supported pharmacist prescribing because it would enhance patient access to primary care and reduce physician workload. Pharmacist prescribing was also viewed as a strategy for improving patient outcomes through improved continuity of drug therapy, reductions in adverse drug events and hospitalizations, and improved patient adherence. Medical professional groups, however, felt that pharmacists did not possess the training to prescribe and were especially concerned that pharmacists did not have diagnostic ability. They were also concerned about pharmacists making independent prescribing decisions without access to the patient’s health information (e.g. medical records) and without an effective means of communicating their decisions to the patient’s primary care physician. Another concern, raised by family medicine groups, was the potential for conflict of interest associated with pharmacists both prescribing and dispensing medications in the community.

Also in Ontario, a 2015 stakeholder dialogue explored future models for pharmacist prescribing in primary and community care settings (61). The dialogue brought together policymakers, researchers, patient representatives and other health professionals from across Canada. Three
models of pharmacist prescribing were discussed: collaborative prescribing agreements, a pharmacist prescribing program for minor ailments and an advanced pharmacy practice model. Participants mostly supported pharmacist prescribing for minor ailments, stating that it is a natural extension to what pharmacists already do in their communities. Successful implementation of a minor ailments program would require clear articulation about how the program’s effectiveness would be measured, how pharmacist assessments and prescriptions would be communicated to patients’ regular primary care providers, how possible resistance from physicians would be addressed, and how minor ailment programs would be coordinated across the county. It would also require patients to be provided unrestricted choice about where they can fill their prescriptions.

In the UK, a qualitative study was conducted with 43 stakeholders, including patient group representatives, academics and policy developers about pharmacist and nurse supplementary prescribing (40). Stakeholders identified different benefits and limitations to both supplementary and independent prescribing. Pharmacist and nurse supplementary prescribing was perceived to offer a safer framework than independent prescribing because of the need for a patient-specific clinical management plan and joint decision-making with the independent prescriber. Supplementary prescribing was however viewed to potentially fragment care due to different prescribers providing care for one patient. Independent pharmacist and nurse prescribing was argued to offer a more flexible and autonomous model of prescribing than supplementary prescribing because it did not require a clinical management plan. However, this perceived benefit was countered by concerns, including possible threat to medical dominance, potential for nurses and pharmacists to prescribe beyond their competencies, and nurses’ inadequate skills to diagnose some presenting conditions before prescribing. Differences between nurses and pharmacists were raised with some stakeholders expressing that pharmacists’ understanding of pharmacology might lead to safer prescribing and others arguing that nurses’ diagnostic training could provide an additional safety check.

**Views and experiences of patients and the public**

Several studies have explored pharmacist, physicians and government stakeholders’ perceptions and experiences about pharmacist prescribing. Comparatively fewer studies (particularly of Canadian origin) about the views and experiences of patients and the public have been reported.
As a step toward addressing this gap, Famiyeh and McCarthy conducted a scoping review of published literature exploring the experiences and views of patients and the public regarding pharmacist prescribing from an international perspective (41). In the review, patients were defined as those who had received pharmacist prescribing services and the public as those who had not experienced pharmacist prescribing or those whose experiences were not known. Three databases (Medline, EMBASE, and International Pharmaceutical Abstracts) were searched from inception to November 2015 and reference lists of included studies were also reviewed to identify publications that satisfied the eligibility criteria (i.e., English-language studies describing the views and experiences of patients and the views of the public about pharmacist prescribing). Search terms included: patient, public, pharmacist, prescribe, non-medical prescribing, independent prescribing, dependent prescribing, view, perception, experience, attitude and awareness. The University of British Columbia Dimensions of Patients’ Experiences in Primary Health Care Framework was used to categorize and synthesize findings about patients’ experiences (77). This framework consists of six dimensions: access, interpersonal communication, continuity and coordination, comprehensiveness of services, and trust. At the study outset, the framework was felt to be highly applicable to the review given that most of the identified studies were conducted in Europe where the majority of pharmacist prescribing takes place in primary care clinics (39). Views were described using a descriptive thematic synthesis approach (78).

Twenty-two articles (published from 2005 – 2015) met inclusion criteria: four described studies conducted in Canada (Newfoundland and Labrador, Saskatchewan and Nova Scotia) (79–82), one in the United States (US) (83), one in Australia (44), and the remaining 16 in the United Kingdom (UK) (19,44,84–96). Most of the studies were quantitative with fewer qualitative and mixed design studies. Most studies described participants’ experiences with pharmacist prescribing in terms of ‘access’ and ‘communication’. Under access, participants reported high satisfaction with the ease of making appointments to see a pharmacist prescriber, the length of consultation and the convenience of the pharmacy location. In terms of communication, participants reported that their pharmacist prescriber improved their understanding of their medications and medical conditions. Only one study described participants’ experiences in terms of ‘trust’. That is, ‘trust’ was the least explored dimension of the UBC framework. In this study, trust in pharmacist prescribing for minor ailments was one reason why participants chose to
request help from a pharmacist, rather than being offered (81).

For those who had not experienced pharmacist prescribing, their support for pharmacist prescribing was based on past experiences with pharmacists carrying out their traditional roles (e.g. dispensing medications) (91). Participants also reported that having an existing relationship between pharmacists and patients was an important factor in acceptance of pharmacist prescribing. There were concerns regarding whether pharmacists would have sufficient patient information (i.e., access to patient medical records) to prescribe safely. Additional concerns included the potential lack of privacy in community pharmacies due to their physical layout and potential conflicts of interest given that some community pharmacies also operate on a for-profit business model (i.e., have a retail component) (6).

Since the scoping review was completed, three additional studies about this topic have been published. The first, a study by Hale, Coombes, Stokes, et al. in Australia, described patients’ experiences with pharmacist prescribing in two different clinics (97). Their goal was to examine patients’ perspectives after actually experiencing a pharmacist prescribing model of care. Pharmacist prescribing took place at a surgical pre-admission clinic in a tertiary hospital and an outpatient sexual health clinic at a university hospital. Two hundred patients scheduled for elective surgery and thirty-four patients from the sexual health clinic were seen by the pharmacist prescriber. Patients in both clinics reported high satisfaction with their pharmacist prescriber consultation: 182/200 (91%) and 29/34 (85%), respectively. Patients in the sexual health clinic reported that they trusted pharmacists to take on a prescribing role. This was in contrast to patients in the pre-admission clinic, who had more reservations with regard to pharmacists taking on this extended role. This was attributed to the fact that the pre-admission clinic involved a single appointment between the patient and pharmacist prescriber whereas the sexual health clinic was based on a model with repeat appointments which enabled pharmacists to build relationships with patients over time.

A qualitative study conducted by Feehan et al. in Utah examined the views of consumers, community pharmacists and reimbursement decision-makers regarding a hypothetical independent pharmacist prescribing model in the community setting (24). This study sought to determine the perceived demand for and barriers to independent pharmacist prescribing in the community setting. Nineteen consumers aged 18 to 70 years who had filled at least five
prescriptions in the past year were included. The researchers found that consumers held traditional views about the roles of community pharmacists (i.e., pharmacists dispense medications, identify drug interactions, counsel about medications) and were unaware that pharmacists could prescribe. There was a lack of support for pharmacists initiating medications, as it was perceived that pharmacists lacked proper training to diagnose. Some participants, however, supported pharmacists adapting prescriptions without prior approval from their prescriber.

In Ontario, a focus group with 11 members of the public was conducted to explore their views about future models of pharmacist prescribing (42). Similar to the findings of the scoping review (41) and the Feehan et al. study (24), participants reported concerns about the business aspects of community pharmacies posing a potential conflict of interest. Specifically, they viewed community pharmacies as businesses (e.g., owned by big chains) with possible corporate interest agendas (i.e., direct self-interest in prescribing drugs).

In summary, several studies have explored the views of pharmacists, physicians, policymakers, and lay individuals (those with and without experience with pharmacist prescribing services) about pharmacist prescribing. Those (individuals and groups) who support pharmacist prescribing have reported trust in pharmacists’ ability to prescribe given their medication knowledge, and see the potential for pharmacist prescribing to improve access to medications. Concerns about pharmacist prescribing have revolved around pharmacists’ lack of training to diagnose and the potential conflict of interest that arises when prescribing occurs in for-profit community pharmacies.

2.3 Justification

Some gaps in the literature regarding the views of patients and the public about pharmacist prescribing are important to point out as they are relevant to the Canadian and specifically, the Ontario context.

With respect to the focus group previously described that was conducted in Ontario, participants’ views about the current Ontario pharmacist prescribing model were not explored (42). It is not
known whether the public share similar sentiments about current pharmacist prescribing services as they do about future models (i.e., whether community pharmacies as corporate entities are motivated to prescribe largely by self-interest).

Further, despite the study by Feehan et al. (24), exploring the views of the public about independent pharmacist prescribing in community pharmacies, it did so in a jurisdiction where this model is relatively uncommon. In the United States, the majority of states (94%) allow pharmacists to prescribe under a collaborative drug therapy management model (CDTM) (25). It is possible that the relative lack of familiarity with independent pharmacist prescribing played a role in participants' views about the services. Unlike the United States, the majority of Ontario community pharmacists practice under an independent prescribing model. Thus, the views of the Ontario public might differ from those presented by the participants in the Feehan et al. study (24).

As evidenced by Famiyeh and McCarthy’s scoping review of the views and experiences of patients and the public (41), there are three significant gaps from this literature that are relevant to the Ontario context. First, the majority of the studies were conducted in the UK and no studies were conducted in Ontario. This is important, as the prescribing systems are different between the two jurisdictions. In the UK, independent prescribing authority means that pharmacists, can initiate any medication (except narcotics and controlled substances) after a consultation with a patient whereas in Ontario, independent pharmacist prescribers can renew and adapt prescriptions but can only initiate bupropion or varenicline for the purpose of smoking cessation (13). Also, given that pharmacist prescribing in the UK was implemented in 2003 compared to 2012 in Ontario, the relative experiences with services are fewer in Ontario than the UK.

Second, the majority of the studies included in the review were conducted in primary care settings with only three studies focusing on prescribing in community pharmacy settings (Canada and the US) (80,81,83). It is important to explore pharmacist prescribing in the community setting since approximately 76% of Ontario pharmacists practice in the community and the majority of prescriptions are filled in community settings.

The study discussed in this thesis was undertaken to address the paucity of research exploring the views of Ontario community pharmacy service users about pharmacist prescribing and the factors that shape their support for and willingness to use pharmacist prescribing services. It
describes how people’s values, beliefs and experiences with the healthcare system shape their views about pharmacist prescribing and how these views impact their willingness to use or not use currently available prescribing services. The research question is: What factors influence Ontario pharmacy service users’ support for and willingness to use community pharmacist prescribing services?

Semi-structured interviews with community pharmacy service users were conducted to:

1. Describe their views about existing community pharmacist prescribing services

2. Describe how their views are related to the factors that affect their support for and willingness to use pharmacist prescribing services
Chapter 3
Methodology and Methods

In this chapter, the ontological, epistemological and methodological assumptions underlying this research are discussed. A detailed description of the research design, sample, recruitment process, data collection and analysis approaches, researcher’s position and ethical clearance are also provided.

3.1 Research Methodology

The study explores the subjective views and experiences of participants; characteristics that cannot be measured numerically and hence require qualitative methodology. Using a qualitative approach enabled experiential data to be gathered, which upon analysis provided an understanding of the views that participants held about pharmacist prescribing and how those views are related to their support for and willingness to use pharmacist prescribing services.

3.1.1 Paradigm: Ontology and Epistemology

A paradigm is a set of basic beliefs that defines people’s worldview (98). Paradigms provide a foundation for researchers to conceptualize the research design, their rationale for choosing a specific methodology (i.e., qualitative versus quantitative), the methods of data collection and approach to data analysis (99). Ontology is concerned with the nature of reality and epistemology focuses on how that reality can be known (98). For this research, the paradigm that was viewed to best align with the researcher’s own commitments was Critical Realism. However, it is worth noting that due to the researcher’s novice knowledge about this paradigm, a simplified application of its broad principles guided the research. Critical Realism was identified to be the closest paradigm to address the research question and objectives because it allows the researcher to hold on to an objective reality while also challenging the notion that there is only one way to know it. However, this thesis was not fully committed to the Critical Realist paradigm. The researcher remained agnostic about the chosen ontology and epistemology, which enabled her to proceed in whatever way was deemed best to answer the research question and objectives. Critical realists believe in an ontological realism; that there is a reality that exists independent of the researcher’s awareness, constructions or knowledge of it. However, they challenge the notion that this reality can be observed objectively or that there is a single, correct
understanding of it (98). Instead, similar to constructivism, Critical Realists assume a relativist epistemology by acknowledging that different individuals will have different perspectives about what constitutes reality. However unlike constructivism, Critical Realists reject the idea that there are multiple realities that are constructed by individuals (100). Thus, Critical Realists believe that a reality exists independently of the researcher but there are different perspectives that can be had about this reality. These perspectives are influenced by the researcher’s experiences, beliefs, and interpretations (101,102).

For this research, it was assumed that pharmacy service users’ views, support for and willingness to use pharmacist prescribing services exist but the different perspectives held are co-constructed with the interviewer. The research sought to understand this reality but does not claim that the findings represent the only accurate understanding of people’s views, support for and willingness to use pharmacist prescribing services. The findings reported in this research represent multiple perspectives as interpreted by the researcher. These perspectives were influenced by the researcher’s experiences (as a pharmacist and one who has reviewed the literature about pharmacist prescribing) and interpretations of the data.

### 3.2 Methods: Descriptive Qualitative Research

This is a descriptive qualitative study using one-on-one semi-structured interviews. The study explores how individuals’ subjective experiences (or lack thereof) shape their views about pharmacist prescribing and how these views subsequently shape their willingness to use current prescribing services. A descriptive qualitative research approach as described by Percy, Sandelowski, and Caelli et al. (103–105) was used as this approach has been reported to help researchers understand people’s subjective opinions, attitudes, beliefs or experiences (106). It is an inductive, data driven approach that is applicable to a study that is geared to applied researchers and practitioners who are looking for practical uses of the findings.

#### 3.2.1 Inclusion and Exclusion Criteria

The inclusion criteria were English-speaking adults 18 years of age or older who met at least one of the following:

1. Filled or refilled at least one prescription at a pharmacy within the last 3 months,
2. Received advice from a pharmacist about (a) prescription or over-the-counter medication(s) in the last 3 months.

Three months was arbitrarily chosen as the time frame to target individuals who have had a recent pharmacist encounter.

Since the research explored the experiences of lay pharmacy service users, health professionals (involved in direct medical or pharmaceutical care of patients in a community or institutional setting) or policymakers were excluded as they did not meet this inclusion criteria.

3.2.2 Recruitment Process

Individuals were recruited through purposive (recruiting individuals who are likely to have experienced pharmacist prescribing services) (107) and snowball (recruiting more individuals through research participants) sampling (108). Since the goal of this research was to understand people’s views about pharmacist prescribing, individuals who have had an encounter with a pharmacist were purposefully selected. These individuals were likely to provide a range of information-rich data based on their pharmacist service and possibly, pharmacist prescribing experiences (107). Potential participants were recruited from community pharmacies, community centres, university departments, and through Internet postings (described below).

Two recruitment approaches were used. First, hard copies of flyers were placed at different pharmacy locations, which encouraged interested individuals to contact the researcher, Ida-Maisie Famiyeh (contact information was provided on the flyers), to express their interest in the study. Specifically, flyers were placed on the prescription pickup counter and inside customers’ medication bags. Those who contacted the researcher, agreed to participate, and were eligible for the study were emailed a research package containing an informed consent letter prior to the agreed upon interview date.

Second, individuals who were waiting in community pharmacies for their prescriptions to be filled or those who had just received a consultation from a pharmacist were directly approached by the researcher. The researcher introduced herself as a Masters student and inquired if they would be willing to learn about the study. The contact information (name, phone/email) of those who expressed interest was collected and these people were subsequently contacted at an agreed
upon time to schedule interviews. A research package containing an informed consent letter was sent by email prior to the interview date.

**Recruitment Sites**

*Community Pharmacies:* Recruitment took place at six community pharmacies, all of which were chain and franchise pharmacies. Four of these pharmacies only permitted flyers to be placed at the prescription pickup area and two permitted both flyers and direct approach of individuals.

*Community Centres:* Direct approach of individuals was not permitted, as such only flyers were posted on the information or bulletin boards at community centres in Etobicoke and Downtown Toronto areas.

*University Departments:* Flyers were posted on the bulletin boards of two departments (Dalhousie School of Public Health and Faculty of Dentistry) at the University of Toronto (Ontario, Canada). The departments were selected based on convenience of location.

*Internet Postings:* Electronic flyers were posted on the websites and social media accounts (Twitter) affiliated with the Ontario Pharmacy Evidence Network (www.open-pharmacy-research.ca), University of Toronto Leslie Dan Faculty of Pharmacy, Dr. McCarthy’s (co-supervisor) research team and Women’s College Hospital.

### 3.2.3 Data Collection

Data were collected through in-depth, in-person and telephone one-to-one interviews. Before beginning the interview, participants were provided a brief introduction to the study and were reminded of their role and rights as research participants. The interview guide was initially developed using principles proposed by Brinkmann and Kvale (109) and by Legard, Keegan & Ward (110). The guide was later revised (Appendix A) following review and feedback from the research team. Below is an outline of the main components:

1. General questions about pharmacy patronage
2. Awareness of and experiences with pharmacist prescribing services
3. Views about pharmacist prescribing services
4. Closing questions: Participants were given an opportunity to provide additional comments about the topic.

Interviews were audio recorded and supplemented as appropriate with notes. A transcription service was used to transcribe the recorded interviews verbatim. After transcription, the transcripts were de-identified (replaced all identifiers with identification numbers) and checked for accuracy.

3.2.4 Data Analysis

All data were analyzed using a thematic analysis approach that aligns closely with Braun and Clarke’s method of thematic analysis (Table 1), an analytic approach used to identify, analyze and report patterns within data (111). One of the advantages of thematic analysis is that it is not tied to a particular epistemological position or theory. This allows it to be applied across a range of theoretical paradigms. The first two transcripts were coded and checked with another member of the research team to ensure that the proposed methodology was accurately being applied to the data. The research team member independently coded the first two transcripts and met with the interviewer (IF) to discuss the codes and provide feedback. All interviews were coded iteratively and concurrently with data analysis allowing for a constant comparative approach (112). The interview guide was revised throughout the process so that new concepts could be explored in-depth in subsequent interviews.

**Coding Process**

The data were coded inductively without being guided by a pre-existing framework (111). All the interview transcripts were read by the researcher multiple times, line by line to become familiar with the data. Notes were made and extracts within the data were highlighted. Re-reading the transcripts provided a deeper understanding of the data and helped to identify patterns. These patterns were noted and any concept that the researcher thought could be relevant in the future was recorded. The researcher coded anything that she believed could play a role in participant’s views about pharmacist prescribing (e.g. self-perception of health, pharmacy experience) (Appendix B). The entire data set was manually coded by the researcher. Any word or phrase that could have an implication on the rest of the data were coded. At this stage, it was not known whether a code was relevant or not so, the researcher generated as many codes as
possible to avoid missing anything. Reviewing the transcripts was an iterative process, which allowed for codes to be labeled and re-labeled.

**Identification of relevant themes**

The guide to thematic analysis proposed by Braun and Clarke, was used in this phase of analysis. The codes were organized into multiple categories, refined and regrouped until themes that captured underlying ideas, assumptions, and concepts of the data were identified (111). Categories and themes were identified to conceptualize participants’ views about pharmacist prescribing. The categories and themes were re-organized and regrouped until those that were meaningful and distinct from each other were identified and presented. Data that were not related to the analytic themes being developed were set aside.

Table 1: Braun and Clarke’s (2006) ‘Phases of Thematic Analysis’

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description of the process</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Familiarize yourself with the data</td>
<td>Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.</td>
</tr>
<tr>
<td>2. Generating initial codes</td>
<td>Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.</td>
</tr>
<tr>
<td>3. Searching for themes</td>
<td>Collating codes into potential themes, gathering all data relevant to each potential theme.</td>
</tr>
<tr>
<td>4. Reviewing themes</td>
<td>Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic ‘map’ of the analysis.</td>
</tr>
</tbody>
</table>
5. Defining and naming themes
Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.

6. Producing the report
The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

3.3 Trustworthiness of the Analysis
3.3.1 Positionality
Throughout the research, it was acknowledged that how the study was conducted and the researcher’s interpretation of the results would be influenced by the researcher’s position as a young, African-Canadian, female pharmacist, and a Masters student undertaking her first qualitative research study (113). The researcher understood that even though she is not completely defined by these attributes, they had a potential to influence how she gathered and analyzed the data.

Not only is the researcher positioned by her age, ethnicity, gender and academic background, but also by her professional background as a pharmacist currently practicing in a hospital setting. As a pharmacist, the researcher has some allegiance to the profession and is interested in its evolution overtime. Her experience interacting with patients and providing medication therapy management services has contributed to her interest in exploring patient views about the services that pharmacists provide. The researcher supports pharmacist prescribing in the community setting; she believes that pharmacist prescribing services are part of medication therapy management and hence will help pharmacists provide optimal care to patients in the community. She is also willing to use prescribing services in situations where access to her medical history or
laboratory results is unnecessary (e.g., situations where a diagnosis is not necessary [e.g. preventative care including vaccinations] or refills of chronic medications). Even though she supports pharmacist prescribing, the researcher did not expect participants to share similar views about community pharmacist prescribing. She acknowledged that participants will have their own beliefs and views about pharmacist prescribing due to their subjective experiences with the healthcare system.

Lastly, prior to conducting this thesis, the researcher conducted a scoping review about patients and the public’s views regarding pharmacist prescribing. This positions her as an individual who has more knowledge about pharmacist prescribing than her participants. Her literature knowledge also contributed to her preexisting beliefs about pharmacist prescribing and its potential value to patients and the healthcare system. Through the scoping review, the researcher identified gaps in the literature, which subsequently led to the development of this research project. The researcher therefore had a vested interest in exploring her participants’ views about pharmacist prescribing to help address those gaps in the existing literature.

Being mindful of her positionality helped the researcher to make conscious decisions during every step of the research process. For example, she was mindful that she was a novice researcher and reached out whenever needed to fellow researchers who have more experience with qualitative research than she does. This was done to ensure that she understood the methodology and was applying the principles accordingly. She also understood that the choice of setting would influence how the participants and her positioned each other, which could ultimately influence the dynamics of interactions. Based on this, the researcher decided that the participants would choose the interview site as this has been reported to shift the relations of power between the interviewer and the participant (114), which in turn influences the direction and content of the interview.

The researcher was aware that her subjective experiences and beliefs played a role in the way she was positioned. This awareness enabled her to be reflexive about how she interpreted her participants’ views about pharmacist prescribing.
3.3.2 Reflexivity

While the researcher conducted the study, she considered her inevitable role in the research process. The researcher is a trained pharmacist with some practice experience in both the community and hospital settings. She also has knowledge of the literature about public’s views and experiences with pharmacist prescribing given her past research (41). The researcher’s training and experiences shape her own views and beliefs about pharmacist prescribing and the associated services. Her views and beliefs played a role in the development of the research question, her interactions with the research participants and other components of the research process (choice of research method, data analysis, and results). For example, upon reviewing the literature, it became apparent to the researcher that one of the main concerns people had with pharmacist prescribing was the potential conflicts of interest. This knowledge influenced her decision to include a question in the interview guide to further explore participants’ views about the business and clinical aspects of community pharmacy practice. Also, as a pharmacist, the researcher believed that people have unique medication-related experiences and that these experiences shape their views about healthcare services. This belief influenced her approach to coding the data. She considered relevant participants’ experiences with medications and with healthcare services and attempted to connect these experiences with their views about pharmacist prescribing services. Both her perspectives and those of the research participants therefore influenced the research findings.

3.4 Ethical Clearance

The Women’s College Hospital Research Ethics Board (REB) approved this study (approved on April 18, 2016 and renewed on April 18, 2017) after a full review and subsequent approval was received through an administrative review by the University of Toronto REB.

3.4.1 Informed Consent

Interested individuals were informed that participation in the study was voluntary. Individuals who responded to the study flyers expressing their interest in the study did so voluntarily. Those that were approached in community pharmacies by the researcher also voluntarily provided their contact information. Interested participants who were eligible were emailed a research package
containing an informed consent letter (Appendix C). The email addresses of interested individuals were collected when they contacted the researcher or when she directly approached them in the community pharmacies. The research package with an informed consent letter was sent to these individuals prior to the agreed upon interview date. In the letter, participants were informed that their participation was voluntary and that they had the right to withdraw at any time before the data were analyzed. They were also informed of the nature of the study, eligibility criteria, risks and benefits of participation and assurance that information provided would be kept confidential. Participants with whom face-to-face interviews were conducted signed a consent letter at the beginning of the interview session. Those with whom telephone interviews were conducted provided verbal consent (Appendix D), which was captured in the audio recordings of the interviews.

At the beginning of the interview, participants were informed that they could request to stop the interview at any time to take a break or even withdraw from the study, if they chose to. Taping of the interview began after participants consented to participating.

3.4.2 Risks and Benefits

The risks and benefits to participating in the study were outlined in the consent form (Appendix C). Participants also confirmed that they had understood the potential risks and benefits before commencing the interviews. Participants were informed that there were no direct benefits to participating in the study but that their insights and personal experiences could influence further research related to pharmacist services in Ontario, as results from the study would be presented to others at conferences and in academic journals.

They were also informed that although there were no known risks associated with taking part in the study, some might experience discomfort while disclosing sensitive information related to their personal experiences. It was re-iterated that they had the right to refuse to answer any questions and to withdraw from the study at any time with no consequences whatsoever.

3.4.3 Privacy and Confidentiality

Physical data were stored securely in a locked filing cabinet in a locked office at Women’s College Hospital. Electronic data were encrypted and saved in a folder on a password protected
computer. Audio files were destroyed after the transcripts had been checked. All other data will be destroyed after 5 years, consistent with policy of Women’s College Hospital.

All information collected was treated as strictly confidential. After transcription, the transcripts were de-identified (e.g., participant information, names of providers and organizations were removed). No identifying information was (or will be) included in any means of dissemination of this research (e.g., reports, manuscripts, or presentations). A file containing a list of identification numbers and the identity of participants in a password protected file was stored on the Women’s College Hospital network server until data were analyzed. Information linking the personal information to the identifiers was stored separately from other data (transcripts, etc.).

3.4.4 Tokens of Appreciation

All participants were provided with a $15 gift card (Tim Hortons, Starbucks, Amazon or Indigo based on participant’s preference) at the end of the interview as a token of appreciation.

3.5 Summary

Qualitative research was conducted to explore community pharmacy users’ views about pharmacist prescribing and to determine the factors that influence their support for and willingness to use community pharmacist prescribing services. A descriptive qualitative approach was used to understand how participants’ beliefs, values, and experiences with the healthcare system shape their views and impact their willingness to use pharmacist prescribing services. It also directed the researcher’s choice of sampling, data collection and type of data analysis.
Chapter 4
Results

This chapter begins with an overview of the characteristics of study participants followed by a thorough account of the themes identified from the data.

4.1 Participants

4.1.1 Recruitment

A total of nineteen semi-structured interviews were conducted. Some participants (6/19, 31.6%) were directly approached at two community pharmacies (both were franchises) by the researcher while waiting for their prescriptions to be filled. After being briefly informed about the study, those who expressed interest voluntarily provided their email address, in order for the researcher to send them the full study information and schedule the interview. Other participants were individuals who responded to flyers posted in the community (5/19, 26.3%) or on the internet (1/19, 5.3%), and the remainder were referred by study participants (4/19, 21.0%) and by the researcher’s network of friends and colleagues (3/19, 15.8%). Fourteen interviews were conducted by phone, four took place in a private meeting room at Women’s College Hospital and one was held in the participant’s personal office. Interviews were intended to be 30 minutes long but in the end, fell between 30 and 90 minutes in duration, with a median duration of 36 minutes. Interviews continued until saturation of meaning was achieved, which is when no additional insights emerge from the data and relevant conceptual categories have been identified, explored, and exhausted (115).

4.1.2 Demographics

Of the nineteen study participants, thirteen were female and six were male. Participants’ ages ranged from 30 to 73 years with most participants (11/18, 61.1%) between the age of 50 and 69 years. All participants lived in Toronto with the majority born in Canada (13/19, 72.2%); others had emigrated from India, Guatemala, Iran, Sri Lanka or France. Participants were not explicitly asked about their race or ethnicity but one self-identified as Black and another as Chinese. Sixteen of the nineteen participants (84.2%) reported that they only used one community pharmacy, most of which were non-independent pharmacies. Table 2 provides a summary of participants’ demographic characteristics.
Table 2: Participant Demographic Characteristics (N = 19)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number of Participants (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>13 (68.4%)</td>
</tr>
<tr>
<td>Male</td>
<td>6 (31.6%)</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
</tr>
<tr>
<td>Not provided</td>
<td>1 (~5%)</td>
</tr>
<tr>
<td>30 – 39</td>
<td>2 (11.1%)</td>
</tr>
<tr>
<td>40 – 49</td>
<td>3 (16.7%)</td>
</tr>
<tr>
<td>50 – 59</td>
<td>5 (27.8%)</td>
</tr>
<tr>
<td>60 – 69</td>
<td>6 (33.3%)</td>
</tr>
<tr>
<td>70+</td>
<td>2 (11.1%)</td>
</tr>
<tr>
<td><strong>Country of Birth</strong></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>13 (72.2%)</td>
</tr>
<tr>
<td>Other</td>
<td>6 (27.8%)</td>
</tr>
<tr>
<td><strong>Number of Pharmacies Used for Prescription Drugs</strong></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>16 (84.2%)</td>
</tr>
<tr>
<td>More than one</td>
<td>3 (15.8%)</td>
</tr>
<tr>
<td><strong>Type of pharmacy used</strong></td>
<td></td>
</tr>
<tr>
<td>Non-independent</td>
<td>18 (94.7%)</td>
</tr>
<tr>
<td>Independent</td>
<td>3 (15.8%)</td>
</tr>
</tbody>
</table>

** Type of pharmacy used: For the purpose of this study, non-independent pharmacies are those operated under corporate banner, franchise or chain whereas independent pharmacies are not affiliated with such corporations (116).
To establish context for their views about pharmacist prescribing, the researcher asked participants about their self-perceptions of their health as well as their medications and pharmacy experiences. The data obtained were descriptively categorized and are summarized below.

4.1.3 Self-Perception of Health

The majority of participants viewed themselves as healthy but the reasons provided for this self-perception varied. Some perceived themselves as healthy due to the absence of chronic conditions and medications:

Well, because I do not take regular medications for any illnesses or, you know, any symptoms. I’m not sick…I haven’t been diagnosed with any permanent illness that needs treatment. (Participant 14)

Others attributed their self-perception to having a healthy lifestyle, regardless of their medical condition or medications:

I have something called Barrett's esophagus and hernia [but] I’m careful with my diet, I’m careful with like in terms of my health and exercise…I try to eat as healthy as possible, and I try to eat as clean as possible. So, I do think I’m fairly healthy. (Participant 7)

Some participants described themselves as not healthy due to their medical condition and chronic medications:

Healthy? No. Well, between having diabetes since the age of 4…I’ve had diabetes since the age of 4 and I just turned depressed last year…I was diagnosed with high cholesterol and anxiety. So, you can say that I’m not healthy like a normal person that just takes like an aspirin or a couple of Advil… (Participant 13)

In general, most participants reported themselves as in good health and those who thought otherwise did so mainly because of their medical conditions and medications.
4.1.4 Medication Experience

Participants were asked to describe their personal experiences with medications. Among the seventeen participants who reported that they take medications regularly, nine stated that they were comfortable with the medications they were taking:

Yeah, I’m comfortable with the medicines I’m taking because I am always told what I’m taking and how it’s going to affect me, and if there are any side effects or not. (Participant 12)

The four participants who reported that they were not comfortable with their medications cited a number of reasons, including not being used to taking medications:

Yes, I am [overwhelmed]. I was diagnosed with pneumonia, and I’ve been given different puffers, nasal sprays, antibiotics. So, at this moment, yeah, I found that there’s quite a lot of things that I need to take, yeah… because I don’t take medication regularly. So, this to me was a little bit more than what I’m comfortable with. (Participant 14)

Others felt overwhelmed by the time they spent managing the multiple medications they take:

It’s a lot of medications. It makes me sick. The medications make me sick because it’s a lot of medications and it takes a lot of my time. And reminders. I think three-fourths of my days thinking about or talking about the medications. Always thinking about the medications. (Participant 6)

One participant reported that he was overwhelmed by the number of years he had been taking the same medication:

There really is just one that I take. I’m overwhelmed by the number of years I’ve taken it. (Participant 11)

And another reported being dissatisfied with the number of medications she was taking:

It gets to the point that I’m getting tired of taking them…now that it’s building of taking the cholesterol pills, the antidepressants, you could say
that I’m a walking pharmacy to that point. To my expression, I am a walking pharmacy to that point. If anyone would need it, and I was a pharmacy, I would be able to supply it because I’m taking so much of different things. (Participant 13)

The remaining four participants did not express whether or not they were comfortable with their medications. Instead, they stated that how they felt about their medications was not important as they did not have a choice about taking them:

I don’t have a choice [with the medications]. I have to take them (Participant 10)

Overall, even though some participants reported to be comfortable with the medications that they were taking, some felt overwhelmed and the remaining participants did not report on how they felt about their medications.

4.1.5 Pharmacy Experience

Participants described their pharmacy experiences mostly in relation to the types of services they had received from the pharmacy. Most of these services were related to medication management and advice, or medication counselling provided by pharmacists. Participants generally reported positive experiences with pharmacists helping them to manage their medications:

They keep track of my medications. They do printouts of what I’m taking. They explain to me what everything is because I’m really bad. All I know is I take pills. But you know, but they’ll tell me exactly what each pill is for. And like the other day, they called me and they said, “One of your medications needs a refill. You have no refills left. Can we call the doctor for you? Can we…” Like they take care of everything for me. (Participant 02)

Some participants also reported positive experiences with receiving medication advice or counselling from pharmacists:
The last time when I go, I got some medication for my psoriasis. Really that pharmacist gave me a good example of how much you can use. Don’t put too much around wherever you don’t need to. Just put a little bit this way. And then I asked him why, and then he told me what will happen. So, I really like that. (Participant 06)

In addition, almost all study participants described having positive interactions with pharmacists. These appeared to be associated with the pharmacist’s demeanor:

They’ve [experiences] been very satisfying…they’re [pharmacists] very cooperative and kind. They always ask about the family. You know, that kind of thing. It's always been a very positive interaction with them. (Participant 01)

Familiarity with the pharmacist and staff also appeared to enhance participants’ favourable perceptions of their experiences:

I have a very good rapport with this pharmacy that I’ve been going to. And a lot of them are the same staff there for years. So, we call each other by our first names. We talk about, you know, the family, where did you go, how was this, how’s that? We have a personal relationship, not just a business one. (Participant 03)

One participant however reported that she was not satisfied with the pharmacy she was using because of inadequate time she was provided for services:

I was not very satisfied with the experience at the [Pharmacy Name]. I find that the services at the pharmacy are very rushed; I find that maybe they have too little staff working for the number of prescriptions that they have to fill. They are rushed in terms of not being able to answer your questions fully or they’re not available to answer your questions right away (Participant 14)

Reported experiences with community pharmacists and pharmacy services were therefore generally positive with a relative few reporting unfavourable experiences.
4.1.6 Experience with Pharmacist Prescribing

None of the participants had experienced pharmacist prescription renewal services nor were they aware of them:

I had no idea [pharmacists could renew] …I’ve actually ran into the problem where I had no more refills for birth control, and I’ve had to go back to my doctor’s office because the pharmacist could not expand. I really had to go back to my doctor to get a new prescription so that it can be added to the system. (Participant 14)

Regarding pharmacist prescription adaptation, two participants reported an experience where the pharmacist independently changed the dose of their prescription drug:

They’ve done that [changed dose] with me. Yes. And it’s great because they’ve done that with one of my medications. They didn’t understand it…and they realized that the doctor did [prescribe] a wrong dose or wrote it wrong…So, they did it, they fixed it the way it was supposed to be, and they faxed the doctor just to let her know that there was a change done because they [the doctor] did a mistake. (Participant 13)

Two participants stated that a pharmacist had independently changed the formulation of their prescribed medication:

I’ve done it myself. I’ve had them... I once had a prescription for a cortisone ointment, and I didn’t like the way it felt. So, the next time I said do it in a cream form, you know…It was a cortisone cream. Yeah, the doctor had it as an ointment originally. And I said I don’t like the ointment, I prefer creams. So, they said why? And I said because the cream seems to get absorbed into the skin, where the ointment just sits on the skin. So, they said, Okay, that’s fine, and they changed it to a cream. (Participant 01)

To summarize, the majority of participants had not experienced pharmacist prescribing services and for those who had, experience was with adaptation and not renewal services.
4.2 Views about Pharmacist Prescribing

Study participants were also asked to describe their views about pharmacist prescribing services. The themes identified fell under two broad categories – perceived benefits of pharmacist prescribing and perceived concerns with pharmacist prescribing services; each is discussed below.

4.2.1 Perceived Benefits of Pharmacist Prescribing

Nearly all participants identified potential benefits to pharmacists providing independent prescription renewal and adaptation services. They reasoned that having pharmacists provide these services would reduce the need for them to see physicians for prescribing. They stated that this would be beneficial on both a personal and health system level. On a personal level, most participants cited convenience. On a health system level, pharmacist prescribing was seen as potentially optimizing use of health resources and improving prescription outcomes (Figure 1).

4.2.1.1 Personal Convenience

Most participants expected that pharmacist prescribing would be personally convenient but the way they expressed this convenience varied. Some characterized convenience as avoiding unneeded visits to the physician’s office:

I wouldn't have to go into the doctor’s office to get a written prescription renewal if I didn’t have to. You know, if the pharmacist could renew the prescription for me or refill the prescription for me. Yeah, that’s the main benefit that I can see. (Participant 01)

Some were more specific, elaborating that avoiding unneeded visits to the physician’s office would save time:

Time. Time is an important piece, right? For me, I think the greatest piece is time. Because most of us have to get ourselves organized, make an appointment, get ourselves there, see the doctor… So, that is time. So, it [renewal] would eliminate having to follow all those steps to get something… (Participant 08)
Another form of perceived personal convenience was avoiding the delay in their physician responding to a pharmacist’s request for a prescription refill or change. Some of these participants attributed the delays to physicians not being available at all times. In this context, participants believed that pharmacist prescribing would provide timely access to medications when their physician was not available:

…it’s Sunday and let’s say I really wanted to take this, whatever it was, on Sunday. And I filled the prescription…the pharmacist is now advising me that this isn’t quite right. And yet let’s face it, it’s not going to be easy to get hold of the doctor to fix it. So, does that mean I have to wait until Monday when I really want it now? …if it’s conceivable that you can’t get the medication when you need it because you can't fix the prescription from the source, well, that’s bad. That’s something you don't want to have happen, right. (Participant 19)

Participants’ positive views on the convenience of pharmacist prescription renewal were reinforced by their desire to circumvent some physicians’ policies about prescription refills:

Obviously, the whole thing [pharmacist prescription renewal] is more efficient, right? That would save me a lot of trips because my doctor’s office has a sign that says we are not going to fax your renewals to your pharmacist. So yeah, so he wants me to come in; it’s kind of waste of everyone’s time… (Participant 07)

Apart from personal convenience, participants also perceived that pharmacist prescribing could potentially lead to health system benefits, namely, optimizing use of health resources and improving prescription outcomes as described below.

4.2.1.2 Optimal Use of Health Resources

Participants perceived that avoiding unneeded visits to the physician’s office was not only beneficial to the patient but also to the healthcare system. Some stated that it would alleviate the burden on the healthcare system:
[regarding pharmacist prescription renewal] You don’t necessarily need to go to your doctor for everything. Which like I say, it helps alleviate the stress on the healthcare system for doctors who are still overworked. (Participant 03)

It’s [renewal] going to lower the cost of healthcare. Because every time I go to my doctor, he’s swipes my OHIP. And that’s whatever number of dollars that the taxpayer has to pay for him to write the same thing over and over again for me. (Participant 07)

A related benefit was that pharmacist prescribing would facilitate access to healthcare services for populations that otherwise would not have access:

…there's such a shortage of family doctor so people go from specialist to specialist. Those that don't have a family doctor can go to a pharmacist and get treated as if they almost had a family doctor. So, that’s a positive thing… (Participant 03)

Participants’ views that pharmacist prescribing would optimize use of healthcare resources were therefore related to the potential for pharmacist prescribing to reduce burden on the system and improve access to health services.

4.2.1.3 Improved Prescribing Outcomes

Another potential healthcare system benefit that was recognized by participants was that pharmacist prescribing could improve prescription outcomes by ensuring that the individual is provided with the best medication option:

Some of the benefits I would see [about pharmacists changing the dose] is making sure the person has the dose that is appropriate for the person to be “better” within the time frame it was prescribed for…. So, if a doctor writes a prescription and the prescription might not have been in the patient’s best interest, or if there’s something that is filed on the file, then they may be able to catch it and they could suggest something different. (Participant 08)
Another participant expressed that since a pharmacist needs to check a prescription for errors before adapting, doing so would assist in detection and monitoring of prescription errors:

…if there's a doctor in the habit of making mistakes, then it [adaptation] might detect some patterns. Because if it [the prescription error] is idiosyncratic, okay, point it out to the doctor, and everybody’s happy. But if there's some monitoring involved, which if that doesn’t prove to be an onerous task on top of the basic adaptation procedure, then, you know, it [adaptation] might detect certain patterns. (Participant 19)

In summary, the perceived health system benefits of pharmacist prescribing were that it would alleviate burden on the healthcare system, ensure that the individual is provided with the best medication option, and help detect and monitor prescription errors.

Figure 1: Perceived Benefits of Pharmacist Prescribing Services
4.2.2 Perceived Concerns with Pharmacist Prescribing Services

In addition to the perceived benefits, participants reported potential concerns about pharmacist prescribing services. There were concerns with pharmacists’ access to clinical information, pharmacists’ capacity to prescribe, and the extent to which pharmacists would collaborate with physicians during prescribing (Figure 2).

4.2.2.1 Access to Clinical Information

Access to clinical information was deemed important for the pharmacist to make patient care decisions. In this context, clinical information was information required for the diagnoses, treatment and management of a patient’s condition and includes medical records, laboratory results, and physical assessment findings. Even though participants did not doubt pharmacists’ knowledge about medications, they were concerned about the pharmacist’s ability to obtain the necessary clinical information through direct questioning of the individual receiving the service, by accessing health records and laboratory results, or by performing physical assessment. One participant explained that an individual receiving a prescribing service might have clinical information that the pharmacist may need to safely prescribe; however, that individual might unintentionally neglect to share that information during the prescribing process:

…the concern that I have [regarding renewal] is if you’re on multiple medications, and if there's something going on that… Like if this is a medication that they’ve been taking for 4 years, for example…maybe the doctor or someone put them on a different medication which may have an adverse reaction to this medication, for example, and they were not supposed to take this medication anymore. And the pharmacist may not know this because this person is not telling them…like they were not forthcoming with this information, and from what the pharmacist saw, like this is okay, and they prescribe the medication…that’s the one risk that I can see. (Participant 07)

A number of participants were concerned with pharmacists’ lack of access to health records, which they believed was crucial for prescribing:
As a pharmacist, if you don't have all of the information. That’s the only drawback I see [to changing the dose/frequency]. Like without having the full patient history or the full medical record, how do you make that call? … not having access to like the full health record can potentially put this patient’s life…or can potentially harm this patient by no fault of anyone. (Participant 07)

Participants had concerns with pharmacists’ lack of access to laboratory results and perceived inability to perform physical examination:

Like you’re not going to go to your drugstore and have the pharmacist…take your blood sugar, do a physical, take blood and test it for you. So how would they know what’s going on with you [to change the dose]? (Participant 16)

Overall, participants believed that access to the individual’s clinical information such as laboratory results and health records were important to ensure safe prescribing.

4.2.2.2 Potential Increase in Workload and Patient Safety Risk

Two participants thought that prescribing services could increase community pharmacists’ workload and negatively impact the services that they already provide:

…there's only so many hours in a day. I can see the pros and cons of letting the pharmacists do some more work. But it’s not like they were standing around doing nothing and so they had these extra duties. They always look busy to me. So, you add on more work, more pressure, and more potential to make errors. (Participant 17)

it’s a lot of work for them… even though they’re alleviating some of the work that physicians have, the pharmacist now has a heavy load… It's going to impact the service. (Participant 03)

Furthermore, these participants thought that pharmacists ought to be provided with additional support to meet the demands of the additional services they provide:
…the government has to recognize what pharmacists do more, and expand the pharmacist act or whatever it is to include certain things so they [pharmacists] get paid for it. Give them more staff. (Participant 3)

The concern that pharmacists may not have the capacity to prescribe was hence related to perceived increase in workload, which some participants believed could be addressed.

4.2.2.3 Pharmacist-Physician Professional Collaboration

Participants also considered how pharmacists and physicians would work together during the prescribing process. Most participants’ pharmacies were at a different geographical location from their primary physician’s office. Due to this, most thought of pharmacists and physicians as working separately from each other and were concerned with how the pharmacist and physician would collaborate to ensure accurate prescribing. In particular, participants were concerned with pharmacists potentially not knowing the physician’s intent regarding a person’s medications, the timeliness of communication between the pharmacist and physician after a prescribing event, and the risk associated with the pharmacist and physician independently making prescribing decisions for someone. These concerns are described in the sections that follow.

4.2.2.3.1 Knowing a Physician’s Intent Regarding Prescribed Medications

Many participants had concerns about whether the pharmacist would know the physician’s clinical intent regarding their medications. With renewals, one participant reported concerns with the pharmacist not being aware of her physician’s intent to change the dose of her medications:

[regarding pharmacist prescription renewal] Like one of the pills just changed recently. Now, the pharmacist would never have known obviously that the doctor wanted to change something; that something has happened to me. So, they wouldn't know…if it’s [medication] like a specific one that maybe there will be a change, she [pharmacist] wouldn't know about it unless I saw the doctor… (Participant 02)

Some participants also voiced concerns with the pharmacist changing the dose of a prescription without knowing whether the dose that had been prescribed was erroneous:
That’s [pharmacists changing dose] quite a bit to take upon yourself as a pharmacist …I mean this doctor prescribed the medicine the way he felt they should take it…the pharmacist could be incorrect as well. There could be a reason why the doctor has prescribed what they’ve prescribed…and then the pharmacist just takes it upon himself to change it to what he thinks is the correct. So, who’s correct? … (Participant 18)

For one participant, this lack of knowledge about the physician’s intent warranted a need for the pharmacist to communicate with the patient’s physician before prescribing:

… I would feel better if the pharmacist checked with the doctor. Then I would say the pharmacist is being very conscientious by double-checking things. It’s another set of eyes looking at things. (Participant 17)

4.2.2.3.2 Timely Communication between Pharmacist and Physician

Once participants were informed that the pharmacist would notify the physician about prescription renewal and adaptation only after the service had been provided, some had concerns as to whether this communication would be timely. Timeliness of communication however only appeared to be a concern for services involving dose and frequency changes (i.e. prescription adaptation):

…like you said, this new procedure, this adaptation procedure still calls for communication between pharmacist and doctor. It’s just that it might be delayed [informing the doctor after the fact]. But would it be delayed to the point where that could be a problem? I mean is there something that could happen in that interval that’s life-threatening or damages the patient’s health? I would think only under some extenuating circumstances could that be the case. (Participant 19)

I can see that if the pharmacist changes a dose of a prescription, let’s say, and then has to let the doctor know…I can see where it’s getting lost in the shuffle and the doctor not seeing it or addressing it properly. (Participant 01)
4.2.2.3 Risk of Pharmacists and Physicians Independently Making Prescribing Decisions

The notion that pharmacists and physicians work independently from each other made one participant apprehensive about both the pharmacist and physician autonomously making prescribing decisions for one person:

[Regarding pharmacists changing the dose] you do run the risk of you’re now sort of… there's more than one person driving the bus. And that can be an issue…. It’s kind of the issue of, you know, do you want to change oars in the middle of the stream? So, if you started with a doctor, and he’s your guy, then all of a sudden now is it the pharmacist who’s going to take over being the guy? (Participant 04)

To summarize, participants’ main concerns with pharmacist prescribing services were the perception that pharmacists lacked access to clinical information, that pharmacists would not have capacity to prescribe due to potential increase in workload, and that pharmacists and physicians may not collaborate to ensure safety of prescribing.

Figure 2: Perceived Concerns with Pharmacist Prescribing Services
4.2.3 Factors Influencing Support for and Willingness to Use Pharmacist Prescribing Services

When participants were asked about their willingness to use pharmacist prescribing services, it was noted that some of the perceived benefits and concerns were provided as reasons for their support for (or lack thereof) or willingness to use pharmacist prescribing services whereas others were not. Participants’ willingness to use pharmacist prescribing services appeared to be contingent on three dominant factors: personal convenience, type of prescribing service and perception of pharmacists’ role (Figure 3).

The impact that other previously mentioned benefits and concerns had on participants’ support for and willingness to use pharmacist prescribing services was less clear.

4.2.3.1 Perceived Personal Convenience

When participants expressed that they were willing to use pharmacist prescribing services, it was because of the perceived personal convenience of the services:

Yeah, it makes sense to me to [use renewal services] …because for me as a customer, the product’s the same so all I really care about is I want as many as possible without having to make phone calls and send faxes [to the doctor] (Participant 4).

Oh, yeah, absolutely [would use renewal services]. Like I essentially just take Tecta every day, right. So, as a normal individual, like as an average normal healthy individual, I don’t need to go and even see you [the physician] if I don’t need to. Like nothing is happening here. You’re [The physician] just going to write a prescription and ask me how I’m doing. Right? And I waste half of my day because every time you show up to your doctor’s office, even if it’s a 10 am appointment, he can’t see you until 11:00…that pretty much destroys my entire day (Participant 7).

Their perception that pharmacist prescribing services could be personally convenient therefore facilitated their support for and willingness to use the services.
4.2.3.2 Type of Prescribing Service

Another factor that appeared to influence participants’ support for and willingness to use pharmacist prescribing services was the type of prescribing service being provided by the pharmacist.

4.2.3.2.1 Prescription Adaptation

For adaptation, most participants reported that they were willing to let pharmacists change the formulation of their prescriptions provided that the effectiveness and safety of the medication remains the same:

…to me that comes with like okay, it’s a liquid or it’s a pill, but you’re still… It’s the same medication, right…it’s just really technically the same. You’re dispensing a pill or a liquid form. It’s not really so much different. (Participant 14)

As long as the ingredients are equivalent then I really do not see a problem. But if the pill form is more potent than the patch form, and the doctor has prescribed a pill form, then I don’t think the pharmacist should change it to a patch one because the strength is different. But if all things being equivalent, I would say okay (Participant 17).

On the other hand, the majority reported that they were unwilling to allow the pharmacist to change the dose or frequency of their prescriptions given that pharmacists did not have access to their clinical information to inform such prescribing services:

As far as changing a dosage, I’d have to go to my doctor...only the doctor, I would go with. Because she [pharmacist]…hasn’t seen my blood tests, nothing. I need the doctor to let me know what my dosage is going to be. I can’t go with what, you know, the pharmacist is going to tell me to take. (Participant 02)

I’d rather them call the doctor and check before doing it [changing the dose or frequency of prescription] because it just makes me feel more comfortable...because the doctor has got my history and so they know. (Participant 10)
4.2.3.2.2 Prescription Renewal

For renewals, the indication for the drug (rationale for the prescription) and the stability of the individual’s condition influenced participants’ willingness to use the prescribing services. One participant supported pharmacist prescription renewal for medications that are taken for preventive purposes but not for those prescribed to treat a condition:

In a case like that [renewing birth control], I could see a pharmacist renewing the prescription again and giving it to them. That I agree with. It’s not an ailment. She’s using a preventive so that she doesn’t end up pregnant, you know… Simple things like a birth control pill, I don't think you should have to run into the doctor every time. I think that you [pharmacist] should be able to renew it and notify the doctor, as long as they follow through in notifying the doctor… It’s totally different from taking a heart medication that you’ve taken for a year. They’re totally different, at different points on the scale…one is a very serious issue and another one is…can become serious if the young girl gets pregnant. But she’s taking preventive medicine. (Participant 18)

Another participant was open to pharmacists renewing medications that were being used to treat a condition, provided that the condition was chronic as opposed to acute:

…say you’re on an antibiotic, and you [patient] have to refill that. You [pharmacist] can’t just do that. That’s a special thing. It has to be a certain…If it’s like for a chronic condition, and you’re on it, you know, forever, they have the capacity to do [renew] that. (Participant 03)

Most participants supported pharmacist prescription renewal services provided that the person was clinically stable; defined as the stability of the individual’s medication regimen and medical condition:

If it’s [the medication] “stable” then it's not fluctuating, and it’s only to go and get your blood pressure checked and all of that, if there's no complication in any shape or form, it [pharmacist prescription renewal] would make the process seem a little more seamless, right. (Participant 08)
In situations where participants were uncertain as to whether the person’s medications might change or had been changed, they preferred that the individual to see the physician first:

… If you’ve been on it and then they see that you haven’t had a refill for one to two years, they can’t just go ahead and do it...they [pharmacist] have to get in contact with the doctor’s office to make sure that they can do it again if certain symptoms are back. (Participant 03)

Participants were willing to use adaptation services involving formulation changes provided that nothing else (aside the formulation) changed about the medication. Their willingness to allow pharmacists to change the dose or frequency of their prescriptions appeared to be contingent on pharmacists’ access to clinical information. Support for and willingness to use prescription renewal services appeared to be mostly influenced by the indication for the drug being renewed and the stability of the individual’s medical condition.

4.2.3.3 Perception of Pharmacists’ Role

A few participants were reluctant to use pharmacist prescribing services because they believed that pharmacists have limited training to prescribe:

He’s [the pharmacist] not trained as a doctor. [Physicians] can see something that the rest of us can’t see because they’re trained to see it…. [Pharmacists] are trained to mix concoctions and creams and pills. I think that’s a different type of training (Participant 17).

I don't think that a pharmacist is skilled enough [to prescribe] …he’s knowledgeable with what he does because he’s working with medicine, I give him that (Participant 18).

Others wanted pharmacists to obtain permission from physicians prior to providing prescribing services because they perceived prescribing to be the role of physicians and not pharmacists:

But the thing is that they should contact the doctor and state that the prescription that’s prescribed is incorrect first before they take it upon themselves to change it. I don't think they have that right to do that. I
believe that it’s got to be the doctor who’s signing off to say, “Okay, yes, go ahead and change it.” And then of course the pharmacist should say, “Could you please confirm that via fax to my store,” or wherever… I don't think the pharmacist should take the responsibility on himself to make that decision. He doesn’t have the right as a doctor because he’s not a doctor. He’s a pharmacist. (Participant 18).

No, I think they should inform the doctor before the fact. I don't think they should have that kind of power to change a prescription. Pharmacists aren't doctors so they really shouldn't you know. (Participant 16)

Figure 3: Factors Influencing Support for and Willingness to Use Pharmacist Prescribing Services

4.3 Summary

Results from the study suggest that pharmacist prescribing services are perceived by community pharmacy service users to have benefits, namely, personal convenience, optimized use of healthcare resources and improved prescription outcomes. There were also concerns with pharmacist prescribing services, including the perception that pharmacists’ lacked access to clinical information, pharmacists’ capacity to prescribe, and extent of pharmacist-physician professional collaboration. Support for and willingness to use pharmacist prescribing services appeared to be contingent on three main factors: perceived personal convenience, type of prescribing service, and perception of pharmacists’ role.
Chapter 5
Discussion and Conclusion

The research question for this thesis was, “What factors influence Ontario pharmacy service users’ support for and willingness to use community pharmacist prescribing services?” This final chapter of the thesis begins with a summary of study results followed by an interpretation of the findings and discussion in relation to pertinent studies about pharmacist services and pharmacist prescribing. The study strengths and limitations, recommendations for future research, and conclusion are also presented.

5.1 Summary of Study & Key Findings

This descriptive qualitative study addresses the paucity of research exploring Ontario community pharmacy service users’ views about, support for and willingness to use, pharmacist prescribing services. A total of nineteen semi-structured interviews were conducted. Most participants had not experienced pharmacist prescribing services and were not aware that pharmacists could prescribe. Most participants recognized that pharmacist prescribing services could be convenient, optimize health resource use (e.g. reduce cost), and improve prescribing outcomes (e.g. minimize prescription errors). Participants expressed concerns about pharmacists’ lack of access to clinical information needed to prescribe, the possibility that pharmacists would not have the capacity to prescribe (due to potential increase in workload), and the likelihood of sub-optimal communication between pharmacists and physicians after pharmacist prescribing. When participants reported that they would be willing to use a pharmacist prescribing service, the main reason they provided was that the service could be convenient. However, whenever they were hesitant or unwilling to use a pharmacist prescribing service, they stated that it was contingent on the type of prescribing service or due to prescribing not falling within a pharmacist’s role.

5.2 Discussion of Study Findings

The influence that the following factors had on community pharmacy service users’ support for and willingness to use pharmacist prescribing services will be discussed:

1. Perception of pharmacists’ role
2. Perceived personal convenience
3. Perceived complexity of prescribing service
These three factors warrant discussion because they were the main reasons provided by participants for their support for and willingness to use pharmacist prescribing services. The influence of other views about pharmacist prescribing (e.g. the potential to improve prescription outcomes) are not known because they were not mentioned by participants as they discussed their support for and willingness to use pharmacist prescribing services.

5.2.1 Perception of Pharmacists’ Role

Most participants in our study reported previous positive experience with ‘traditional’ community pharmacy services (i.e., dispensing medications and provision of medication advice) and with their interactions with pharmacists. However, positive experiences with traditional community pharmacy services were not among the reasons participants provided when they reported their support for or willingness to use pharmacist prescribing services. On the contrary, some were hesitant to use the prescribing services because they did not identify pharmacists as having roles other than dispensing. Our finding is consistent with a qualitative study by Feehan et al. that examined the views of consumers, community pharmacists and reimbursement decision-makers about a potential independent pharmacist prescribing model in the community setting in Utah (United States) (24). The researchers found that consumers held traditional views (dispensing medications, identifying drug interactions, and counseling about medications) about the role of community pharmacists, which led most of them (11 out of 19) to be less supportive of pharmacists prescribing services (24).

5.2.2 Perceived Personal Convenience of Pharmacist Prescribing Services

Study participants saw the potential for pharmacist prescribing to optimize health resource use as well as improve prescription outcomes (e.g. detect prescribing errors). However, convenience appeared to be the key reason for participants supporting pharmacist prescribing services. They believed that independent renewal and adaptation of prescriptions by pharmacists would facilitate easier, more efficient access to medications than obtaining such prescribing services from physicians. Receiving such services from pharmacists would not require travel to a physician’s office or waiting for a physician’s response to a pharmacist communication. Convenience as a driver of the decision to use pharmacist prescribing services has been reported in other studies as well. In a study conducted by Gardner et al. in Seattle, Washington (United States) to evaluate pharmacist-prescribed contraceptive care in the community, the researchers
reported that more than 60% of the women who had used a pharmacist prescriber to obtain their oral hormonal contraceptives mentioned convenience as the primary reason for their decision (83). An Australian study exploring patients’ and pharmacists’ views about pharmacist collaborative prescribing of opioid substitution treatments (e.g. methadone, buprenorphine or buprenorphine/naloxone) (117) found that patients supported the services primarily for reasons of convenience. These patients were already attending the pharmacy regularly to receive their medications so they reasoned that it would be convenient to receive the prescribing service at the same location (117).

Even though potential personal convenience appeared to positively influence expressed willingness to use pharmacist prescribing services, it was not sufficient to make participants completely supportive of these services. Participants saw the potential for pharmacist prescribing to conveniently manage their medications but were only willing to use the prescribing service when they were certain about a pharmacist’s ability to prescribe. When they had doubts, participants placed limitations on the type of prescribing service they would be willing or unwilling to use. The finding that participants’ support for expanded pharmacist services was limited to certain types of services is consistent with Kelly et al.’s study in Newfoundland, Canada (80). A province-wide telephone survey (N = 380) was undertaken to determine whether the public was likely to use expanded pharmacist services. Results of their study showed strong support for pharmacist-authorized refills of medications but less support for other expanded services such as provision of health screening/monitoring services (such as blood pressure monitoring). No explanation for these differences was discussed by the authors.

5.2.3 Perceived Complexity of Prescribing Service

Most participants in our study had a number of concerns regarding pharmacist prescribing. However, the main concern that appeared to make participants hesitant to use pharmacist prescribing services was pharmacists’ perceived lack of access to relevant clinical information. Clinical information in this context encompassed information used for diagnosis, treatment and continued management of an individual’s condition. Thus, it included an individual’s medical and family history, laboratory results, and findings obtained through physical examination. Participants identified access to an individual’s clinical information to be relevant and necessary depending on the perceived complexity of the type of prescribing involved. The service
associated with the least complexity was prescription adaptation involving a route of administration or formulation change (e.g. switching an oral tablet to a patch or changing a tablet to liquid oral formulation) and the service that they associated with the most complexity was prescription adaptation involving a dose or frequency change. Renewal of a prescription was perceived to involve more complexity than a route or formulation change but not as much as a dose or frequency change. The more complex the service, the more important it was to participants for pharmacists to have access to clinical information before prescribing. As long as the service was thought to be simple enough to only require drug product knowledge (i.e. route or formulation change), then the convenience of the pharmacist prescribing was preferred. The finding that support for pharmacist prescribing services depends on the perceived complexity of the prescribing service has been reported in another study. Perepelkin conducted a telephone survey with 1,283 members of the public in Saskatchewan, Canada to understand their opinions about pharmacists and pharmacist prescribing (79). A high level of support (75.9%) for pharmacist renewal of prescriptions was found. Support (40.2%) was less for services that participants reported to be more complex, such as altering the frequency or strength of a medication.

Another key finding from our study was that the more complex the participants perceived the service or patient’s clinical situation to be, the more they preferred the pharmacist to consult with the physician before providing the prescribing service. Pharmacists’ lack of access to clinical information was one of the reasons why participants in our study preferred physicians to be involved in complex prescribing situations. The more complexity participants perceived, the more importance they placed on access to clinical information and the more they preferred the physician to be involved. Preference for physician involvement in more complex prescribing has been reported in studies in the UK, where patients supported pharmacist prescribing but preferred that their doctor would be their first contact for more ‘serious’ conditions or if their condition was getting worse (86,90,92).

In summary, participants’ support for and willingness to use pharmacist prescribing services appeared to be influenced by both perceived benefits and concerns as well as perceptions of the cultural role of pharmacists. When participants reported that they were willing to use pharmacist prescribing service, potential personal convenience was the main reason provided. When they were hesitant, it was usually because of the perceived complexity of the prescribing service. The
lower the perceived complexity, the more willing they were to use the prescribing service because of convenience but the higher the perceived complexity, the less willing they were. The preference for physician involvement also appeared to play a role along this spectrum of complexity. Participants generally supported pharmacists independently providing prescribing services that they deemed to be less complex but they preferred a dependent approach for relatively complex services.

5.3 Study Strength and Limitations

5.3.1 Strength

A key strength of our study is its use of a qualitative approach. Studies that have explored patients and the public’s experiences and views about independent pharmacist prescribing services have mostly used quantitative surveys as their method of inquiry. Using quantitative methodology to determine opinions limits the researcher’s ability to gather in-depth and nuanced data based on individual experience, which can help the researcher to understand the factors influencing those opinions. This is an important consideration especially when, as is the case with pharmacist prescribing, relatively little is known about the topic. Our study is the first qualitative descriptive study conducted in Ontario, Canada’s largest province, that has used one-on-one, semi-structured interviews to inquire about community pharmacy service users’ views about pharmacist prescribing.

5.3.2 Limitations

A convenience sample was obtained from one urban area and participants were not selected to obtain representation of different genders, ethnic groups or socioeconomic status. The sample is therefore not indicative of community pharmacy service users across the province, which limits the transferability of the research findings. In qualitative research, the concept of transferability, which is the extent to which the research findings can be applied to other settings or groups, is reported as one of the indicators of research trustworthiness (118). Findings from this study are likely only transferable to other populations that align with our sample and in that sense, can only be considered exploratory. For example, the study does not capture views of community pharmacy service users in rural areas or people who have experience with pharmacist prescribing services. This limitation is important because perspectives might differ among those who have
experience with these services compared to those who do not. Understanding these different perspectives could provide further insight into the factors influencing participants’ views, support for and willingness to use pharmacist prescribing services.

Also, the majority of study participants lacked experience with pharmacist prescribing. Participants’ responses were therefore based on their stated intentions to use the services rather than their actual experience with the services. As a result, caution is needed when interpreting participants’ responses because people’s stated intentions when they lack experience are not necessarily consistent with their future behaviour (119).

Another limitation of the study, some may argue, is that member checking was not performed. Member checking occurs when the researcher presents data (transcripts, interpretations or summaries) to participants for comment (120). This is often perceived to enhance the credibility of data analysis as it ensures that there is congruency between what the study participants reported and the researcher’s analysis and interpretation of data (121). Member checking can enrich data analysis processes because participants can help inform the researcher’s growing understanding of the data. The importance of member checking is however controversial as some have argued that since a member check is used to correct errors and to eliminate misrepresentation and misinterpretation, it is rooted in positivism and post-positivism (120). To some researchers this is not aligned with relativist epistemology (i.e., that an understanding of reality is co-created by the researcher and participant) as it implies that there is a single, correct understanding of reality that can be accounted for through the checking process (122). In our study, the researcher’s analysis and interpretations of the data were informed by her beliefs and experiences. Her understanding of reality (i.e. the phenomenon of pharmacist prescribing) was co-constructed with the participants and as such, it is our contention that member checking was not required to inform the understanding of the research findings.

5.4 Significance of Findings

The key finding from the study was that participants’ support for and willingness to use pharmacist prescribing services was contingent on their perceived sense of risk, which was a function of the perceived complexity of the prescribing service. In the absence of experience with such services, participants’ perceptions of pharmacists’ access to clinical information, the individual’s clinical situation (e.g. the stability of the individual’s medical condition), and of the
role of pharmacists influenced their support for and willingness to use pharmacist prescribing services. This finding has implications for pharmacists, pharmacy advocacy groups and governing bodies as they consider implementation strategies to enhance public uptake of pharmacist prescribing services.

5.4.1 Implications for Pharmacists

In the study, participants voiced concerns with pharmacist prescribing services, including the potential that pharmacists would not be able to communicate with physicians in a timely manner. Pharmacists can address these concerns when offering prescribing services by actively engaging potential service users and clearly explaining each step of the prescribing process (i.e., informing the patient exactly when their physician will be contacted).

Most participants in the study did not know that pharmacists could provide prescription renewal and adaptation services. There are likely many reasons for this but one is that pharmacists might not be proactively and routinely informing their patients about these services. There are many strategies for addressing this lack of awareness, including pharmacy teams prospectively identifying clients who might be eligible for the service and reaching out to offer the service whenever applicable. Another option would be to post written information about these services in the pharmacy, on pharmacy websites or social media channels, or to distribute information leaflets with each prescription. These relatively inexpensive options may increase awareness and provide people the opportunity to inquire about the services when they might be needed. Pharmacy managers could also promote pharmacist prescribing services as part of other medication therapy management services (e.g. the MedsCheck Program in Ontario) that are offered in the community pharmacy. Increasing awareness about all of these services could, over time, help shift the public’s perception of pharmacists’ role beyond dispensing.

5.4.2 Implications for Pharmacy Advocacy Groups

Legislative and regulatory changes authorized pharmacists in Ontario to independently renew and adapt prescriptions in 2012. Since then, widespread public campaigns have been conducted by pharmacy advocacy groups such as the Canadian Pharmacists Association and the Ontario Pharmacists Association to raise awareness about these services. However, due to their high costs, such media campaigns typically run for a finite period of time (e.g. during pharmacist
awareness month in March of every year) limiting ongoing public awareness about pharmacist prescribing services. Alternative targeted and potentially low-cost options could therefore be employed by these advocacy groups to ensure the continued promotion of pharmacist prescribing services among community pharmacy service users. One such alternative is to focus awareness-raising efforts on those individuals who are most likely to benefit from the services (instead of to all members of the general public). For example, pharmacy advocacy groups could partner with community organizations that represent targeted populations (e.g. community centers for senior citizens and disease-based advocacy groups) to organize workshops about medication management that could feature discussions about prescribing services.

5.4.3 Implications for Policymakers and Governing Bodies

The benefits of pharmacist prescribing services reported in this study align with the Ontario government’s current policy goals of fostering convenient, accessible, and cost-efficient healthcare services (123). Participants’ willingness to use pharmacist prescribing services appeared to be influenced by various factors, including their perception of pharmacists’ access to clinical information. The importance of clinical information to prescribing is outlined in Ontario pharmacy regulations whereby pharmacists are permitted to prescribe but only after considering the relevant circumstances of the patient, including their medical history and laboratory tests (13). The need for Ontario community pharmacists to have access to relevant clinical information (e.g. laboratory tests, medical and family history) has also been advocated by the Ontario Pharmacists’ Association (124).

Community pharmacists in Ontario currently do not have routine, easy access to patients’ clinical information (including medications dispensed at other pharmacies, laboratory tests, medical, and family history). Primary care pharmacists (e.g. in family health teams and community health centers) may have access to such clinical information but those who work outside these collaborative settings may not. In contrast, pharmacists in some other Canadian provinces can access laboratory test results ordered by other providers or central databases that contain information about their patients’ medications (past and active medications, regardless of where the dispensing occurred) (125). However, only pharmacists in Alberta, Quebec and Nova Scotia can independently order and interpret laboratory tests. In Manitoba, pharmacists can independently order laboratory tests but are not legally authorized to interpret findings. Ontario
pharmacists currently do not have the legislative authority to order or interpret laboratory results as part of their expanded scope of practice (26).

Our finding, that perceived lack of access to clinical information made study participants less supportive of pharmacist prescribing services, adds another argument for advocacy efforts with policymakers to give community pharmacists access to such information. Strategies have been outlined by eHealth Ontario, a provincial government agency, to allow province-wide information sharing so that clinicians (e.g. physicians, nurses, pharmacists) in the community or hospitals can access patients’ personal health information (126,127). In theory, this would provide opportunities for community pharmacists to access patients' medical histories to assist with prescribing. However, implementation requires targeted funding and capacity building to develop the architecture and technical solutions required. While complex and costly, implementation strategies that allow community pharmacists to access patients’ electronic health records would not only enhance interprofessional collaboration (i.e., between community pharmacists and primary care providers) but would also assure potential users of pharmacist prescribing services that community pharmacists have access to the important resources required to prescribe.

5.5 Opportunities for Future Research

Our study showed that having positive experiences with traditional community pharmacy services does not necessarily appear to facilitate pharmacy service users’ support for or willingness to use pharmacist prescribing services. However, most participants in the study had not experienced pharmacist prescribing services and were also not aware of them. Future studies could specifically recruit individuals who have experienced pharmacist prescribing services to explore whether such experiences have influenced their willingness to use potential new pharmacist prescribing services (e.g., pharmacist prescribing for preventative care or common ailments). Community pharmacy service users’ willingness to use pharmacist prescribing services was contingent on various factors that were influenced by convenience, concerns about risks and perceptions of pharmacists’ role. It would be worth knowing in future studies whether the number or types of contingency factors would be different among participants who have experienced pharmacist prescribing services.
Most of the time, when participants discussed their views about pharmacist prescribing, they did so relative to the prescribing services they have received from their physician. Future research could explore how people’s views about pharmacist prescribing services compare with their views about the prescribing services they receive from prescribers who are not their primary physicians (e.g., physicians who work in walk-in clinics, medical specialists, dentists, and other healthcare professionals with prescriptive authority).

This study was conducted solely in an urban setting and would be worth repeating in rural settings, where approximately 14% of the Ontario population live (128). Access to healthcare services has been reported to be more of an issue in rural than in urban Ontario due to fewer health professionals and transportation challenges (129). There is also anecdotal evidence that rural pharmacists take on broader roles to meet healthcare needs of their communities (e.g. management of oral anticoagulation therapy). Repeating the study in rural areas might therefore reveal geographical differences in people’s support for and willingness to use community pharmacist prescribing services.

In February 2017, an amendment to Ontario’s Nursing Act was proposed to the Ontario government to expand the scope of practice of Registered Nurses (RNs) to include independent prescribing of medications (130). Once the amendment is passed and regulations are written, Ontario might become the first Canadian jurisdiction where RNs can independently prescribe medications. As the public begins to experience nurse prescribing, studies could compare the experiences and perceptions of individuals who would have experienced both nursing and pharmacist prescribing services.

5.6 Conclusion

Among residents of one metropolitan area of Ontario, support for, and willingness to use, pharmacist prescribing services (prescription renewals and adaptation) was facilitated by perceived personal convenience but constrained by perceptions of pharmacists’ lack of access to clinical information and the role of pharmacists in general. Willingness to use the services was specific to the individual and varied depending on the perceived complexity of the prescribing service (renewal versus adaptation) and the stability of the individual’s clinical condition or medication therapy. Understanding the factors that shape community pharmacy service users’ views about pharmacist prescribing and their willingness to use the services could contribute to
designing models that meet patients’ expectations, facilitate use of pharmacist prescribing services and ultimately lead to improved health outcomes, cost savings and efficiencies in the health system.
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Appendices
Appendix A: Interview Guide

Introduction

Thank you for your participation in this study. My name is Ida Famiyeh; I’m a Master of Science student at the University of Toronto. I’m doing this research to gather opinions about specific services provided by pharmacists in the community. As you may know pharmacists dispense and provide advice about medications. However, their roles and the services they provide are expanding. Currently in Ontario, pharmacists can give flu shots and review medications through programs like MedsCheck. Pharmacists also provide other services that used to be provided only by doctors. In this interview, we will be discussing some of these services. There are no right or wrong answers to the questions I will ask. I would like to learn your thoughts and experiences. The interview should last about 30 minutes but if at any time you feel like you need a break or would want to continue at another time, let me know and we can do that.

General Questions about Pharmacy Patronage

1. Tell me a bit about yourself
   - Where are you from? Were you originally born in Canada?
   - Have you always lived in Toronto? How long have you lived in Toronto for?
   - How old are you?

2. Have you lived in a country with a different health care system?
   - If so, tell me about your experiences with their health care system if any?

3. In terms of your general health, would you describe yourself as a healthy person?
   - What makes you say that?

4. How do you feel about the medications that you are currently taking?
5. Tell me about the pharmacy/pharmacies you go to
   o Is there one specific type of pharmacy you go to?
   o What type of pharmacy is it (e.g. Shoppers Drug Mart, Rexall, IDA, etc.)?
   o How did you choose this/these pharmacy/pharmacies? What makes you go there instead of other pharmacy/pharmacies?
   o What kinds of services have you received from the pharmacy/pharmacies?
   o How would you describe your experiences at this pharmacy/pharmacies?

6. Tell me about the pharmacists at this/these pharmacy/pharmacies
   o Is there one specific pharmacist you like to deal with when you go to the pharmacy?
     - If so, can you tell me more about why you prefer this pharmacist(s)?
   o How would you describe your relationship with the pharmacist(s)?

Knowledge of Pharmacist Prescribing

1. When I say the word prescribing, what comes to mind? How do you understand that word?

2. Since 2012, pharmacists have been allowed to provide some new services, which have been in effect since 2012. We collectively call these services, pharmacist prescribing services.
   o Thinking about services that you may have received from your pharmacy, do any of them come to mind when you hear that term pharmacist prescribing services?
   o Have you heard of this term before?

Knowledge of and Experiences with Pharmacist Renewal Services
In Ontario, pharmacist can renew your prescriptions. The way it works is let’s say you’ve been on a medication for a long time and you have been very stable on this medication. Your doctor prescribes the medication with a number of refills on it and all you need to do is go to the pharmacy and get a refill. In the past, if you were to run out of refills you would either have to go to see your doctor for a repeat prescription or your pharmacy would have to contact your doctor for repeats. Since 2012, pharmacists no longer have to call the doctor first. The pharmacist can refill your prescription for you and then inform your doctor after the fact.

1. Did you know that pharmacists could do this?
2. How do you feel about pharmacists being able to refill your prescriptions without first calling your doctor?
   - What benefits come to mind?
   - What limitations or concerns come to mind?
3. Would you go to a pharmacist instead of a doctor for this service?
   - What makes you say that?

Knowledge of and Experiences with Pharmacist Adaptations

The next service that pharmacists can provide is called adaptation. There are different ways this can happen. One way is when the pharmacist changes the dose or how often you should take the medication. For example, let's say you have a new prescription you take it to the pharmacy. The pharmacist assesses the prescription and that there is an error (e.g. the dose is wrong). So before, the pharmacist would have to telephone the doctor and say, ‘you prescribed this drug at this dose, but it’s supposed to be that dose’. Now, pharmacists can use their judgment and make the changes without first contacting the doctor. They will notify the doctor after the fact about the changes they have made to the prescription.
1. Did you know that pharmacists could do this?

2. How do you feel about pharmacists being able to refill your prescriptions without first calling your doctor?
   - What benefits come to mind?
   - What limitations or concerns come to mind?

3. Would you go to a pharmacist instead of a doctor for this service?
   - What makes you say that?

Another type of adaptation involves changing the formulation or something that we call the route of administration. So, an example would be that the doctor prescribes you a pill but you find that you can’t swallow a pill. The pharmacist can change it to a liquid form for you. It is the same dose as the doctor prescribed but in liquid form instead of a pill. Or, let’s say the medication comes in both a patch and a pill and you would prefer a patch instead of taking something by mouth. The pharmacist can dispense the patch for you instead of the pill.

1. Did you know that pharmacists could do this?

2. How do you feel about pharmacists being able to refill your prescriptions without first calling your doctor?
   - What benefits come to mind?
   - What limitations or concerns come to mind?

3. Would you go to a pharmacist instead of a doctor for this service?
   - What makes you say that?

**Views about providing clinical services in a retail environment**

What are your thoughts about pharmacists providing clinical services such as the ones that we’ve already talked about in a retail environmental?
1. What benefits come to mind

2. What limitations or concerns come to mind?

Views about pharmacists being reimbursed for prescribing services

Currently, pharmacists are not reimbursed for renewal and adaptation services. The government doesn’t give them additional money for providing these services.

1. What are your thoughts about this?

2. Are there benefits to pharmacists not getting reimbursed?

3. Are there limitations to pharmacists not getting reimbursed?
## Appendix B: Sample Interview Codes

<table>
<thead>
<tr>
<th>Participant</th>
<th>Quotation</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>I can see that if the pharmacist changes a dose of a prescription, let’s say, and then has to let the doctor know, I can see where it’s getting lost in the shuffle and the doctor not seeing it or addressing it properly</td>
<td>Pharmacist-physician collaboration/communication</td>
</tr>
<tr>
<td>07</td>
<td>… I guess not having access to like the full health record can potentially put this patient’s life at risk or can potentially harm this patient [if pharmacist renews] by no fault of anyone. Because like they were not forthcoming with this [clinical] information</td>
<td>Access to clinical information</td>
</tr>
<tr>
<td>03</td>
<td>It's too much work for the pharmacist as it is now. Even though they’re alleviating some of the work that physicians have, the pharmacist now has a heavy load, more so than what they used to do…It's going to impact the service, maybe more so of the older customers</td>
<td>Increased pharmacist workload</td>
</tr>
<tr>
<td>02</td>
<td>If the pharmacist could do it [renew], it would save a lot of time. That would really help... time it would take to get the doctor’s appointment. You know, it would save on that and the time it is to get to the doctor. Then you’ve got to go back to the drugstore, bring it. This way it’s done right there</td>
<td>Saves time</td>
</tr>
<tr>
<td>04</td>
<td>it [renewal] expedites things a lot quicker and easier. It’s less time for me. And I don't have to be calling my doctor, and all those types of things. I mean it seemed like a fairly draconian system. I’m surprised it took so long to change. But I understand everybody has to get their cut, right.</td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>it’s [renewal] going to lower the cost of healthcare. Because every time I go to my doctor, he’s swipes my OHIP. And that’s whatever amount of dollars that the taxpayer has to pay for him to write the same thing over and over again for me.</td>
<td>Reduces healthcare cost</td>
</tr>
</tbody>
</table>
Appendix C: Study Information and Informed Consent Form

STUDY INFORMATION AND CONSENT FORM

Study Title: The Role that Patients’ Trust in the Pharmacy Profession Plays in the Views about Pharmacist Prescribing Services

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Institute of Health Policy, Management and Evaluation, University of Toronto
Email: k.kuluski@utoronto.ca

You are invited to take part in a research study exploring the opinions and experiences of patients regarding pharmacist prescribing services.
This letter contains information to help you decide whether or not you would like to participate in this study. It is important for you to understand why the study is being conducted and what it will involve. Please take the time to read this carefully and feel free to ask questions if anything is unclear.

**What is the purpose of the study?**

The purpose of this study is to learn more about the opinions and experiences of patients related to pharmacist prescribing services. In a past study we conducted, we reviewed research carried out in different countries about what patients’ think about pharmacist prescribing services. We found that very little is known about the opinions of patients in Ontario. We are conducting this study to gain a better understanding of patients’ opinions and experiences regarding this topic.

**What do I have to do?**

If you choose to take part in this study, you will be asked to participate in one open-ended interview. In open-ended interviews, the researcher asks questions that allow you to describe your opinions and experiences in your own words. During the interview, you will be asked to share your story about how you came to receive, or not receive pharmacist prescribing services. This interview should last approximately 30 minutes, and will be audio-recorded to make sure that we have an accurate record of what you say in the interview. The interview will take place at a location and time that is convenient for you and safe for both you and the interviewer. A private interview space at Women’s College Hospital or the University of Toronto Leslie Dan Faculty of Pharmacy is available if you prefer this option. You will be reimbursed for any transportation or parking expenses you may incur in order to participate in this study. At the end of the interview, you will receive a $15 gift card as a token of our appreciation for your time and for sharing your opinions about pharmacist prescribing. If you chose not to complete the interview after it has started you will still receive payment.

**How many people will take part in this study?**

At least fifteen people who are eligible to participate will take part in this study. The entire study is expected to take about 3 months but you will only be participating during the interviews.

**Are there any risks or discomforts?**
There are no known risks associated with taking part in this study. You may find that you experience discomfort if you choose to disclose sensitive information related to your personal experiences. You have the right to refuse to answer any questions and to withdraw from the study at any time with no consequences whatsoever.

**What are the benefits of taking part?**

It is possible that you will not benefit directly from participation in this study. A possible benefit of your participation is that your insights and personal experiences related to pharmacist prescribing will be used to develop presentations and papers that will be presented to others at conferences and in academic journals. As a result, your experiences may help to influence services, programs, and policies related to pharmacy services in Ontario.

**What happens to the information I share with you? How will my privacy be protected?**

Your interview will be audio-recorded, and typed up word-for-word. The following measures will be taken to protect your privacy by keeping your information confidential (i.e., secure) and your identity anonymous:

1) Only Ida Famieyh (the interviewer) will have access to the original interview recordings and typed transcripts.

2) All information collected from you (including interview transcripts, contact information, consent forms and audio recordings) will be locked in a secure cabinet in a locked research office at Women’s College Hospital and will be destroyed after 5 years.

3) The interview transcripts will be de-identified by replacing any names you mention in the interview, including your own, with alternative names or identification numbers (pseudonyms) to protect your identity. Any other information that could be used to identify you, e.g. your place of work, will also be replaced with an alternate name. Only the alternative names will be used to identify recordings and transcripts.

4) Your real name and alternative name will be recorded in a master list and stored in a locked cabinet in a secure research office for the duration of the study. In case you wish to withdraw from the study, we can access the master list to withdraw the information you provide. The master list will be kept until the data we collect is analyzed. Once the data is analyzed, the master list will be deleted and you will no longer be able to withdraw the information you provide. The master list will be stored separately from the
signed consent forms and the raw data and will be accessible only to the student research
and research supervisors.

5) You will never be identified in any future reports or publications that result from this
study. If any quotes from your interviews are used in future reports of publications, only
your alternative name will be used, and any information that could identify you will be
altered or removed.

6) All information transferred into digital files will be password protected and the password
will only be known to the student researcher and supervisors.

Additional Information

If you have any questions regarding this study, or would like additional information to assist you
in reaching a decision about participation, please contact me (Ida) at 647-893-6498 or by email at
im.famiyeh@mail.utoronto.ca. You can also contact one of my supervisors, Dr. Lisa McCarthy
at 416-323-6059 or email lisa.mcarthy@utoronto.ca.

We will strive to ensure the confidentiality of your research-related records. Absolute
confidence cannot be guaranteed, as we may have to disclose certain information under
certain laws. You may contact a representative of Women’s College Hospital Research Ethics at
416-351-3732 ext. 2723 if you have any questions about your rights as a research participant.

Can I withdraw from the study?

Participation in this study is completely voluntary. You have the right to withdraw your
participation in the study as long as data has not been analyzed. Once data is analyzed, the
information you provide in the interview cannot be withdrawn. This is because the identity of
participants will be deleted at the time of data analysis and there will be no way of determining
who provided what information.

Can I receive a copy of the study results?

If you would like to receive a copy of the results of this study after the analysis is complete, you
will be asked to provide your name and mailing address on a separate piece of paper. This
information will also be kept confidential and secure.
**Other information about this study**

If you are a patient at a pharmacy where you heard about this study, your decision to participate or drop out of the study will have no effect on the care or advice you receive at the pharmacy.

You will be given a copy of this letter of information and consent once it is signed. Please note that you do not waive any legal rights by signing this form.

We thank you for your attention to the information in this letter and hope that you will consider participation in this research.

Please read the following carefully:

I understand that I will be asked to participate in an open-ended interview that will last approximately 30 minutes and take place at a time and location of my choosing.

I have read the letter of information above, I have had the nature of the study and my involvement in it explained to me, and I agree to participate. All questions have been answered to my satisfaction and I understand that I do not waive any legal rights by signing this consent form.

____________________  __________________  ____________
Name of Research Participant   Signature   Date

____________________  __________________  ____________
Name of Person Obtaining Consent  Signature  Date

I would like a copy of the study results sent to me once the analysis is completed (circle one)

YES   NO

(If yes, please provide your contact information to the researcher on a separate piece of paper)
Appendix D: Verbal Consent Script

1. Have you had a chance to review the written informed consent letter?

2. Do you have any questions regarding the study or the requirements of participating in this research study? I can go over or explain any or all sections if you would like.

3. Do you understand the risks and benefits of participating in this study?

4. Have you read each page of the written informed consent form?

5. Do you understand your rights as a research participant?

6. Have all your questions been answered to your satisfaction?

7. Do you agree that the interview can be audio recorded?

8. Do you agree to participate in this study?

9. Would you like a summary of the study results? If yes, what is your preferred email address