The Delivery of Pharmaceutical Health Care in Nunavut, Canada: Language, Culture and Policy

by

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A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
Department of Anthropology
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Abstract

Pharmaceuticals are an essential component of modern health care as their therapeutic properties are often required to achieve optimal health outcomes. The pharmaceutical market is also a significant contributor to health care expenditures, with global sales exceeding US$300 billion and expenditures predicted to increase. These global factors necessitate the development of pharmaceutical policies that are adaptive to local contexts and address the complexities of purchasing, distribution, prescribing and administration practices that best suit the needs of local populations. Through multi-method research, my doctoral thesis explores three areas of pharmacy health care in Nunavut, Canada: policy and practice, discordance in health models, and language translation.

First, this research examines the pharmacy policy currently serving remote communities in Nunavut, a territory affected by weather-related access issues, scarce human resources and complex financial allocations. Current policies are often in conflict with patient-centred care and result in significant pharmaceutical waste. Revised policies may better support health providers, and address distribution issues to optimize financial expenditures.
Second, pharmaceutical health care is part of biomedicine, which offers sharp contrast to the more holistic Inuit wellness model. In Nunavut, although the majority of inhabitants are Inuit, biomedical health care is delivered primarily by Qallunaat (non-Inuit) health providers. This research uses a comparative framework to contrast these two health models to explain how multiple levels of cultural discordance layered with postcolonial inequalities may influence patient-provider relationships and patient adherence to pharmacotherapy.

Third, this research considers language discordance in pharmacy health care in Nunavut, where pharmacy services are delivered in English to predominantly Inuit language speaking patients. Pharmacy language discordance can result in adverse drug events and serious patient harm. This situation is currently in transition as language legislation in Nunavut will soon require pharmacy services to be available in Inuit languages and efforts are underway to standardize Inuit-language pharmaceutical terminology.

Together, these three issues influence the quality of pharmacy health care in Nunavut and this thesis contributes to a greater understanding of issues which hold the potential to direct future endeavours towards the optimization of pharmacy health care in Nunavut.
Acknowledgments

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<td>ADE</td>
<td>adverse drug event</td>
</tr>
<tr>
<td>CHC</td>
<td>Community Health Centre</td>
</tr>
<tr>
<td>CHN</td>
<td>Community Health Nurse</td>
</tr>
<tr>
<td>CWB</td>
<td>Community Well-Being Index</td>
</tr>
<tr>
<td>FNIHB</td>
<td>First Nations and Inuit Health Branch</td>
</tr>
<tr>
<td>GN</td>
<td>Government of Nunavut</td>
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<tr>
<td>NIHB</td>
<td>Non-Insured Health Benefits</td>
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<tr>
<td>NP</td>
<td>Nurse practitioner</td>
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<tr>
<td>OTC</td>
<td>over the counter</td>
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Forward

This thesis consists of five chapters that explore pharmaceutical health care in Nunavut, Canada.

Chapter 1 provides an introduction to the current pharmacy health care situation in Nunavut and explains the transitional stage of language preservation and revitalization in the territory. The social landscape of remote communities, Inuit culture and language, transient non-Inuit health workers and no-cost pharmaceuticals creates unique challenges and opportunities to the provision of pharmaceutical health care to Nunavummiut. The rationale for this research as well as the methods and methodology are summarized in this chapter. This work has previously been published in *The International Journal of Circumpolar Health* (Romain, 2013).

Chapter 2 introduces how pharmacy health services are delivered in Nunavut in terms of the policies directing financial, distribution and prescribing decisions. These policies are contrasted against procedural application within remote communities and discusses how contextual factors can create tensions against optimal policy administration. This work has previously been published in *The Journal of Pharmaceutical Policy and Practice* (Romain, Kohler and Young, 2015).

Chapter 3 examines the discordance between biomedical and Inuit wellness models in several key areas: ideology, social interactions and treatments. This chapter considers how these areas of discordance affect the quality of patient-provider encounters and influence patient adherence to prescribed pharmacotherapy.

Chapter 4 considers the translation of pharmaceutical terminology and the delivery of pharmacy health care in Inuit languages in Nunavut. Legislation in Nunavut requires that all essential services, including all aspects of health care, must be available in four languages: English, French, Inuktitut and Inuinnaqtun. This chapter discusses the many challenges and benefits that may be realized as the process of translation and standardization of pharmaceutical terminology occurs.

Lastly, Chapter 5 summarizes the findings and conclusions from the preceding chapters and considers future directions and considerations for pharmaceutical health care in Nunavut.
Chapter 1:
Introduction

1.1 Abstract

Pharmaceutical communication is an essential component of pharmacy health care, optimally ensuring patients understand the proper administration and side effects of their medications. Communication can often be complicated by language and culture, but with pharmaceuticals, misunderstandings can prove particularly harmful.

In Nunavut, to ensure the preservation and revitalization of Inuit languages, the Inuit Language Protection Act and Official Languages Act were passed requiring that all public and private sector essential services offer verbal and written communication in Inuit languages (Inuktitut and Inuinnaqtun), collectively referred to as Inuktut, by 2012.

While the legislation mandates compliance, policy implementation for Inuktut pharmacy services is problematic. Not a single pharmacist or pharmacy technician in Nunavut is fluent in either of the Inuit languages. Pharmacists have indicated challenges in formally translating written documentation such as labels into Inuit languages based on concerns for patient safety. These challenges of negotiating the joint requirements of language legislation and patient safety have resulted in pharmacies using verbal on-site translation as a tenuous solution regardless of its many limitations.

The complex issues of pharmaceutical health care and communication among the Inuit of Nunavut are best examined through multi-method research to encompass a wide range of perspectives. This methodology combines the richness of ethnographic data, the targeted depth of semi-structured interviews and the breadth of policy and financial evaluations. The consolidation of this information provides valuable insights into the current relationships between health care providers, pharmacists and Inuit patients and suggests future directions for
policy that will improve the efficacy of pharmaceuticals and health care spending for Inuit in Canada.

1.2 Background

Universal health care is a keystone of Canadian national identity. The Canada Health Act ensures that the majority of health services are publicly funded for all Canadians, with administration occurring at the provincial and territorial levels. For Aboriginal Canadians, health funding for many goods and services (e.g. vision care, dental care and pharmaceuticals) may also be covered by Health Canada’s Non-Insured Health Benefits (NIHB) program (Health Canada, 2012). Despite this universality of health care, significant differences occur in the health status of Aboriginal and non-Aboriginal Canadians. Aboriginal populations in Canada experience higher rates of both chronic and infectious diseases as well as shorter life expectancy relative to non-Aboriginal populations (Health Canada, 2016). The interactions of complex geographical, cultural and historical factors influence these disparities and provide many challenges for the goal of attaining health equality for all Canadians.

The population of Nunavut is predominantly (85%) Inuit (Statistics Canada, 2006) with many still speaking Inuktut and spending time on the land engaging in traditional activities. The celebrations of traditional knowledge and customs are culturally cohesive forces shown to minimize social problems within Aboriginal communities (Kirmayer, Simpson, & Cargo, 2003). As such, the government of Nunavut is highly committed to policy and programs that support, sustain and revitalize Inuit culture and language. The Inuit Language Protection Act and Official Languages Act were passed in Nunavut to ensure the preservation and revitalization of Inuit languages. These legislative acts required that all public and private sector essential services (including pharmacy services) offer verbal and written communication in Inuit
languages by 2012. Concern has been raised regarding challenges meeting the requirements of these legislative acts due to an inability to provide comprehensive health services in Inuit languages, and as of 2016 the pharmacy health care sector has been unable to meet the legislative requirements of acts.

Health care in Nunavut is strongly influenced by the geographical challenges of remote fly-in communities and by the provision of care by non-Inuit (referred to as Qallunaat) health care providers. Although some Qallunaat health providers are long term residents and/or have married into a community, many others are transient contract workers. For most inhabitants of Nunavut, who refer to themselves as Nunavummiut, routine health care is provided by nurses in community Health Centres and nursing stations with limited access to physicians, specialists or pharmacists. This paper will examine the complex issues of one component of Aboriginal health care, pharmaceutical communication among the Inuit of Nunavut, Canada. A multi-method research plan is outlined as the most appropriate and comprehensive way to investigate these issues and to inform future policy initiatives.

1.3 Role of Pharmaceutical Health Care

Pharmaceuticals have become significant and essential components of health care. It is essential that pharmaceuticals are taken as intended to ensure patients achieve the best health outcomes. Adverse drug events (ADEs) can result from the proper (e.g. unanticipated allergic reaction) or improper (e.g. incorrect dosage) administration of pharmaceuticals, but are significantly minimized through effective patient-provider communication. Notification of drug allergies or interactions and clear dosing instructions are two examples of how effective communication can reduce ADE risk. ADEs have significant negative implications on patients;
identifying causes and solutions is of paramount importance to improving population health and maximizing the efficiency of health care.

Adverse drug events are frequent, costly and often preventable occurrences. A U.S. study calculated the hospital based ADE rate to be 6.5 per 100 admissions (28% which were judged preventable), resulting in an excess $5857 per patient in hospital costs alone (Bates, Spell, Cullen, Burdick, & Laird, 1997). Although data regarding the prevalence of outpatient ADEs are incomplete, a Canadian meta-analysis indicates that as many as 28% of all hospital emergency visits were pharmaceutical drug related, with an estimated 70% being preventable and 22-28% due to patients not taking their medications as prescribed (Patel & Zed, 2002). In addition to the financial implications, ADEs result in increased patient morbidity and mortality through mistreatment and exacerbation of pre-existing medical conditions. Demographic shifts of aging populations and lifestyle factors are resulting in increasing chronic disease rates which are predominantly managed with pharmacotherapy. A greater volume of co-morbidities and associated prescriptions will undoubtedly result in a greater number of ADEs. Identifying opportunities to reduce these risks will therefore become increasingly crucial to health care in the future.

Health literacy contributes to an individual’s ability to exercise ownership and control over their own health care and is defined as “the ability to understand [e.g., read, write and speak] health-related information” (Tkacz, Metzger, & Pruchnicki, 2008, p. 974). Although closely associated with language proficiency, health literacy also incorporates elements of mathematical understanding to affect abilities such as: interpreting nutrition labels and dosing formulae as well as administration instructions and healthy lifestyle advice. Low levels of health literacy contribute to increased health care utilization (e.g. hospitalizations) and lower
levels of preventative care (e.g. immunizations) resulting in poorer health status and premature deaths (Tkacz, Metzger, & Pruchnicki, 2008). Health literacy is essential for reducing medication errors and ADEs. Low levels of health literacy can serve as a challenge to patients in every health care interaction, from accessing and speaking with health care providers, to understanding the labels on their prescription bottles.

Communication between patient and health care providers plays a key role in health care outcomes. Translating evidence-based medical knowledge into linguistically understandable and culturally meaningful patient information has been identified as an essential component of effective health care in Aboriginal communities (Towle, Godophin, & Alexander, 2006; Browne, 2007; Bhattacharyya, et al., 2011). The most recognizable communication barrier in North America is patient-provider language differences, often when predominantly English-speaking health care providers are serving non-English speaking patients. Limited English proficiency (LEP) has been found to negatively affect patient health status through several pathways. LEP patients have been found to be less likely to have visited a physician or mental health professional in the previous year, and are less likely to have received a mammogram or influenza immunization (Fiscella, Franks, Doescher, & Saver, 2002). Hospitalized LEP patients are more likely to have adverse events and to suffer more significant physical harm as a result of these events than English proficient patients (Divi, Koss, Schmaltz, & Loeb, 2007), and predictably, these events were found to be more likely the result of communication errors than for English proficient patients. There are obvious challenges for LEP patients when communicating with Anglophone health providers to be able to effectively communicate about symptoms, side effects or catch errors which might otherwise be prevented when there is patient-provider language concordance (Fulton, 2005). Hospitalized patients, although a higher
level of acuity, are less likely to be affected by communication barriers because of multidisciplinary staff and closer monitoring of response to therapy. This contrasts with the ambulatory patient who may rely solely on the pharmacist as the only opportunity for health information and to clarify and validate comprehension of medication instructions. Therefore, the outpatient patient-pharmacist interaction is a crucial and often final opportunity to ensure that a full understanding of the medication is achieved prior to the patient taking the medication home for private administration.

Health literacy related to pharmacy includes literature (brochures, promotional materials), labelling (affixed to bottles or drug information pamphlets) and counselling. Pharmacists fill prescriptions, but also ensure patients understand administration, dosage, side effects and contraindications. Adherence is not merely patients understanding how to take their medications when they leave the pharmacy; it is also important they understand how their medications may affect them once taken. Understanding possible side effects has been found to increase adherence. LEP patients, who often report a lack of explanation of side effects by Anglophone pharmacists (David & Rhee, 1998) exhibit significantly higher levels of nonadherence (Westberg & Sorensen, 2005). Patients must understand the difference between an unpleasant yet normal side effect versus one requiring medication adjustments or medical attention. This distinction can increase medication effectiveness through adherence and minimize the occurrence and/or severity of ADEs.

Labelling is one of the most significant pharmaceutical communication tools as this information includes the proper dosage, administration and warnings. Importantly this is the only information available when patients are taking their medications away from health care providers. The vast majority of labelling is provided in English, where complex, multi-step text
is often misinterpreted by even English speaking patients with lower literacy levels (Davis, et al., 2006; Wolf, Davis, Tilson, Bass 3rd, & Parker, 2006). LEP patients are twice as likely to self-report an ADE due to problems understanding English instructions than English proficient patients (Wilson, Chen, Grumbback, Wang, & Fernandez, 2005). Some jurisdictions have sought to mitigate the challenge of serving LEP patients with translated pharmaceutical labels, often produced through commercially available computer software. Although translated labels are an improvement in service for LEP patients, studies have found inconsistent availability of translated labels in pharmacies (Weiss, et al., 2007; Zargarzadeh & Law, 2011), and alarmingly, significant levels of translation inaccuracy. Anecdotal evidence has identified cases of incorrect label translations resulting in serious patient illness and death (Mitka, 2007; Sharif & Tse, 2010). Some pharmacists have expressed reluctance to provide label translations as they are concerned for liability and patient safety if labels are not translated accurately and officially verified. A recent study has found significant improvements in patient understanding when translations are in simple terms (e.g. pill versus tablet), with clear time periods (i.e. morning, noon, evening, bedtime) and numeric characters are included (i.e. 2 versus two). This indicates that health literacy is more than the translation of words, but rather the acknowledgement and consideration of patient education levels and familiarity with health care information (Bailey, Sarkar, Chen, Schillinger, & Wolf, 2012). Consistently available, simply worded and accurately translated pharmaceutical labelling would provide patients with a valuable tool to ensure that they are properly self-administering their medications, allowing them to maximize health benefits and minimize ADEs.

Pharmaceutical counselling is an opportunity for pharmacists to examine patient therapy regimens to identify contraindications or interactions that might have been previously
overlooked or might result from over-the-counter (OTC) medications. Patients are also able to confirm medication instructions and ask questions. These interactions benefit from clarity in language and understanding. When language barriers exist, pharmacists often resort to patient family members or staff to provide translation services. While patients have been found to prefer family members to translate due to their trustworthiness (Mutchler, Bacigalupe, Coppin, & Gottlieb, 2007), the use of both family and/or staff as translators is problematic. Family members may heavily censor or filter information that is deemed unimportant, delicate, culturally inappropriate or discomforting, while staff may have limited pharmaceutical knowledge or training which compromises the accuracy of the translation (Phokeo & Hyman, 2007). Non-professional medical translators have been observed to make significantly more errors of potential clinical consequence than professional translators. These errors most often involve omissions regarding drug allergies and dosing (Flores, et al., 2003). Studies from several U.S. cities show that while as many as 88% of retail pharmacies reported that they served non-English speaking patients daily that would benefit from translation services, only 36% were able to provide a non-English prescription label “most of the time” and only 32% were able to verbally communicate in another language “most of the time” (Weiss, et al., 2007; Bradshaw, Tomany-Korman, & Flores, 2007). The ability to provide uninterrupted and professional translation services to LEP patients in pharmacies is proposed to enhance patient adherence and reduce ADEs.

Interactions between patients and pharmaceuticals are affected by both language and culture. Prescription pharmaceutical usage has been shown to vary with ethnicity and is affected by differences in beliefs and cultural backgrounds. An example of this is the generalized diminished confidence in the effectiveness of pharmaceuticals among Asian patients
Culture can affect attitudes and beliefs regarding gender roles and different types of illness. Attitudes of Chinese men towards mental illness result in significantly fewer prescriptions for antidepressants being filled than “white” men. Attitudes of Chinese women on illness result in significantly fewer prescriptions as a whole than “white” women (Horne, et al., 2004). Patient motivations or desires to seek health care and access to health care differ among various ethnic groups.

Medication use in children also differs with ethnicity even when a confounding factor such as access to ambulatory health can be controlled (Hahn, 1995). Ethnicity can affect medication use in several ways: through requests for prescriptions, through beliefs regarding the efficacy of prescription or OTC pharmaceuticals, or through difficulty accessing pharmaceutical services.

Diet and nutrition for the Inuit of Nunavut is subject to some unique considerations related to pharmaceuticals. Inuit traditional “country food” (foods acquired through seasonal hunting, fishing, and berry picking) has been shown to affect food and nutrient intake (Ross, et al., 2009). Country foods have been identified as having high nutritional value however, not enough is known in regards to how this diet affects absorption of pharmaceuticals, or regulation of metabolic processes (e.g. blood sugar levels). Food insecurity (interrupted access to food) in the North is also an issue that is exacerbated by poverty and the high cost of store bought foods (Chan, et al., 2006). The transition to a westernized diet is also correlating to an increase in chronic health effects (Schuster, Wein, Dickson, & Chan, 2011; Munch-Anderson, et al., 2012). These factors, in combination with irregular timing of meals (a large meal due to successful hunting versus regularly scheduled meals) and accessibility to health care when on the land, are factors which may affect pharmaceutical need, adherence and effectiveness. Unscheduled meal times may decrease the effectiveness of some medications that are best absorbed with food, or
may contribute to adverse events like nausea, bloating, abdominal pain and gastritis that can be minimized with food.

Aboriginal populations have experienced a lengthy history of cultural and linguistic persecution that has threatened and even annihilated numerous Indigenous languages and is identified as an important source of many current and continuing social issues. While there are many contributing factors to the Aboriginal health disparities in Canada, it is widely recognized that cultural discordance with biomedical health systems plays an important role.

1.4 Role of Language Legislation

In 2008 the *Inuit Language Protection Act* and *Official Languages Act* were passed in Nunavut to ensure the preservation and revitalization of Inuit languages. These legislative acts require that all public and private sector essential services (including pharmaceutical services) offer verbal and written service in Inuit languages by 2012. This policy directive is supported by research demonstrating that the development of language rights for the preservation of minority languages can have a positive effect on health and well-being, as well as positive economic impacts, not just for the minority, but for society as a whole (Kunnas, 2003). In Nunavut, there are two recognized Inuit languages. For communities in eastern Nunavut, service must be offered in Inuktitut, while in western Nunavut, service must be provided in Inuinnaqtun.

While the legislation mandates compliance, policy implementation for pharmaceutical services is problematic. In Nunavut, there are five retail pharmacies, yet not a single pharmacist or individual with any official pharmaceutical training in the territory is fluent in either of the Inuit languages. Currently, pharmacies rely on staff (without formal training in translation) to translate all verbal and written instructions to patients including dosage, side effects and contraindications. The negative implications of using non-professional translators have been
previously outlined; however the use of Inuit translators, even without professional training does have distinctive benefits. Research has highlighted the unique cultural challenges of health communication with Aboriginal patients where direct questions may be frowned upon and two-way communication is preferred, clearly a communication style which is not easily accommodated in biomedical health care (Smykowsky & Williams, 2011). Pharmaceutical inserts or monographs provided by the manufacturer are not available in Inuit languages. To understand this information, patients rely on translators to communicate what the translator believes is relevant about their medications. Due to this process, there is the potential for incomplete information. Retail pharmacists are unable to formally translate written documentation into Inuit languages without the ability to verify the authenticity of the translations. The challenges of negotiating the joint requirements of language legislation and patient safety has often resulted in pharmacies using verbal on-site translation as a tenuous solution regardless of its many limitations.

In Nunavut, remote, fly-in communities produce unique challenges in the provision of pharmaceutical services. Most communities do not have a pharmacist and many patients never have had the opportunity to speak to a pharmacist. Health care is most often provided by nurses supported by visits from fly-in physicians and medical evacuation to larger health care centres (Iqaluit, Winnipeg or Ottawa) when required. Understaffing and lack of continuity of care (i.e. nursing staff rotations) have been identified as a challenge in remote Aboriginal communities. Specifically, continuity of care is necessary for the establishment of relationships beneficial to chronic care management and cultural awareness (Bhattacharyya, et al., 2011). Health Centres in fly-in communities have access to a basic dispensary from which pharmaceuticals are available for urgent-care or temporary needs. Nurses are able to dispense these medications for
immediate use; however, longer term and/or nonstandard pharmaceutical needs must be prescribed by physicians when on their rounds in the community. Prescribed medications are ordered from the closest retail pharmacy by health care staff (typically by fax), and are dispensed by the pharmacy and flown into the community to be picked up at the Health Centre by the patient. This multi-step process provides many opportunities for the introduction of communication errors, even in English without the added layer of language translation. As the majority of health care providers do not speak Inuit languages, the use of translators or family members is heavily relied upon throughout patient care for Nunavummiut Allophones (those whose native language is neither English nor French). As discussed earlier, at each level, linguistic and cultural filters bias and censor elements of information based on embedded concepts of relevance and cultural appropriateness.

While in some jurisdictions pharmaceutical counselling is mandatory, in Nunavut this is not the case. To improve access to pharmacists, a proposal is being considered to transfer pharmacy services for the territory to a tele-pharmacist service located in Ottawa. Although Telehealth services are used extensively in the North to address geographical challenges, research has highlighted the need to consider the benefits of linguistically and culturally concordant care which is best provided through local cultural knowledge (Muttitt, Vigneault, & Loewen, 2004). Transferring pharmacy services outside the community (in this case outside the territory) may increase phone access to a pharmacist, but will not solve the problem of ensuring cultural sensitivity and dissolving the language barrier. Rural and northern communities are acknowledged as being underserved by pharmacists and although data for Nunavut are conspicuously and singularly absent among provinces and territories, research supports policies
and initiatives that work to recruit and retain pharmacy staff within communities, to maximize service needs that can be met locally (Soon & Levine, 2011).

1.5 Methods and Methodology

This research has foundationally been informed by community-based research methods. The original suggestion/request to examine pharmacy health care in Nunavut came from within the Department of Health and Social Services in Nunavut when they were contacted by myself to ask about pressing health concerns in the territory. From that point forward, this research was supported by numerous community participants in Nunavut through the identification of fieldwork locations, the facilitation of the research schedule, assistance with community-level public promotion of the research and recruitment of research participants, organizing interviews, the development and refinement of the interview guide and ultimately, and through letters of support from within the research communities necessary to obtain a Nunavut Research Licence.

This research and fieldwork was exploratory in nature as it was without any pre-established theory or hypothesis regarding pharmacy health care in Nunavut. Through the use of multi-method research, and the application of grounded theory in both the interview and data analysis phases of the research, several key themes emerged in regards to policy and the application of that policy in practice which are discussed in Chapter 2. Throughout interviews, discussions emerged regarding the differences between biomedical and Inuit perspectives on health and treatments which informed the comparative analysis of these two health models in Chapter 3. In Chapter 4, research on language translations for pharmacy health care in Nunavut uses a postcolonial framework to consider how the history and legacy of colonialism affect efforts to preserve Inuit languages which have been historically suppressed by colonial powers.
The complex issues of pharmaceutical health care and communication among the Inuit of Nunavut are best examined through multi-method research to encompass a wide range of perspectives (Schillaci, et al., 2004). The analysis of various types and sources of information provide valuable insights and suggest future directions for policy that will improve the efficacy of pharmaceuticals and health care spending for the Inuit in Canada.

First, this research includes an examination of the current situation in Nunavut in regards to pharmaceutical health care to provide a foundational understanding of policy and service delivery and how these interact with Inuit language legislation requirements. This review and evaluation includes: all relevant national and territorial legislation and regulation; territorial pharmaceutical policies and procedural guidelines; and financial expenditures and responsibilities (i.e. who pays for pharmaceuticals) to establish an understanding of general trends in pharmacy health care in the territory.

Second, an ethnographic study to observe in situ the interactions of health care providers and patients in remote fly-in communities in Nunavut provides rich contextual data on the unique cultural and language challenges in these Inuit communities. The attitudes and beliefs of health care providers and their patients can be best understood through direct observation and discussion of these interactions. The quality and nature of pharmaceutical counselling patients may receive can also be directly observed and discussions with physicians serving the remote communities can reveal how ADEs are currently addressed and/or drug therapies are adjusted. Ethnographic fieldwork also included taking photographs of key sites such as dispensaries, storage units and distribution areas of pharmaceuticals for documentation and triangulation with interview data.
Third, interviews with a broad sample of both Inuit and Qallunaat community members from multiple communities and holding multiple roles and positions can provide invaluable information on the knowledge, attitudes and beliefs surrounding the relationship between pharmacy health care and Inuit culture and language, as well as the efficacy of current pharmacy health care, and an evaluation of the application and efficacy of currently policies and procedures. Semi-structured interviews with 35 research informants were held in three separate communities in Nunavut as well as in Ottawa, the federal capital. The gender, ethnicity and role attributes of research participants are identified in Table 1-1.

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<td>*number exceeds total participants due to multiple participant roles</td>
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Table 1-1 Attributes of Research Participants

Research participants included representatives from multiple health fields and roles including: nurses and physicians, administrators, dental care, pharmacists and pharmacy technicians, Elder care, mental health care and community health representatives. Policy maker informants included: multiple members of the Nunavut Pharmacy and Therapeutics Committee and the Language Commissioner’s office. Community member participants were most frequently long term permanent residents, and included: political representatives, religious leaders and educators. Approximately 70% of the research participants were female, which was demonstrative of the high female representation in many of the health care roles in Nunavut. Approximately two-thirds of research participants were Qallunaat, also representative of the
low Inuit representation in health care in Nunavut. Many of the research participants had multiple roles within the community, for example as a health care provider who was a long term resident of the community and spoke from both of their roles as a health provider, and as a patient discussing their own personal experiences with pharmaceuticals in their home community.

Combined, these methods serve to provide rich and comprehensive insight into the complex interactions between policy, administration and Inuit language and culture in Nunavut.

1.6 Conclusions

A multi-method approach provides a complete and thorough examination of pharmaceuticals in Nunavut from perspectives and intersections of: legislation, policy, administration, finance, Inuit language and culture. By combining interviews, ethnography, and policy and financial evaluations, the findings provide a comprehensive and rich source of information when considering future improvements to the provision of pharmaceutical care to Nunavummiut. Such research findings have the potential to inform health policy in Nunavut and provide valuable insight for future health policy revision.

Pharmaceutical health care delivery is affected by the policies and administration of the communities served. In Nunavut, the unique culture and language of remote Inuit communities provides additional communication challenges which may result in ADEs and nonadherence among patients. Multi-method research is an effective strategy to examine these complex issues and inform future policy initiatives to minimize these challenges in Nunavut.
### 1.7 Tables

**Table 1-1 Attributes of Research Participants**

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*number exceeds total participants due to multiple participant roles*
1.8 References


Chapter 2:
Policy versus Practice: a community-based qualitative study of the realities of pharmacy services in Nunavut, Canada

2.1 Abstract

Background: Nunavut is an Arctic territory in Canada subject to many social, economic and health disparities in comparison to the rest of the nation. The territory is affected by health care provision challenges caused by small, geographically isolated communities where staffing shortages and weather related access barriers are common concerns. In addition to national universal health care, the majority of the inhabitants of Nunavut (~85%) are Inuit beneficiaries of no-charge pharmaceuticals provided through federal and/or territorial budgetary allocations. This research examines how existing pharmaceutical administration and distribution policies and practices in Nunavut impact patient care.

Methods: This grounded theory research includes document analysis and semi-structured interviews conducted in 2013/14 with patients, health care providers, administrators and policymakers in several communities in Nunavut. Thirty-five informants in total participated in the study. Interviews were digitally recorded, transcribed and analyzed with qualitative data analysis software for internal consistency and emerging themes.

Results: Four distinct themes emerge from the research that have the potential to impact patient care and which may provide direction for future policy development: 1) tensions between national versus territorial financial responsibilities influence health provider decisions that may affect patient care, 2) significant human resources are utilized in Community Health Centres to perform distribution duties associated with retail pharmacy medications, 3) large quantities of unclaimed prescription medications are suggestive of significant financial losses, suboptimal patient care and low adherence rates, and 4) the absence of a clear policy and oversight for some controlled substances, such as narcotics, leaves communities at risk for potential illegal procurement or abuse.
Conclusions: Addressing these issues in future policy development may result in system-wide economic benefits, improved patient care and adherence, and reduced risk to communities. The interview informants who participated in this research are best positioned to identify issues in need of attention and will benefit the most from policy development to address their concerns.

2.2 Background

2.2.1 Profile of Nunavut

Stark contrasts are commonplace in the Arctic, where light and land, and tradition and modernity mix to create unique landscapes. The Arctic territory of Nunavut is the largest, least populated and newest territory in Canada, created from negotiations between the federal government and the Aboriginal Inuit inhabitants of the region in 1999; as such, 85% of the population of Nunavut are Inuit (Statistics Canada, 2014). In contrast to Canada’s high income and development measures, Nunavut demonstrates substantially deficient indicators for health and social and economic development. Nunavut’s epidemiological profile includes disproportionately high levels of many infectious and chronic diseases, as well as high age-standardized mortality rates (603 in Nunavut versus 259 in Canada, per 100,000), suicide rates (56.9 in Nunavut versus 10.4 in Canada, per 100,000) and infant mortality rates (16.1 in Nunavut versus 5.1 in Canada, per 1,000 live births) (Statistics Canada and CIHI, 2012). Life expectancy at birth differentials between Nunavut and the rest of Canada are seven years for women (76 years versus 83 years, respectively) and nine years for men (69 years versus 78 years, respectively) (Young, 2012). Nunavut is also affected by social issues such as poverty (the Nunavut average household income is 10% lower than the Canadian average while household food expenditures are three times the national average), unemployment (46.2% employment rate for working-age Inuit), food insecurity (>70% of households in Nunavut
versus 9% in Canada), and low educational attainment (27.5% high school graduation rate from 1999 to 2008) (Nunavut Tunngavik Incorporated, 2013). Additionally, high birth rates (2.97 children per woman versus 1.61 per woman for Canada in 2011) and overcrowded housing (52.7% live in crowded housing versus 3% in the rest of Canada) have significant impacts on health measures and service needs (Statistics Canada, 2013; Egeland, 2009). The Community Well-Being Index (CWB) is a composite measure developed by the Canadian Department of Indian and Northern Affairs, which considers income, education, housing and labour-force participation. In the Canadian northern territories, the average CWB score for Aboriginal communities is 62.0, whereas for the rest of Canada the average CWB score is 74.2 (Young, 2012).

Health care in Nunavut is delivered in Community Health Centres (CHCs) through a nurse-led primary care delivery model with services being provided predominantly by community health nurses (CHNs); the vast majority of CHNs are non-Inuit originally from the south (Health Council of Canada, 2009). The territory of Nunavut is divided administratively into three regions: the Kivalliq in the southwest, the Kitikmeot in the northwest, and the Qikiqtaaluk in the east. The two western regions each have a Regional Health Centre with limited in-patient capacity and extended diagnostic testing services (Rankin Inlet in the Kivalliq and Cambridge Bay in the Kitikmeot). The territorial hospital (Qikiqtani General Hospital) is located in the capital of Iqaluit in the Qikiqtaaluk. Each of the remaining 22 communities is serviced by a CHC. Regional Health Centres are distribution hubs for CHC medications, with Qikiqtani General Hospital serving centralized ordering and administration roles. At the CHCs, medications are compounded and/or dispensed by health providers from bulk containers into smaller amounts for individual patients as required. For prescribed medications that are not
provided by the CHCs, there are five retail pharmacies within the territory: two in Iqaluit, two in Rankin Inlet and one in Cambridge Bay. In communities without a retail pharmacy, all prescribed medications are dispensed by the closest regional retail pharmacy, flown into the community and delivered directly to the CHC for distribution to community members.

This disparity, of an underdeveloped territory situated within a nation enjoying high development indicators more generally, creates a unique contrasting backdrop for pharmaceutical service provisions. Provinces and territories are responsible for the provision of health services in accordance with Canada’s publicly funded universal health care program. The Government of Nunavut (GN) funds primary and hospital care and inpatient pharmaceuticals in accordance with the GN Drug Formulary Manual. These pharmaceuticals (referred to as wardstock) are defined as those that are used “at the time of care in a health centre, hospital or public health unit, as well as may be provided in a small supply to treat patients for a short period after the patient returns home” (Government of Nunavut, 2010-2011, p. 3). Canada’s universal health care program does not extend to outpatient prescription pharmaceuticals or over the counter (OTC) medications. However, as the majority of the population of Nunavut are Inuit, they are beneficiaries of the Non-Insured Health Benefits (NIHB) Program for First Nations and Inuit. These benefits encompass many health-related goods and services including 100% coverage for most outpatient prescription pharmaceuticals and many OTCs not covered by the GN; these medications are dispensed from retail pharmacies (Health Canada, 2015). This broad sweeping medical coverage is the result of historical treaties signed between Aboriginal groups and the Canadian federal government in the 1870s which included references to a “medicine chest” clause agreeing to provide medical care and medicines to the Aboriginal peoples who had signed the treaties (Waldram, Herring, & Young, 2006).
2.2.2 Financial Expenditures

Federal funding for the NIHB program is allocated from the First Nations and Inuit Health Branch (FNIHB), as well as from supplementary Parliamentary funding which may be provided throughout the fiscal year. The NIHB program registered 926,044 First Nations and Inuit clients in 2013 with a total budget in 2012/13 of $1.104 billion. Of total NIHB registered clients, 42,911 (4.6%) were Inuit and pharmacy costs represented the largest proportion (41.9%) of total expenditures at $462.7 million (Health Canada, 2012-2013). National level challenges to control pharmaceutical expenses include issues such as an aging population and increased reliance on pharmaceuticals (Health Canada, 2012-2013). Research indicates that due to higher levels of chronic disease, older individuals utilize more pharmaceuticals at higher costs than younger individuals (Thomas, Ritter, & Wallack, 2001). Challenges specific to the NIHB program sustainability include population growth rates in its client base that are double that of the national average (Nunavut has the highest fertility rate in the country), and providing service to clients in remote and small communities (Health Canada, 2012-2013). The remoteness of Arctic communities provides unique challenges for pharmacy expenditure management (e.g. control of inventory levels) and oversight.

The NIHB Annual Report for 2012/13 indicates that pharmacy utilization rates - expressed as clients receiving at least one pharmacy benefit throughout the year as a proportion of the total number of eligible clients - are substantially lower in Nunavut (~45%) than national NIHB averages (~62%). In fact, Nunavut has the lowest utilization rates of all NIHB regions. This relatively low utilization rate, combined with a younger population than in other regions, is also reflected in the lowest per capita expenditures of all NIHB regions: $336 per capita in Nunavut compared to the NIHB average of $483 per capita. Average 2012/13 pharmacy expenditures in
Nunavut were $718 per client, slightly lower than the NIHB national average of $750 per client. Total NIHB pharmacy expenditures in Nunavut were approximately $10.7 million in 2012/13. These costs increased 257% between 2003 and 2013 (Table 1) (Health Canada, 2012-2013).

Territorial funding for the GN Pharmacy Program is through territorial budget allocation and supplemental funding as required. The Territorial Pharmacy Program focuses primarily on the acquisition and distribution of pharmaceuticals to all territorial health facilities; however, it also funds vaccines, blood services, contracted services and travel and transportation costs for leave replacement positions (Government of Nunavut, Department of Health, 2014). Vaccines in the territory comprise 48% of total drug costs due to the high population growth rates (most vaccines are administered to children), and the availability of Synagis® (Palivizumab), a vaccine given to high risk infants to prevent Respiratory Syncytial Virus (RSV) infections. Synagis® comprises 45% of total vaccine expenditures or 21.6% of total pharmaceutical expenditures (Government of Nunavut, Department of Health, 2014). Total GN pharmacy expenditures in 2012/13 were approximately $2.8 million. These costs increased by 108% between 2010 and 2013 (Table 2-1) (Government of Nunavut, Department of Health, 2014). Similarly, NIHB costs increased by 103% during the same time period.

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Table 2-1 Federal Non-Insured Health Benefits (NIHB) and territorial Government of Nunavut (GN) pharmaceutical expenditures in Nunavut, 2003-2013

The overlay of social and economic marginalization with no-charge pharmaceuticals creates a landscape of both advantages and challenges requiring creative and adaptive policies.
and procedures for pharmaceutical service delivery. Ultimately, this landscape provides an important opportunity to provide pharmaceuticals where they otherwise might not be accessible, and to supplement health care services to improve health outcomes for the people of Nunavut.

2.2.3 Pharmaceutical policy development

The mandate of policy is to regulate and govern the set of principles that guide decision making, however responsive health policy development is best facilitated through the routine input from front line service users and stakeholders (Riege & Lindsay, 2006). Crucial information on the successes and shortcomings of policy application, or how it works in real life, must be available for adaptive and responsive policy development. There is an absence of published academic or governmental research regarding pharmaceutical practice in Nunavut despite considerable federal and territorial expenditures on pharmaceuticals and their importance with respect to health care delivery. Pharmaceutical health care for the people of Nunavut (referred to as Nunavummiut) is influenced by distinct Canadian federal and Nunavut territorial payment responsibilities for pharmaceuticals, as well as challenges in service provision to remote Arctic communities that are often affected by staffing shortages and isolation due to weather-related access issues. These factors introduce tensions into the acquisition, management and distribution processes which ultimately impact health care decisions. This research combines document analysis and interviews with patients, health care providers and policy makers in several communities in Nunavut to consider the research question of how existing pharmaceutical administration and distribution policies and practices in Nunavut impact patient care.
2.3 Methods

This grounded theory community-based research and fieldwork was conducted between 2012 and 2014. The GN and community of Arviat invited research on pharmaceuticals due to concerns within the territory and specifically within the community as to policies and practices affecting patient care. Research planning and fieldwork was guided through consultation and assistance with the Qaujigiartiit Health Research Centre in Arviat and research associates who were long-term residents of Arviat. The topics and questions on the interview guide originated from community consultation during fieldwork in 2013 which were then edited and approved by the community prior to submission and further review by the Nunavut Research Institute for licensing approval. The diverse interests and concerns evident within the community and territory suggested that exploration of several issues was required. Therefore, this research follows a grounded theory framework and was designed so as to allow for the development of themes to emerge from the research itself (Glasser & Strauss, 2009).

Research methods include document analysis and semi-structured interviews which were conducted in May 2014 with 35 participants in total, including residents/patients and health care providers from Arviat, health care providers and administrators from the Regional Health Centre and Qikiqtani General Hospital in Rankin Inlet and Iqaluit, and key policy makers in Iqaluit and Ottawa. Participants included CHC administrators, physicians, front counter staff, translators, CHNs working in various health care facilities, pharmacists and pharmacy technicians, community health representatives, and members of the Nunavut Pharmacy and Therapeutics Committee. Some participants provided interview responses based on multiple roles (e.g. as both health care providers and community residents). Participants were recruited for interviews through several methods including convenience sampling through information posted in several
public locations in Arviat, local radio promotion inviting participation, snowball sampling, and purposive sampling for key informants. Interviews were conducted in private rooms, lasted a minimum of one hour in length and were audio recorded and transcribed for analysis. Research protocols received institutional approval through the University of Toronto’s Office of Research Ethics (Protocol # 28248) and were licensed through the Nunavut Research Institute (License # 01 033 13N-M).

This research was designed to explore how existing pharmaceutical administration and distribution policies and practices impact patient care. In consideration of these research goals, interviews included open-ended questions regarding participants’ personal and professional (if applicable) experiences with pharmacy services (e.g. “Tell me about your experiences with medications”). Interview guides were developed with community, territorial and institutional assistance and questions were tailored for specific interview participant roles. For example, health providers were asked about the administration of their daily work while community members were asked about their personal experiences with medication acquisition and availability. Special care was taken to ensure language was appropriate to participant roles and simplified to reflect common language terms. Specifically, patient informed consent forms and questions were developed with institutional guidance from departmental researchers in populations with similar considerations of low educational and literacy levels; in Nunavut this can occur in both English and Inuktitut. Among Aboriginal adults in Nunavut, only 55% have completed education above an elementary level (Young, 2012). Interview materials were translated into Inuktitut and participants were offered either English or Inuktitut documentation. Interpreters were made available on request for interviews. None of the participants elected for the use of an interpreter and few selected the Inuktitut documentation. Verification and
clarification was sought through iterative questioning until internally consistent understandings were observed. For example, distribution was explored throughout the supply chain and patient-provider encounters were verified from multiple informants on both sides of those transactions whenever possible.

QSR-NVIVO v10.2 (QSR International Pty Ltd., 2014) software was used to code and analyze data. The coding strategy developed for data analysis included using nodes to identify themes within the data and attributes to identify demographic information (i.e. ethnicity, role and community affiliation) from participants. The conceptual framework was informed by open coding, with emergent tree nodes outlining broad themes and child nodes allowing for more in-depth interrogation of the data. Queries on key words and themes were used to analyze the data and saturation was established when supporting evidence for findings was collected from all participants within similar roles or with similar attributes.

2.4 Results

Several key issues are consistently discussed among research participants. These issues involve: 1) the distinct NIHB and GN financial responsibilities for pharmaceuticals and their impact on health provider decisions for medication sourcing; 2) the resource requirements from CHCs to distribute retail pharmacy prescriptions through CHCs; and, 3) the financial losses and challenges associated with the return and disposal of unclaimed and expired medications.

2.4.1 NIHB and GN financial responsibilities and medication sourcing

In theory, Inuk residents of Nunavut should be beneficiaries of some of the most complete medical coverage in Canada. While 10% of Canadians report cost-related non-adherence to prescription medications (Law, Cheng, Dhalla, Heard, & Morgan, 2012), and 39% of Canadians are uninsured for prescription medications (Millar, 1999), all beneficiaries of the Non-Insured
Health Benefits program receive coverage for most prescription medications and many OTC medications such as antihistamines and acetaminophen (Health Canada, 2015). In practice however, both the NIHB and the GN have been the subject of serious criticism stemming from federal audits of their administration and accountability for their respective programming, including pharmaceutical health care. The NIHB program has been criticized for serious oversights in monitoring of drug utilization and poor management and control of program expenditures, in particular the management of pharmacy benefits (Office of the Auditor General of Canada, 2000). The GN has similarly been notified of serious concerns in regards to its financial management practices, lack of budget planning and consistent overspending, although notably, these issues were primarily attributed to the significant number of staffing vacancies and recognized difficulties in recruiting and retaining employees in the territory (Office of the Auditor General of Canada, 2009). An example of the repercussions of the lack of GN financial management was the termination of a business relationship between the GN and a specialized pharmaceutical supplier due to vendor dissatisfaction. Both the NIHB and GN have recognized fiscal management issues that impact policy control and accountability, however lack of oversight may also hinder the examination of procedural discrepancies that are occurring in health care settings. These management issues affect administration and delivery of services throughout the territory and have the potential to impact patient care.

2.4.1.1 Policy

Prescribing policies dictate that pharmaceuticals that do not meet the criteria for inpatient medications (including OTC) are to be prescribed and acquired through retail pharmacies. Remote communities often do not have full time health care providers with prescribing privileges such as nurse practitioners (NPs) and physicians in the community. Compared with
Canadians overall, Aboriginal inhabitants in the territories are significantly less likely to have had contact with a General Practitioner or any other medical doctor in the past 12 months (58.8% versus 78.7%, respectively), and are significantly more likely to have had contact with a nurse than the average Canadian (49.0% versus 9.8%, respectively) (Reading & Wien, 2009). Given that the majority of care in remote communities is delivered by nurses, Nunavut’s extended scope of practice allows CHNs and midwives to dispense many medications from wardstock (Marchildon & Torgerson, 2013). In situations when a class of medication is unable to be dispensed by a CHN, prescriptions can only be obtained by communicating with the remote doctor on call.

2.4.1.2 Practice

Divided federal and territorial financial responsibilities for pharmaceuticals create considerable tensions within the system between the NIHB and the GN. Health provider research participants discussed many factors influencing their decisions regarding medication sourcing (NIHB prescription or GN wardstock) including: pressures to shift expenses to maximize NIHB benefits, availability of a retail pharmacy in the community, weather, access to a prescribing health provider and staffing shortages.

Within CHCs, health providers are actively encouraged to minimize use of wardstock and maximize the use of NIHB benefits by writing prescriptions from retail pharmacies. One informant (ID#25), a health provider in a community with a retail pharmacy, discussed a patient who had attended the CHC during regular business hours and was in need of a prescribed medication that was available in the CHC dispensary.

“We have bottles of wardstock and the CHNs are allowed to dispense...[but] we would give them a prescription to go to the pharmacy...[administration] does not want us to [give the patient even a starter dose] because of budget...five years ago, they’d have gotten their meds from here”.

In remote communities without retail pharmacies, weather delays and retail pharmacy dispensing times can delay pharmacy deliveries by anywhere from two to ten days. These delays in many cases would significantly impact patient care, and for this reason more medications are dispensed directly from wardstock and fewer prescriptions are written from retail pharmacies that would be expensed to the NIHB.

When a health care provider with prescribing privileges is unavailable within the community, CHNs are more likely to dispense a full course of medicine than to attempt to contact a prescriber outside the community for authorization, or to wait until a prescriber is available in person. Even in situations when a prescriber is within the community, it has been noted that understaffing (a common issue in the north) and/or high patient loads can cause CHNs to dispense medications from wardstock rather than seek out providers for prescription authorizations. A health care provider interviewed (ID#25), referring to the GN’s Formulary Drug Treatment Codes categorizing medications which can be only initiated by a physician as “code B” medications, indicated that these are referred to by staff as “B is for Bother the Doctor”, while “code D” medications for which one dose may be dispensed by a CHN are referred to as “D is for Do It Yourself”. Health providers in remote locations are necessarily called upon to practice more independently and medication sourcing is but one of these areas of practice.

2.4.2 Distribution of Retail Pharmacy Prescriptions through Community Health Centres

In the majority of Nunavut communities, primary care is delivery by nurses with physicians only visiting sporadically based on rotating schedules and weather-related accessibility. Staff turnover for remote nursing is recognized as a serious challenge, with vacancy rates between 37-57% across the regions in Nunavut (Nunavut Tunngavik Inc., 2009).
These nursing shortages have been noted to result in an increased reliance on casual nursing staff with decreased familiarity with Inuit culture, a shift from primary health care to more emergent acute and chronic care, and increased stress levels on nurses leading to decreased job satisfaction, and burnout (Nunavut Tunngavik Inc., 2009) (Nowrouzi, et al., 2015). Nurses practicing under an extended scope of practice take on duties that southern nurses in more urban centres are not asked to perform, with routine staffing shortages further exacerbating the situation. Health care informants indicate that they are often called upon to take on increasing levels of administrative work, such as the distribution of retail pharmacy prescriptions, which take time away from patient care.

2.4.2.1 Policy

In communities without retail pharmacies, many of the administrative roles of pharmacists (i.e. stocking, distribution of medications to patients and patient counselling), are performed by CHCs. When medications from retail pharmacies arrive at the CHC, staff are required to verify shipping records and then provide a list to administrative staff for patient notification. Front counter staff then make attempts to contact the patient (generally by phone) to inform them that their medication has arrived. Unpacked medications are to be shelved in an organized manner (alphabetically by packaging type) in the CHC dispensary to await patient pickup.

Many chronic medications are prescribed with automatic refills, indicating that retail pharmacies send out one month supplies of medication at regular intervals without further instruction required until the prescription expires. There is currently no system in place to inform the retail pharmacy if the current prescription has been picked up, therefore pharmacists proceed with the assumption that the next month’s supply of medication is required, even if a previously unclaimed prescription is still shelved in the CHC dispensary.
2.4.2.2 Practice

When understaffing and high patient loads occur, duties associated with retail pharmacy deliveries may be deprioritized. Many health care provider informants voice displeasure and frustration with the additional administrative burdens of these deliveries, which they see as taking time away from patient care. As one health provider informant (ID#27) stated,

“there’s boxes and boxes and boxes, I’m talking hundreds of prescriptions a week, that are filtering through this Health Centre ... if I had to sit every day and figure out people’s phone numbers, most people have no phones, some people are nomadic, they’re moving from house to house, it’s very difficult to track them down to say ‘hey, your medications are here’.”

Community participants speak of not receiving notification that their prescriptions have arrived and visiting the CHC several times to make enquiries, sometimes to discover that their medications had arrived a week or more earlier. As two patient informants (ID#s 31 and 32) voiced,

“we’ve had prescriptions sit at the Health Centre, for a week or two, longer than they should, and we were waiting... so they’re in the community, and they haven’t called us. They’ll say ‘this came in last week; we didn’t know you were waiting for it’.”

Many health care provider participants note that there are a large number of patients who never retrieve these medications. While lack of awareness among patients that their medications have arrived is one possible explanation, health provider informants suggested several other possibilities including: lack of understanding for the rationale for the medication, denial of their medical diagnosis or the severity of potential outcomes of non-adherence and distrust of medications. As the vast majority of Nunavummiut speak Inuktitut as their first language and few health care providers are fluent, language challenges may also contribute to misunderstandings (Romain, 2013). Family pressure can also impact adherence as a health care provider informant (ID#17) described an example when they asked a patient diagnosed with
severe depression if they were taking their medications, and they responded,

"my grandmother said that I am not mentally ill and 'you’re not taking that medicine'."

Informants suggest another possible factor might be the lack of understanding among many Inuit as to the high cost of medications. Inuit are life-long recipients of pharmaceuticals provided with no patient co-pay, including such OTC medications as acetaminophen and ibuprofen. Even for most medications received from retail pharmacies, there is no cash value printed on the receipt. Informants suggested that an understanding of the financial value of the medications that are being prescribed might influence adherence by Inuit patients. As one health provider informant (ID#30), with over 7 years of service in Nunavut discussed,

"with the HPV vaccine, we were having really low impact and one of the conversations that I started to have was ‘do you realize that people have to pay for it and that and [we] are now offering it for free?’, and then people were kind of like ‘oh’, like it kinda got their attention. Not that it’s going to keep your daughter from having cancer...but when it’s free! [referring to medication]...maybe if they don’t see the value in it, they don’t bother or they throw it away or something like that”.

Through what is likely a combination of these factors, virtually all participants consistently note that many retail pharmacy medications are not getting to, or being used by, the intended patient.

Unclaimed medications were observed in the CHC dispensary in overflowing boxes and shelving units (Figs. 2-1, 2-2 & 2-3). Several patients were observed to have multiple prescriptions dating back three of four months. Many health providers voice frustration with this issue and the economic wastage incurred. As one health care provider informant (ID#27) explained,

"The problem is, when a physician writes a prescription, commonly three, four, six refills may go on that prescription...sometimes we get a backlog...the other day I noticed that we had a four month supply of a medication for a child who I knew was no longer even in the community. This is a problem, it is a wastage of medication, medications are having to be destroyed, at least once a month
there is a box full of medications, for various reasons...hundreds of thousands of dollars worth in loss...I calculated there not too long ago that one certain load of medication came in from a household and there was nothing short of about 12 to 15 thousand dollars worth of medication. This is a problem.”

Although there is some confusion as to where this notification chain breaks down, the effects of this disorganization can negatively impact patient care through loss of trust in the CHC, as two community informants (ID#s 31 and 32) indicated:

I1:  in the bubble packs...a lot of people who have chronic illness have bubble packs, right? They are trying a new medication, or they’re bumping up a milligram, they’ll be on it for a long time and not understand why when ‘the doctor said I should be off it by now and I’m still on it’

SR: So the doctor is saying “we’re going to discontinue on this”?  
I1: oh, yeah  
SR: but the next blister pack that arrives...  
I1: yes  
SR: still has the pills in it?  
I1: yep  
SR: Now what does the person do? Just takes it?  
I1: usually  
SR: just assumes, “oh, I guess I misunderstood”  
I1: yep  
I2: or they start to mistrust the Health Centre and they stop taking all their pills all together  
I1: oh, yeah - that’s a big one
Figure 2-1 Racks of convenience packaging of medications awaiting patient pickup in the Community Health Centre dispensary

Figure 2-2 Bundles of medications in convenience packaging awaiting patient pick-up in the Community Health Centre dispensary

Figure 2-3 A box of unclaimed retail pharmacy medications awaiting return to the Regional Health Centre for disposal through incineration
Many health providers voice the most frustration with the lack of an effective mechanism to stop retail pharmacies from filling repeat prescriptions when the patient has not yet picked up the previous prescription. This is stated to be the greatest source of multiple unclaimed prescriptions for the same individual being stored in the dispensary. Several practices have been used to minimize repeat unclaimed prescriptions, although none are implemented broadly across the territory or with proven results. One health provider informant indicates that they now issue repeat prescriptions with a written notation of “as requested by patient”, to necessitate a patient initiated refill. One CHC in the Kivalliq provides a phone at the front desk to actively encourage patient calls to the pharmacy at the time of pick-up so that the patient can request their next month’s prescription be filled. A pharmacy informant mentions a corresponding increase in patient calls from this community without solicitation, although the informant is unaware as to the reason why this community had noticeably more calls than others. One health provider informant is familiar with a double label system used in other jurisdictions (e.g. Labrador), whereby the retail pharmacy prints two labels for each retail pharmacy prescription and when patients pick-up their medications, one label is removed, affixed to a reorder sheet and faxed back to the pharmacist to inform them that the patient has received the medication and they are authorized to refill the following month’s prescription. While some health provider informants are enthusiastic about these various interventions, others voice concerns about the labour intensive administrative process and increasing responsibility for medication management on the part of CHC staff.

The substantial and sustained requirements of the already taxed CHCs and CHNs to organize, store and distribute retail pharmacy medications likely contributes to the large quantity
of unclaimed medications which are indicative of patient non-adherence and suboptimal pharmacotherapy.

2.4.3 Return and disposal of unclaimed and expired medications

Improper pharmaceutical waste management can have significant health, criminal and environmental impacts. In relation to health and safety, most medications are still considered safe beyond their expiration dates, however some (e.g. nitroglycerin, insulin, liquid antibiotics, epinephrine pens) lose efficacy and given the emergent need for these drugs during life threatening situations, potency is mandatory (Gavura, 2012). Criminally, recreational misuse of illegally obtained pharmaceuticals, often from family medicine cabinets or friends, is a growing trend in Canada resulting in increases in theft and fraud as well as health impacts such as overdose deaths, suicides and emergency care costs (Public Safety Canada, 2014a and b). Environmentally, pharmacologically active substances have been detected in surface and ground water at levels rivalling some pesticides (Jones, Voulvoulis, & Lester, 2003). This is especially problematic given the environmental sensitivity of arctic ecosystems and the heavy reliance on subsistence hunting of both land and sea mammals.

2.4.3.1 Policy

Some medications purchased for wardstock by the GN may expire prior to dispensing in the CHCs. As part of regularly scheduled inventory within CHC dispensaries, wardstock is to be shelved in consideration of expiration dates (i.e. newer stock at the back) and any expired medications are to be removed to ensure patient safety. Some expired medications may also be eligible for reimbursements from manufacturers or distributors. According to a pharmacy informant, some injectable or intravenous drugs may be eligible for reimbursements of as much as $2,700 for a single expired dose.
Expired wardstock medications that are ineligible for reimbursement and unclaimed retail pharmacy medications require environmentally safe disposal and may also be subject to control protocols (e.g. narcotics). The proper disposal of pharmaceuticals in Nunavut is governed by the GN Narcotic and Controlled Drugs Policy (revised edition released Fall 2014) which regulates the “acquisition, storage, prescribing, administration, record keeping and disposal of narcotic and controlled drugs” as well as the responsibilities of authorized health care providers who work with these substances, and by the federal Controlled Drugs and Substances Act (Department of Justice, SC 1996). Controlled substances entering the community are closely monitored with pill counts, sealed shipping envelopes and double signatures. However, if these medications are unclaimed or expired, only GN wardstock narcotic and controlled substances are subject to the same procedures in reverse when leaving the community; retail pharmacy medications are subject only to routine disposal. Unclaimed retail pharmacy medications and expired wardstock are sent to Regional Health Centres for incineration or (less frequently) to retail pharmacies for waste management.

Unclaimed retail pharmacy medications that are not picked up may also be eligible for reversal of NIHB expenses through a procedure to reabsorb costs while continuing to remunerate pharmacists for their dispensing fees. Retail pharmacies have varied requirements for accepting these returns. One pharmacy informant indicates that these reversals are only possible for unclaimed medications that would have been dispensed directly from the retail pharmacies (i.e. to in-town clients) as they are able to confirm the environmental conditions of medication storage, as well as ensure that the medication has been kept in a secure location and has not been subject to tampering. Unclaimed medication reversals are not accepted by some retail pharmacies when medications are dispensed for use in remote communities. Yet another
pharmacy informant indicates that the supply chain from pharmacy to CHC and back was sufficiently controlled to allow for a reversal, as it was secure enough for narcotic and controlled substances protocols. When unclaimed retail pharmacy medications are unable to be returned to retail pharmacies, CHCs are instructed to send them to Regional Health Centres with expired GN wardstock for incineration.

2.4.3.2 Practice

In speaking to many community member participants about what they do with their personal unused medications, most indicate that they throw them in the garbage. In recognition of this issue and as confirmation of its significance, one health worker informant (ID#01) describes a door-to-door “spring clean-up” program that was organized for collecting household medications; this initiative collects several large garbage bags annually requiring the use of a pickup truck due to weight. These findings indicate that there are likely large quantities of unused medications in community homes that would benefit from assisted disposal programs.

Within the dispensary at the CHC, large boxes of unclaimed medications require frequent disposal services. Participants provide varied and ambiguous responses to enquiries regarding this process, alternatively indicating that medications are shipped in sealed cardboard boxes or that they are deposited individually into medical sharps containers and sealed before shipment (Figure 2-3). This latter process requires the time consuming process of removing individual medications from the many unclaimed blister packs. Many interview participants describe the time consuming and necessarily deprioritized efforts to routinely return the large quantities of medications for destruction. Time lapses between shipments are estimated to be between one and three months in duration, depending on staffing and storage capacity.
Several interview participants at both the provider and administrative levels discuss the practice of the transfer of retail pharmacy medications into wardstock inventory. Participants explain this practice as being done through either front-end or back-end restocking. If a CHC dispensary does not have stock of a medication that is needed immediately and one is available in the storage units holding retail pharmacy medications that have not yet been picked up, they might dispense the retail pharmacy medication to the patient in immediate need. One patient informant (ID#31) described their experience,

"we've gotten something out of the dispensary and it will have somebody else's label already on it from [retail pharmacy name]...so they've taken a labeled drug from [retail pharmacy name] and put them in the dispensary and relabeled it to give it to us."

This front-end substitution may leave the patient for whom the medication was specifically intended without the medication, but informants note that either the medication is replaced with GN wardstock when it arrives or that more frequently, the medication is taken from the extensive supply of unclaimed retail pharmacy medications that would eventually need to be incinerated. This practice is stated to be extensive enough as to reduce budgetary requirements for CHC inventory. As one health administrator informant (ID#25) states,

"If I had twenty patients that I was getting prescriptions in monthly that they never pick up, and I put them in my stock, and use them to dispense, I'm at zero budget...I've been in communities where they are doing it”.

An alternative form of this medication substitution is the replacement of medications already dispensed from wardstock with retail pharmacy medications. This back-end substitution is used when a medication is dispensed from wardstock that might otherwise be prescribed from a retail pharmacist, but that due to timely need (e.g. impending weather) is dispensed directly from the CHC. The prescription for the patient is then sent to the retail pharmacy and when the
medication arrives, it is used to replace the GN wardstock that has already been previously dispensed. Although these practices have significant budgetary and possibly legal implications, the health provider informants interviewed are most concerned with patient-centred care and are focusing on the urgency to fill an immediate patient need for medications that could take days or weeks to arrive.

Practices at this time do not track or inventory the destruction medications, including retail pharmacy controlled substances such as narcotics. This lack of oversight could foreseeably result in the unlawful removal of controlled substances by unauthorized individuals. Health provider informants at several levels are concerned that although unclaimed retail pharmacy narcotics are kept in a secure, separate location from other non-controlled medications in the CHC dispensary, that there are few procedures in place to ensure the unclaimed narcotics are destroyed lawfully and appropriately. While the protocol for the destruction of expired GN wardstock controlled substances is compliant with the Controlled Drugs and Substances Act, several key informants indicate that there is considerable concern and debate among stakeholders as to the legal and financial responsibility for the disposal of retail pharmacy narcotic and controlled substances. At the centre of the controversy is confusion about ownership and authority over a prescribed medication intended for an individual who has never taken possession. However, the lack of current oversight in regards to their destruction presents a significant risk for the “disappearance” (i.e. unlawful removal) of these medications. These issues are currently under consideration by the GN Pharmacy and Therapeutics Committee in consultation with the NIHB and legal counsel to ensure the development of a policy to address this issue.
2.5 Discussion

A number of key themes emerge from the interviews conducted for this research: 1) the tensions between NIHB and GN financial responsibilities influence the decisions of health providers and may affect patient care, 2) significant human resources are utilized in Community Health Centres to perform distribution duties associated with retail pharmacy medications; 3) large quantities of unclaimed prescription medications are suggestive of significant financial losses, suboptimal patient care and lower adherence rates; and, 4) the absence of a clear policy and oversight of some controlled substances, such as narcotics, leaves communities at risk for potential illegal procurement or abuse.

2.5.1 Theme One: NIHB versus GN financial responsibilities for pharmaceuticals

As the NIHB is a federally administered program responsible for multiple jurisdictions, Nunavut may be subject to less direct review of expenditures compared to other jurisdictions due to its low pharmacy utilization rates, lowest per capita expenditures and lowest overall pharmaceutical costs. These low figures, combined with past claims of program mismanagement and lack of oversight may be contributing factors in some of the practices identified by research participants leading to unnecessary repeat prescriptions and unclaimed medications. Concurrently, due to the GN’s recognized staffing issues and financial mismanagement in the Department of Health and Social Services, concern regarding the oversight of pharmaceutical expenses may be reasonable.

As CHC administrators are evaluated on their ability to balance their budgets inclusive of wardstock pharmaceutical costs, this may contribute to the practice of inventory transfer from NIHB medications to GN wardstock when retail pharmacy medications are available and unclaimed. Additionally, frustration with the losses associated with quality medications going
unclaimed and heading for incineration, and/or with insufficient inventory levels to reflect isolated communities may influence health provider decisions to use retail pharmacy medications for CHC patient care. Systemic policy modifications might reduce the necessity to transfer stock from the NIHB to the GN through increased efficiency in inventory management systems.

Decision making for front line health providers is complex and often involves many considerations that are beyond merely following policy guidelines. Ultimately what is most prominent in interviews is decision making that is patient-centred above other considerations. However, increased situational pressures (such as isolation and staffing shortages) on CHNs to independently dispense medications from GN wardstock may reduce pharmacy industry recommended independent double-checks and increase the potential for dispensing errors. Policy development that recognizes the complexity of the medication sourcing decision-making process may support health providers in their focus on patient care.

2.5.2 Theme Two: Pharmacy duties of Community Health Centres

Research participants working in CHCs repeatedly voice frustration and displeasure for the duties and responsibilities associated with the distribution of retail pharmacy medications. Many felt that the role and associated tasks of a pharmacist were being forced on the CHC when understaffing was a common concern. Their inability to perform the time consuming task of notifying patients that their medications were available for pickup is a source of irritation and frustration. Informants recognize that patient non-adherence is likely impacted by an inability for patients to pick up their medications, but also impeded by staffing capacity to notify patients and organize and distribute medications. None of the participants suggest that they are “above” the task, but identify it as an impediment to seeing patients and their many other duties.
Many patient participants also voice frustration with the deprioritized notification of medication arrivals or loss of their medications due to the challenges of storing and organizing large volumes of patient-specific medications in the CHC dispensary. Several interview participants in Arviat strongly suggest that a retail pharmacy is needed in the community and that the population size (~3000) supports the investment, identifying that it would release the CHC from its current responsibilities for the distribution of prescriptions. Overwhelmingly, all interview participants—health providers and patients—are dissatisfied with the current distribution system within CHCs for prescriptions arriving from retail pharmacies outside of the community. This issue affects the majority of communities in Nunavut, as only three of the twenty-five communities currently have retail pharmacies. Not all communities have population sizes that would support a retail pharmacy, however many health care informants express interest in exploring other options, such as the inclusion of a pharmacy technician on staff at CHCs to take on a distinctly tailored role including specific administration, inventory and distribution duties.

2.5.3 Theme Three: Losses associated with unclaimed prescriptions

The administrative challenges of CHC distribution practices are likely reflected in the large number of unclaimed prescriptions. Unclaimed medications result in significant loss of human resource capacity through repeat attempts to contact patients, time taken to package up and return medications for disposal, return shipping costs and incineration. These unclaimed medications also signify substantial financial losses as NIHB funded medications are not being used for patient care.

Retail pharmacy policy that is unreceptive to the return and NIHB expense reversal of unclaimed medications may reflect safety concerns, but there is also minimal financial
motivation to reabsorb stock or to rapidly respond to prescription discontinuation requests. While pharmacies that accept the return of unclaimed medications are still entitled to claim a dispensing fee from the NIHB through a special code for this purpose, they are effectively performing two distinct tasks (i.e. dispensing and then reabsorbing medications back into stock) and being reimbursed for only one. Additionally, the pharmacy loses the original sale and may have to consider expiration dates and/or if the returned product is resalable.

Several strategies to minimize automatic prescription repeats are suggested but untested. Further examination into the efficacy of these different approaches might provide sufficient evidence to standardize a method to reduce these losses across the territory. If similar issues of repeat and unclaimed prescriptions are found in other jurisdictions nationally, the savings to the NIHB could be quite substantial.

What is repeated vehemently among many health provider informants is their disbelief that this long term wastage is apparently going unnoticed and that auditing or regulatory bodies have not identified these losses and found a way to minimize their occurrence. This lack of oversight might be better understood in light of the Auditor General's Report on the NIHB, and Nunavut’s relatively low per capita pharmacy utilization rates, however this area of concern would benefit from further examination. Policy development that recognizes the limited staffing in CHCs and the need for enhanced communication with retail pharmacies may facilitate medication delivery to patients and reduce the financial losses attributed to unclaimed medications.

2.5.4  Theme Four: Controlled Drugs oversight and potential for illegal procurement

As an associated result of the excessive unclaimed prescriptions, the potential for the illegal procurement of narcotics and controlled substances is highlighted as a potential threat to
the community. Health provider informants are genuinely concerned and looking for guidance to minimize this risk. The absence of policy and oversight on this issue presents an opportunity for narcotics to be abused or available for illegal trade. Interviews demonstrated that there is an urgent need for this risk to be mitigated through a clear policy that is compliant with the federal Controlled Drugs and Substances Act. Policy makers are struggling with these issues currently, to minimize the great risks of narcotics that can go unaccounted for with little to no notice. This timely issue poses great risks to communities every day that a clear policy is not available and consistently administered.

2.6 Conclusions

This research identifies several areas of concern which may prove beneficial in providing direction for future policy development that best serves the needs of Nunavummiut: 1) NIHB and GN financial responsibilities for pharmaceuticals and their effects on medication sourcing, 2) resource requirements of CHCs to distribute retail pharmacy medications, 3) human resource, patient adherence and financial losses associated with unclaimed medications, and 4) community risks associated with the absence of clear policy for the disposal of controlled substances. The financial, health, safety and efficiency issues identified in this research require consideration through policy development that is familiar with the many challenges of service provision in Nunavut. Demographic factors such as a young and rapidly growing population combined with geographical, sociological and environmental challenges affect the selection and the availability of medications where and when they are required. The tensions created by the competing NIHB and GN financial responsibilities affect everyone from the GN policy writers to the Inuit child in need of an out-of-stock inhaler in a storm-isolated community.
Health providers in remote communities make decisions first and foremost based on patient care, but often these decisions put their actions in direct conflict with policy and procedures that may not be reflective of the realities of stock shortages and dispensing challenges in a small, remote community. Given that providers are most aware of both the needs of quality patient care and the policy restrictions that create challenges in meeting this demand, future policy development should be considered that is reflective of this knowledge and minimizes the need for providers to make decisions that may fall outside of accepted policies and procedures.

Through addressing these identified issues in future policy development, several benefits may be possible: financial savings may be realized through minimizing pharmaceutical wastage, community safety may be improved through the proper administration and disposal of medications including controlled substances, and adherence may increase through consistency, availability and accuracy of medications. Participants in this research, who live and work in Nunavut, have been best suited to identify issues in need of attention, and are also positioned to benefit the most from policy development which addresses their concerns.

**List of Abbreviations**

- **CHC** Community Health Centre
- **CHN** Community Health Nurse
- **CWB** Community Well-Being Index
- **FNIHB** First Nations and Inuit Health Branch
- **GN** Government of Nunavut
- **NIHB** Non-Insured Health Benefits
- **NP** Nurse practitioner
- **OTC** over the counter
2.7 Figures

Figure 2-1 Racks of convenience packaging of medications awaiting patient pickup in the Community Health Centre dispensary
Figure 2-2 Bundles of medications in convenience packaging awaiting patient pick-up in the Community Health Centre dispensary
Figure 2-3 A box of unclaimed retail pharmacy medications awaiting return to the Regional Health Centre for disposal through incineration
2.8 Tables

Table 2-1 Federal Non-Insured Health Benefits (NIHB) and territorial Government of Nunavut (GN) pharmaceutical expenditures in Nunavut, 2003-2013

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2.9 References


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Chapter 3:
A Hard Pill to Swallow. *Qallunaal Ijagangi* – (White people’s pill): Pharmaceutical Health Care in Nunavut, Canada
3.1 Abstract

Background: Pharmaceuticals are recognized as essential key products for modern health care. Although high costs often result in lack of access to medications in underserved populations, paradoxically, adherence to pharmacotherapy is recognized as a “worldwide problem of striking magnitude” by the World Health Organization. In Nunavut, Canada, the majority of Inuit inhabitants are recipients of federally insured health benefits including pharmaceuticals, however adherence is a significant problem. This research examines how the discordance between biomedical and Inuit wellness models in Nunavut, Canada, affects adherence to pharmaceutical treatment through differences in provider and patient beliefs, attitudes and understandings.

Methods: This multi-method research design included ethnography, document analysis and 35 semi-structured interviews with residents, health providers, administrators and policy makers in several Nunavut communities in 2014.

Results and Discussion: Key areas of discordance between biomedical and Inuit wellness models include: ideologies, social interactions and treatments. Biomedical ideologies are based on positivist, reductionist and individualist concepts while Inuit wellness models are grounded in traditional knowledge and holistic, community-based approaches. Social interactions in biomedicine are enacted in institutionalized settings incorporating a power-imbalance, professional “bedside manner” while Inuit wellness models are collaborative and relationship-centred with a focus on balance. Issues of postcolonial inequality further erode the imbalance of power during patient-provider health encounters as patients can feign their compliance with health and treatment advice to maintain their future access to health care, but privately reject prescribed pharmacotherapy. Treatment options in biomedicine are based on pharmaceuticals
with bioactive properties that have been approved through randomized control trials, while Inuit wellness treatments include time on the land with family and friends, eating traditional foods, and traditional medicines that have been informed by oral traditional knowledge. These combined levels of discordance are enacted in patient-provider encounters that negatively impact the quality of these therapeutic relationships. Collaborative and concordant relationships that work to identify patient-centered, acceptable pharmaceutical regimens are optimal for supporting patient adherence.

**Conclusions:** A greater cross-cultural understanding of both biomedical and Inuit wellness models may serve to improve the quality of patient-provider relationships and ultimately improve adherence rates and health outcomes in Nunavut.
3.2 Introduction

From a celebration of new life-saving treatments to outrage over enormous profits and high-priced drugs, pharmaceuticals are the subject of acclamation and vilification. While the multi-billion dollar research based international pharmaceutical industry is subject to harsh criticism for profit-driven concerns often seen to be prioritized over patient safety and the public good (Mayer, 2008), the impact of pharmaceuticals on health outcomes is unmistakable; increased pharmaceutical expenditures have been correlated with life expectancy improvements (Cremieux, et al., 2005) and drug therapies have proven to be cost-effective health interventions (Neumann, Sandberg, Bell, Stone, & Chapman, 2000). A meta-analysis by Neumann et al. (2000) considering the impacts on both quantity and quality of life through cost-effective ratios found that pharmaceuticals are frequently cost-effective, and some are cost-saving. An example of cost-saving pharmacotherapy is treatment with acyclovir versus no treatment for patients with herpes zoster virus infection, while examples of cost-effective pharmocotherapies include treatment with warfarin to prevent stroke in those with atrial fibrillation and treatment with mood-altering drugs for those diagnosed with depression (Neumann, Sandberg, Bell, Stone, & Chapman, 2000). For those suffering from disease and illness however, these complex issues of new pharmaceutical discoveries and market economies become singularly focused; access to medications can mean the difference between life and death. With access to medications so crucially affecting patient outcomes, it is concerning that adherence to medication regimens can sometimes be problematic. Considered by the World Health Organization as a “worldwide problem of striking magnitude”, adherence to medications required for long-term therapy in developed countries is estimated at approximately 50%, with rates much lower in developing countries (World Health Organization, 2003, p. 7). Why would patients with access to
medications fail to adhere to prescribed regimens, even when they incur no out-of-pocket costs? Research indicates that adherence is a complex behavioural phenomenon affected by beliefs, attitudes, education, income, side effects, therapeutic relationships, and systems of care (DiMatteo, 2004; Chesney, 2000). More critically, non-adherence can also be a form of patient agency and resistance against contested biomedical systems or practices (Scott, 1985). Addressing these issues may serve to further our understanding of adherence and ultimately improve patient outcomes, because full access to optimal pharmaceutical treatments will not, in itself, improve outcomes if patients are not taking their medications as prescribed.

Poor adherence to medication regimens restricts and prevents the control and management of chronic and acute diseases. It can result in medical complications, individual and population-level drug resistance, reduced quality of life, and wasted health resources (World Health Organization, 2003). Research has shown poor adherence to be associated with significantly higher rates of emergency department visits, hospitalization, hospital days and medical care costs (Svarstad, Shireman, & Sweeney, 2001; Hepke, Martus, & Share, 2004).

This paper will examine factors affecting adherence to pharmaceuticals among Inuit living in Nunavut, Canada. In an examination of the discordance between biomedical and Inuit models of health and wellness, we will highlight how some key differences influence patient beliefs, attitudes, understandings and ultimately adherence. These findings may increase understanding of Inuit beliefs, attitudes, knowledge and behaviours towards pharmaceutical therapy regimens and offer health providers and community members an opportunity to develop and implement culturally concordant health policies that improve adherence and patient outcomes.
3.2.1 Compliance and Adherence

The terminology used to refer to a patient taking their medications as directed, has recently become sensitive to the power differences between patients and health providers that are inherent in biomedical encounters (Aronson, 2007; World Health Organization, 2003). The commonly applied term of “compliance”, defined in the *Oxford English Dictionary* as “acting in accordance with, yielding to a desire, request, condition or direction”, is now considered to symbolize the patient yielding to the patronizing and dominating demands of a white-coated physician (Oxford English Dictionary, 2016). The term “adherence”, rather than “compliance”, more accurately captures the meanings of commitment and perseverance that are required of patients to stick to their therapeutic regimens. This term removes the sense of mere acquiescence and is suggestive of an understanding of the importance of prescribed medications on the patients’ part and an observance to medication regimens based on internalized beliefs in the values of prescribed treatments. The use of the term “adherence” serves to shift the biomedical relationship to allow for patients to become active participants in their own health and wellness.

The quality of the relationship between patient and provider is an important determinant of adherence. These relationships are considered to be most effective when they are “characterized by an atmosphere in which alternative therapeutic means are explored, the regimen is negotiated, adherence is discussed, and follow-up is planned” (World Health Organization, 2003, p. 3).

Patient-provider relationships are affected by external factors such as culture and language (Romain, 2013; Kagawa-Singer & Kassim-Lakha, 2003; Browne, 2007; Gregg & Soha, 2007). Culture shapes diverse understandings of acceptable treatments and appropriate ways of
expressing care and support in times of illness while language enables communication to facilitate diagnoses and care instructions. While similar cultural backgrounds and common language between patients and providers facilitate therapy partnerships, given increasing levels of globalization, migration and multiculturalism, matches in culture and language are becoming increasingly rare (Kagawa-Singer & Kassim-Lakha, 2003). This issue is being addressed through the widespread inclusion of cultural awareness and sensitivity competencies, such as postcolonial understandings and Indigenous knowledge, in the educational curricula of health practitioners including nurses and physicians (Aboriginal Nurses Association of Canada, 2009; Indigenous Physicians Association of Canada and The Association of Faculties of Medicine of Canada, 2009; The Association of Faculties of Medicine of Canada, n.d.). Cultural competencies acknowledge, respect and appreciate diversity within society and specifically among patients, and serve to facilitate therapy relationships enhancing adherence. Acknowledging and addressing gaps in cultural understanding and sensitivity works to support enhanced therapy relationships and optimizes patient adherence to pharmaceutical therapies (World Health Organization, 2003).

3.2.2. Background on Nunavut

Nunavut is an Arctic territory in Canada spanning over two million square kilometers with an estimated population of less than 37,000 (Statistics Canada, 2015b). The many scattered, small geographically isolated communities and frequent weather-related access issues contribute to challenges in equitable health care delivery, resulting in disparities in health outcome measures between Nunavut and Canada overall. In comparison to Canadian national averages, Nunavut reports higher age-standardized mortality rates (11.2 per 1,000 in Nunavut compared to 4.9 per 1,000 in Canada overall in 2011) (Statistics Canada, 2014b), higher age-standardized
incidence rates of several chronic diseases such as hypertension (30.9 per 1,000 in Nunavut compared to 22.1 per 1,000 in Canada overall in 2009/10) (Government of Nunavut, Department of Health, n.d.) and higher incidence rates of many communicable diseases such as tuberculosis (222.0 per 100,000 in Nunavut compared to 4.7 per 100,000 in Canada overall in 2011) (Public Health Agency of Canada, 2014; Public Health Agency of Canada, 2013). Social indicators also demonstrate disparities between Canada and Nunavut in employment (15.9% unemployment rate in Nunavut versus 6.9% in Canada overall in 2014) (Statistics Canada, 2015a) and education (38.1% high school graduation rate in Nunavut versus 78.3% in Canada overall in 2009/2010) (Statistics Canada, 2013).

Within Nunavut, 85% of the inhabitants self-identify as Inuit (Statistics Canada, 2014a). Non-Inuit persons are generally identified as Qallunaat, although this label has historically referred to those of European descent from the South. This dichotomy, while represented in quite simple linguistic terminology, has far reaching implications in terms of culture, everyday experiences, history, economics, and health indicators. Employment opportunities have drawn many Qallunaat to Nunavut as the demand for credentialed and qualified workers continues to exceed the capacity to fill positions within the territory. A 2010 Auditor General’s report found that vacant positions in Nunavut take on average 318 days to fill and over one-half of the staffing competitions fail to select a qualified candidate (Office of the Auditor General of Canada, 2010). Primary health care in Nunavut is delivered in Community Health Centres (CHCs) by Community Health Nurses (CHNs). Nursing positions in Nunavut follow territorial vacancy patterns with 45% of nursing positions vacant and only 3-6% of positions filled by Inuit nurses (Nunavut Tunngavik Inc., 2009). While the majority of inhabitants of Nunavut (referred to as Nunavummiut) are Inuit, the majority of health care providers in the territory are
Qallunaat. Thus there is considerable cultural discordance between the Inuit concept of wellness and biomedical health models.

Dr. Jón Bildfell was a medical graduate of the University of Manitoba in 1933, receiving his training during the era of increasing medical professionalization and marginalization of alternative health practices in Canada. His first-hand account of his work as the physician in residence in the Inuit community of Panniqtuuq in 1933-34 provides details of resistance to medical care and the local hospital. Faced with what he perceived as the failure of Inuit to embrace biomedicine (and likely his intolerance to local practices), Bildfell attributed their resistance to mental pathology and ‘primitiveness’. This allowed, or rather required, humanitarian intervention (as per the doctrine of several Christian churches) and a demonstration of the power of biomedicine to “save” the Inuit from themselves and help them become “thinking beings” (Tester & McNicoll, 2006, p. 96). An initial refusal by Inuit in the community to attend the newly constructed hospital in Panniqtuuq eventually gave way to an acknowledgment of its effectiveness in the treatment of illnesses considered to be Qallunaat diseases (Tester & McNicoll, 2006), and eventually to the collapse of overt resistance towards biomedicine in the form of refusal to attend the hospital. In reality, much of this resistance was eliminated or subverted as legal policies were enforced to restrict hunting, round-up children for education and require communities to attend mandatory medical screening exams (Qikiqtani Inuit Association, 2013). Today, Inuit engagement with biomedicine varies widely, with some people demanding greater access to biomedicine, and others assuming a more passive acceptance or avoidance of biomedical health care. Some of these culture clashes remain embedded in current Qallunaat-Inuit health relations.
While Inuit wellness models are traditionally collaborative, community-based and holistic in nature, including considerations of social, spiritual, physical and environmental wellness, biomedicine’s physician-focused care often amplifies power differentials and tensions in health care systems and delivery in Nunavut. For these reasons, education among health professionals on the importance of working towards patient adherence (as opposed to compliance) becomes especially significant.

### 3.2.3 Pharmaceutical Adherence in Nunavut

Pharmaceutical regimen adherence in Nunavut is challenging to quantify, however, using the World Health Organization [WHO]'s recommended multi-method approach to estimate adherence can be useful (World Health Organization, 2003). The WHO recommends assessing adherence through a combination of locally-feasible data sources, including subjective measures such as health provider ratings and patient self-reporting, and more objective measures such as pharmacy records and pill counts. Self-reported measures from patients and observations from health providers have indicated that adherence is low. Observational, photographic, and anecdotal evidence has been shared which indicate that large quantities of unclaimed medications in CHCs have never reached the intended patients, and annual local medication “spring clean-up” programs collect large quantities of expired and unused medications (Romain, Kohler, & Young, 2015). These data suggest low adherence rates that would be expected to negatively impact patient care and health outcomes.

This research will examine the cultural discordance influencing low pharmaceutical adherence rates in Nunavut and consider future directions to improve patient-provider therapeutic relationships to optimize adherence and health outcomes.
3.3 Methods

The research design for this study combines ethnography and grounded theory through the observation and exploration of social and cultural phenomena and the development of themes, which emerge from the data during analysis (Glasser & Strauss, 2009). Research methods included in-depth interviews, participant-observation and visual data analysis of photographs. Semi-structured interviews were conducted with 35 participants in the Nunavut communities of Arviat, Rankin Inlet and Iqaluit and in the Canadian capital city of Ottawa. Fieldwork commenced in 2012 with interviews held in May of 2014. Interview participants consisted of residents, health care providers and administrators and key policy stakeholders. Some participants provided interview responses based on multiple roles (e.g. as both health care providers and community residents). Participant recruitment was through signs posted in several public locations in Arviat, local radio promotion which invited participation, modified snowball sampling (participants were asked if they knew others who might be interested in the study) and purposive sampling for key informants. Research protocols received institutional approval through the University of Toronto’s Office of Research Ethics (Protocol # 28248) and were licensed through the Nunavut Research Institute (License # 01 033 13N-M). Informed consent documentation and questions were developed to ensure language was appropriate to roles, reflected common language terms and specifically, recognized that some participants speak English as a second language. Informed consent documents were translated into Inuktitut by a translator familiar with the local community dialect. Participants were offered either English or Inuktitut documentation; all but one participant elected to use the English document. Translators were available upon request for all interviews, although no participants requested their interviews be conducted in Inuktitut.
To safeguard confidentiality, private interviews were held in one of several locations selected by participants. Throughout the interview process, iterative questioning and member checks were used for verification and clarification until internally consistent understandings were observed. Data triangulation was achieved through interviews with individuals on opposing sides of transactions (e.g. providers and patients) while methodological triangulation was achieved through interviews, observation and photographs taken of key locations where pharmaceuticals were distributed, stored, organized and processed for transport.

This research project was community-driven, with the interview topics and questions originating from within the community through initial consultations and then edited and approved by the community prior to territorial Research Licence approval. Community, territorial, and institutional assistance was solicited in the development of interview guides to tailor interviews to specific participant roles. The research goal was to gain a more comprehensive understanding of the actions, experiences, attitudes, beliefs and perceptions of individuals in regards to pharmaceutical health care in Nunavut, specifically in relation to the experiences of Inuit patients who interact with the health care system and their adherence to prescription medications. To support these goals, open-ended questions such as “Tell me about your experiences with pharmaceuticals/medicine” were used to elicit personal and professional (if applicable) information about pharmaceutical health care.

Each interview was audio recorded digitally and transcribed verbatim for analysis. Protocols to ensure transcription quality were informed by Poland (1995). The QSR-NVIVO v10.2 (QSR International Pty Ltd., 2014) software was used to code and analyze transcript data. The coding strategy developed for data analysis included using nodes to identify themes within the data and attributes to identify demographic information (i.e. gender, ethnicity, role and
community affiliation) from participants. The conceptual framework for data analysis was informed by open coding, with emergent tree nodes outlining broad themes and child nodes allowing for more in-depth interrogation of the data. Queries on key words and themes were used to analyze the data and saturation was established when supporting evidence for findings was collected from all participants within similar roles or with similar attributes.

3.4 Results

In Nunavut, very few of the health providers interviewed used the word “adherence” (used in the interview guide) and some disregarded it and used instead the term “compliance” during their interviews. One of the most pervasive themes during interviews was concern and frustration with what they perceived as “non-compliance” from their Inuit patients. The health provider respondents had various explanations for the observed non-compliance, such as:

“*When they’re feeling better, they think they’re fine*” – ID#24

“*I’ve heard cases...that have a side effect, they just stop it and throw it in the garbage...and then don’t report it*” – ID#2

“*They stop because they’re not educated...they need to be educated*” – ID#1

“*Mistrust of the Qallunaat*” – ID#2

“*He didn’t think he needed to take them but he didn’t want to upset anybody by saying ‘I’m not taking them’ so he picked them up and then the home nurse went and found nine months of blisters [convenience packaging] in the cupboard*” – ID#2

These suggested explanations for non-adherence demonstrate the significant tensions that exist between health providers and understandings of patient adherence. There is little consensus among health providers as to the drivers or solutions for adherence challenges, however the sentiments expressed suggest discordance between health providers and patients that may be minimized through improved understanding.
There was wide diversity among Inuit research participants in terms of their stated uptake of biomedical services through their local CHC. Some research participants discussed their comfort and familiarity with their encounters with the health system. Others discussed their dissatisfaction, lack of use or acceptance of biomedical health care or blatant and unapologetic non-adherence to prescribed medications. As the objectives of this research were to explore these issues of ideological discordance and practices of medical pluralism among Inuit, participants were asked to interpret why they felt some Inuit were more comfortable with accessing biomedical services, and adhering to medical treatments, than others. For those who infrequently accessed biomedical health care, reasons most often were simply cited as “not liking to go to the doctor/Health Centre” or “not liking to take medicine”.

Both health provider and many community member respondents frequently mentioned perceived differences between Inuit and Qallunaat involvement in pharmaceutical health care. Given the high Qallunaat representation in the health care system, Inuit patients would often speak of their health care experiences as being the product of Qallunaat medicine and Qallunaat practitioners. Their interactions with the rarer Inuit health providers were distinguished as being different (often preferable) from those with Qallunaat providers. Correspondingly, health providers often identified differences in their experiences between Inuit and Qallunaat patients. As one health provider (ID#2) stated:

“the Qallunaat are more body aware, more disease aware, have more buy in to treatment. The Inuks are um, you know ‘if I’m feeling OK maybe I don’t really need it’...so this lady for example, she says ‘I don’t feel anything so I don’t really need my pills’. So it’s really cause and effect.”

While these sentiments are not intended to indicate that all health providers hold similar beliefs, the interview transcripts demonstrate that considerable tensions and perhaps misunderstandings exist between health providers and patients in Nunavut. Given these tensions, an examination of
biomedical and Inuit wellness health models and specifically their associated ideologies, social interactions and treatments, is essential in order to explore potential sources of discordance and how these might influence patient non-adherence.

3.4.1 Discordance in Biomedical and Inuit wellness ideologies

Conceptual differences between biomedical and Inuit wellness models of health have been recognized and are well documented (O’Neil, 1979; Morse, Young, & Swartz, 1991; Zamparo, 1997; Johnston, 2002; Douglas, 2004). These differences are rooted in the foundational underpinnings of different ideologies which emerged from epistemological perspectives on how knowledge is produced and valued, the role of individuals, communities, and the environment in the acquiring and transmission of knowledge, the nature of social interactions and communal construction of knowledge, how health or wellness is conceptualized, and what the nature of health-restorative treatment may be. These tensions have been in play since European colonization after the late 1500s.

Biomedicine is positivist – relying on scientific method and evidence-based practices to establish a body of knowledge that is deemed to be value-free and irrefutable due to the rigorous validation processes applied to the production of knowledge. Biomedicine is designed to prompt intervention in the absence of health as patients most often seek biomedical care when something is “wrong” (Kagawa-Singer & Kassim-Lakha, 2003). Although primary care seeks to prevent illness and disease, often these services lag or are non-existent in resource poor settings. Biomedicine is also reductionist – focussing on the precise malfunctioning process or part that is responsible for illness or disease. Biomedical practices focus on concepts of ‘healthism’ (Crawford, 1980) and individualism in situating responsibility for disease or health at a personal level, minimizing society’s responsibility and involvement in individual health.
Nikolas Rose and Carlos Novas (2005) refer to the obligatory responsibility of individuals to pursue all resources and actions available to maintain and improve their health as “biological citizenship”. This would include proactively accessing and complying with biomedical health care and treatments, such as pharmaceutical therapies. Individuals have a social responsibility to ensure their own health so as to be productive citizens and minimize any negative impacts on society as a whole.

In contrast, the ideologies of Inuit wellness differ from biomedicine in fundamental ways. Inuit values are informed by a distinct world-view which is relational (Healey & Tagak, Sr., 2014). Inuit Qajuimajatuqangit (IQ) is an epistemological set of principles embedded in Inuit life and all governmental and social institutions in Nunavut through legislative recognition and processes (Government of Nunavut, 2013). IQ has been described as “living technology. It is a means of rationalizing thought and action, a means of organizing tasks and resources, a means of organizing family and society into coherent wholes.” (Jaypeetee Arnakuk, Senior Policy Advisor to the Nunavut Social Policy Development Council in 2000 as quoted by Tagalik (2010)). These principles reflect Inuit values and beliefs and inform every aspect of Inuit life, including relationships between people, the land, and health and wellness understandings.

Knowledge, and its production and transfer are grounded in oral and traditional sources, reflected in the Inuit principle of Pilimmaksarniq, a felt or revealed knowledge gained through experience and observation (Wihak & Merali, 2003). This revealed truth holds privilege over scientific truths through situational awareness and traditions passed down through generations. This is keenly demonstrated through the respect for Elders and their wisdom often common in Inuit communities.
Inuit world-views are understood to be holistic, recognizing the interconnectedness of all aspects of life and place (Barnhardt, 2005). As such, environmental, social and cultural wellbeing are all essential components for individual and collective physical, mental, emotional and spiritual wellbeing. More broadly the collective focus on holistic wellbeing disallows a reductionist perspective which would attribute illness to a singular biological cause or even a single individual, and instead would focus on the strengths of community, culture and relationships. In Inuit world-views, being well is not merely the absence of illness or disease; wellness is a product of and supported by the balance of life.

Consistent with Inuit understandings of the source of holistic wellness are understandings of a communal responsibility to respect, preserve, support and contribute to their world. Embedded in IQ are values of: Pijitsirniq (serving the community), Aajiiqatigiingniq (inclusive decision making), Piliriqatiigiingniq (collaboration for a common purpose) and Inuuqatigiitsiarniq (respectful relationships and caring for others) (Government of Nunavut, 2013; Tagalik, 2010). Wellness of individuals, the community and the environment is fostered by reciprocity and shared responsibility. IQ values and beliefs focus on broad community responsibility for complete wellness. This contrasts sharply with the biomedical focus on patient-centred causes and treatments for disease.

3.4.2 Discordance in Social Interactions

Complex Inuit kinship relations involving custom adoption (the practice of one family giving a child to another family to raise) often result in individuals either residing or being able to identify family members in many communities throughout the territory. In contrast, many Qallunaat residents of Nunavut are often more transient within communities because they are hired to fill vacant positions, which may be transient in nature. Nursing vacancy rates in
Nunavut are approximately 45%, with approximately 40% of all filled positions being casual contract work (Nunavut Tunngavik Inc., 2009). Only 48% of Nunavut nurses considered their permanent residences to be within the territory (Registered Nurses Association of the Northwest Territories and Nunavut, 2006). The tensions between distance and proximity, and social networks based on kinship versus occupation influence the nature of social relations and social interactions in day-to-day life in Nunavut and spill over into interpersonal health encounters that are influenced by biomedical and Inuit wellness models.

Biomedicine also continues to be a powerful system of colonialism in Nunavut. In virtually all communities, the CHC is the singular access point for health care and only a limited number of health care providers are available in each community. This can create the perception of a “gate keeper” model of health care in which patients exchange a feigned outward compliance to health advice for confidence in continued access to care. Several Inuit informants (ID#s 11, 12 and 19) discussed accepting medications that they had no intentions of taking from the CHC because they didn’t want to openly object to the advice of health providers. Their rationale was that they were concerned that by questioning, objecting to or refusing medical advice, that they might not receive timely or quality health care in the future, or perhaps they would be denied the opportunity to accompany family members for health visits outside the community, a benefit that is subject to specific regulation but was described as being at the discretion of local health administration. These unequal power relations influence the nature of social interactions between health providers and patients as some may believe that access to care is contingent upon appearing compliant with health advice and pharmacotherapy (Scott, 1985).
Biomedical clinician-patient interactions are recognized for the often impersonal, physician-dominated nature of assigned roles enacted in institutional settings, such as the clinical spaces of hospitals and CHCs. Although clinician-patient provider interactions are frequently thought of as a patient visit with a physician, other clinicians such as nurses and pharmacists enact similar authority roles in their clinical engagements. Authority and respect in biomedicine are accrued via credentials obtained through formal education and the abidance to professional standards of practice. The role of biomedical practitioners includes that of assuming a specific “bedside manner” intended to build a productive and necessary rapport which can convey empathy with a patient’s condition and solicit diagnostic information while still maintaining professional distance. Medical professionalism serves to demonstrate the objectivity of clinicians in their authoritative roles as delivering practitioners of biomedicine. Biomedical professionalism is intended to reassure patients that clinicians are able to put aside their personal values, feelings and judgements to provide care based solely on biomedical ideologies: treatment protocols informed by evidence-based practices grounded in scientific knowledge.

Inuit wellness is guided by the IQ values of collaboration (Piliriqatigiingniq), sharing and reciprocity (Pijitsirniq/Pikutigiktot), balance and interconnectedness (Elagikatigiyut) (Government of Nunavut, 2013). The roles of those engaged in Inuit wellness require participation in reciprocal relationships and partnerships with members of the community. Respect is based on the wisdom of experience gained through age and the quality of community interactions such as harmonious relationships with others. As these social values are common in many Indigenous groups, we can look to how these values have guided the development of collaborative health models in other communities.
A highly successful application of an Indigenous wellness model, the Nuka System of Care in Anchorage, Alaska was developed to address the needs of more than 60,000 Alaskan Natives from 227 different federally-recognized tribes in the state (Southcentral Foundation, 2015). The overhaul of the previous system resulted in a terminological and conceptual shift for Alaskan Natives from “beneficiaries” of state-run health care to “customer-owners” or their tribally-managed health care. At its core, the Nuka system’s operational principals spell out “R-E-L-A-T-I-O-N-S-H-I-P-S” and this foundation influences every aspect of the organization (Gottlieb, 2013). For Inuit wellness, the quality of community and personal relationships are recognized as powerful effectors of individual wellness and form a significant contribution to the outcomes of daily interactions within the community. As one Inuit community member (ID#15) stated,

“relationships are so important and when you talk about relationships and communities. I mean when you mentioned that name...for instance I knew, I’m thinking relationship how do I know this person, how [are] they related? And every Inuk I think...thinks that way, like how am I related, whether it be name, blood adopted whatever. And so when you’re part of a community, particular smaller communities, it’s so important to raise and strengthen the relationship and if you have a relationship, you’re more likely to go confide in them and talk and get help from them.”

The IQ concept of Avatittinnik Kamatsiarniq, (stewardship, respect and care for the land, animals and environment), influences and emphasizes one’s relationship and connection to the land and situates wellness practices outside of institutional spaces (Kirmayer, Fletcher, & Watt, 2009). A frequent theme that emerged among Inuit key informants was their appreciation and anticipation to spend “time on the land”. One participant explained that the reason why she hadn’t been feeling well lately was because it had been too long since she had been “on the land”, and excitedly explained how community members had offered to take her with them “out
on the land” on their next trip. She explained with confidence how this was sure to help her to feel better. “Time on the land” was described as spending time with family and friends in established camp locations outside of communities where Inuit can engage in hunting or fishing, food preservation activities (e.g. drying fish) or generally enjoying each other’s company. Access to “country foods” such as caribou and beluga were nearly universally discussed as community-based issues. For example, a beluga catch will bring the entire community, young and old, down to the beach to celebrate, share and watch the butchering. Communal hunting and in-community sharing of country foods through feasts and access to a community freezer, where excess meat is available for those who are unable to hunt or acquire these foods on their own, all further act to support strong relationships. Local hunters also ensure that freezers in the Elders’ Centre are regularly stocked with butchered caribou meat so that Elders can enjoy traditional foods as well.

Inuit wellness social interactions reflect the holistic nature of these ideologies. Social relationships are the foundation of wellness and extend well beyond those most intimately familiar with an individuals’ health to include family, friends and the entire community, the land, animals and environment. Nurturing balance and connection in these relationships is essential to the maintenance of wellness.

3.4.3 Discordance in Treatments

Pharmaceutical health care, as an essential, pervasive and growing component of biomedicine, is subject to all of the aforementioned biomedical attributes and associations of positivism and position. Like biomedicine, pharmaceuticals are grounded in scientific knowledge and privileged in health encounters as gold standard treatments, marginalizing alternative therapies. Medications are promoted as a “cure” for ailments and the purpose and
benefit of medications can often be confused or not well understood. The limitations of medications may be downplayed, which may result in overprescribing particularly when there are restrictions in the time available for providers to discuss alternative healing strategies with patients. As one Inuit community member (ID#26) stated,

"I think a lot of people, um...including my parents, they think that if you give them a pill, it’s to cure and not just band aid over the pain...they think they should stay good if either they keep taking the pill or take it and it should make them, it should cure your body."

Another theme that emerged was that the CHC is strongly associated with pharmaceuticals. Several interview participants stated that they didn’t go to the CHC when they were sick because they didn’t like taking medicine. More specifically, some spoke of feeling that health providers overprescribed medications (primarily acetaminophen) without adequately addressing patient health concerns and sent patients home with medication to symbolize that they had received care.

Conversely, many health care providers interviewed indicated that patients attending the CHC came with the expectation to leave with medication. They voiced frustration with trying to explain the ineffectiveness, let alone the dangers, of taking antibiotics for the treatment of viral illnesses and indicated that they were often tempted to provide acetaminophen to patients as an appeasement. While the term “drug-seeking behaviours” is most often used to identify patients with addictions to prescription narcotics, drug-seeking behaviors are also observed globally in those with strong beliefs in the power of prescription pharmaceuticals to heal and cure all ailments big and small. Overwhelming faith in biomedical treatments to cure, and the potential loss of trust of health systems warrants a closer examination of the characteristics of treatments in biomedical and Inuit wellness models which may help to identify how expectations are shaped and reinforced.
The belief that medication should “cure” if taken as directed can impact confidence and trust placed in health care providers, CHCs and biomedical systems if and when individuals do not see the desired (potentially unrealistic) results from taking their medications. In particular, this most frequently occurs when the diagnosis for which the treatment is prescribed is not well understood by the patient. As one Qallunaat community member (ID#8) explained,

“The general attitude seems to be handed down from their parents [that] all drugs are bad. So, not that some are good...Some think it’s unhealthy...I think there’s a lot of fear... there’s been deaths that have occurred you know...people have left town and never come back...there’s been a lot of history of you go to the health center, you get pills [and] you don’t get better...So yea...I might tell my kids don’t take drugs for anything”

Pharmaceuticals represent the physical manifestation of biomedical ideologies and social interactions. They are conceptualized, designed, manufactured and tested in accordance with the principals of scientific knowledge and grounded in evidence-based practices. The essential components of pharmaceuticals include selective bioactive ingredients, which are subject to randomized controlled trials prior to federal government approval. The bioactive agents are intended to act on a specific physiological process and treat either the causes or symptoms of a particular physiological illness or disease. Although these agents cannot always be physiologically contained to produce a singular effect, optimal pharmaceuticals provide targeted action and minimize unintended side effects. They are prescribed to an individual patient with efficacy frequently measured quantitatively through follow-up biomedical assessments and tests. Biological citizenship requires that responsible members of society not only seek out the services of clinicians to determine how to best obtain or restore optimal health, but also includes compliance to prescribed medication protocols to ensure patients are fulfilling their roles as “good” or “bad” patients and citizens, by not wasting medical resources and maintaining their productive role in society.
Further mirroring the holistic ideologies and social interactions of Inuit wellness, Inuit treatments encompass multiple spheres of involvement, including: traditional knowledge, connection to the land and community engagement. One example of a traditional medicine described in interviews – boiling of a specific moss for the purposes of clearing nasal passages – was explained as encompassing Elder knowledge (only grandfather knew which moss to collect), connectedness to the land (the moss was only available in specific locations and at specific times), and family sharing (everyone gathered around the steam pot). Just as in some cultures Grandma adds ineffable curative properties to “Grandma’s chicken soup” as a cure for the common cold, in the preparation of Inuit treatments, the contributions of traditional knowledge, the land and community participation are considered to be integral parts of the medicines themselves.

As mentioned earlier, for many interview participants, time “on the land” in itself was considered to be restorative and essential to their wellbeing. When asked about traditional treatments for illness that interview participants were familiar with, answers commonly included country foods. Country foods are not merely favorite nourishment, but are representative of cultural continuity in the inter-generational teaching of hunting skills and connections with animals and the land. Treatments in Inuit communities are grounded in the IQ value of Pilimmaksarniq, understood as experienced or felt truths and knowledge. Treatment requires active engagement in the community and in relationships, balance and connection with the land and animals and active involvement in the production and understanding of treatments.

The ideological discordance between biomedicine and Inuit wellness models is embodied in the social interactions of individuals engaged in these systems. These differences are reinforced through the day-to-day interactions between health providers, Inuk, communities and
the land. The discordance between models is further amplified in terms of treatments. Inuit concepts of biomedicine are reduced to the symbolism of a single pill. Adherence, or even perhaps compliance is required of “good” patients – biomedical citizens – as a function of their membership in orderly society. Conversely, Inuit wellness treatments require individuals to be actively involved in all spheres of life; family, community and their environment. The active properties of treatment are present, experienced, and felt truths – expressed in the IQ value of *Pilimmaksarniq*. Involvement in the preparation and understandings of treatments imbues them with an essential component required for healing. These concepts can be represented as a graphical model demonstrating the contrasting relationship between the two health models and the nested relationships between ideologies, social interactions and treatments (Figure 1).

3.5 Discussion

3.5.1 Ideologies

Biomedicine is ostensibly well established in Nunavut, with the vast majority of patients being Inuit with variable engagement in biomedical systems. This tension between Inuit values and beliefs of holistic wellness, and the delivery of biomedical services in Nunavut can result in Inuit patients feeling disconnected from health practitioners and services. This disconnect was described by an Inuit policy maker and community member (ID#15),

“That approach to health...in terms of being...having a headache or being sore somewhere and feeling that, in Inuktitut I think that people would talk about what is it that’s weighing down on you, do you need to let something out, do you need to talk about it and would be looked at as more whole health right?...Not just physical stuff...it would be things you’re worried about, your emotional state. But when you go into the hospital or the health center, it’s very physical and so often there’s stressors in life in our society that come out as symptoms and so then we’re getting the Tylenol...And then leaving still don’t feel any better and there’s nowhere else to go to try and get that wellness.”
When those who more often frequented health services were asked why some of their fellow Inuit did not access health services, the most frequent explanation for this difference was attributed to the level of education. Interviews with Inuit participants that were employed in occupations that required a high school diploma self-reported that they utilized health services when needed, adhered to medication regimens and would follow up and ask questions regarding their medications. Among Inuit participants who discussed their “dislike” of health providers, the CHC and medications, they were more frequently either unemployed or employed in positions that did not require a high school diploma. However, participants clarified that comfort with or acceptance of biomedicine was less related to overall educational level achieved and more so a factor of regular participation in the institutions of education themselves.

3.5.1.1 Education as a cultural entry point to biomedicine

The low level of educational attendance and attainment was a common theme in the key informant interviews. Truancy rates in Nunavut (defined as the percentage of unexplained or undocumented days of absence per year, for students in grades K-12) have continuously increased to a high of 22.4% in 2010/2011 (Department of Education, Government of Nunavut, 2012), indicating students are missing on average at least one day per week of school. The educational level of Qallunaat was never brought up in interviews, likely because Qallunaat in the community are considered to be educated. In interviews with Inuit with higher education levels or Qallunaat, Inuit were frequently categorized relative to their educational level. Although in these discussions Inuit were differentiated simply as “Inuit with an education” versus “Inuit without an education”, in reality there exists an educational continuum that is recognized starting with having some primary school education up to and possibly exceeding graduation from high school. In interviews however, “having an education” was considered to
be graduating from high school. Embedded in Qallunaat concepts of education are ethnocentric assumptions about the nature of learning, acquisition and transfer of knowledge as well as what qualifies as knowledge. Although many communities elect to deliver large parts of the curriculum in Inuktitut, the pedagogical methodology is still highly influenced by Qallunaat educational models, which are discordant with traditional knowledge transfer. The Inuit value reflected in Pilimmaksarniq describes learning and the transfer of knowledge as a revealed or felt truth that is grounded in rich dialogue and the direct observation of elders, family and respected community members (Government of Nunavut, 2013). This discordance between educational ideologies doesn’t just take place in the classrooms or on the tundra, but in everyday interactions between individuals. As explained by a Qallunaat couple (ID#s 31 and 32) who had lived permanently in the community for many years,

“It’s part of the culture that you don’t ask questions...and so asking a question to someone there, like might be disrespectful, discouraged because of their family relations or the person’s position in the community. It just goes back to out on the land where you would just learn from watching. The kids were expected...you don’t ask questions, just learn. This is how you fish, by chopping [an] ice hole or whatever, putting the line in, bait it with this so you just would watch how it’s done...but you can’t watch how the medicine is made and then because you can’t, it’s inside the body. There’s some families that don’t follow it, but there’s some families that are very strict first still, um to the point...we’ve been reprimanded, I’ve been reprimanded. And the longer we’ve been here, especially from Elders the more we’ve been reprimanded. It’s like haven’t you learned that this isn’t [an] acceptable kind of thing.”

Inuit learning values contrast with colonial educational practices that encourage active questioning, individualism and meritocracy, and linear, outcomes-based learning that is informed by knowledge that is acquired from books and non-experiential sources (Woolsey Des Jarlais, 2009). The skills honed and expected of a learner in schools may develop characteristics that are beneficial in alignment with the expectations on the role of a biomedical patient who internalizes active and personal responsibility for their own health and is adherent to medical
advice. When Inuit children attend educational institutions founded on these ideals, they become indoctrinated into pedagogical paradigms that are fundamentally different than traditional Inuit teaching and learning practices. These newly acquired cultural competencies are suggested by many Inuit research participants to impact comfort levels and acceptance of biomedical health care. Key informants often emphasized that comfort and proficiency in *asking questions* was the key factor in the frequency and productivity of CHC visits by Inuit. As explained by a *Qallunaat* couple (ID#s 31 and 32), who were permanent residents of the community,

“Well the schools...Western school society has, you know, it’s ingrained in you to ask questions... get responses, find out more information and, and so...if you finish school or even do any post-secondary that’s kind of part of that, but if you drop out... And there’s also the not wanting to sound stupid, because that’s one of the lowest things you can be in the culture. So if I ask you a question about something that’s just so easy, I’m going to be seen as stupid.”

Without health providers necessarily recognizing the fundamental shift associated with the process of education as opposed to the grade level of formalized schooling, less educated Inuit are perceived differently in their patient roles. As one *Qallunaat* health care provider (ID#27) with decades of experience in more than twenty (20) Inuit communities commented,

“nobody ever argues with you here...and often...you get a lot of just non answering [I: Questions?] Very, very rarely. Some people, it depends, there are, I mean some people, and when I say this, you know, it’s still not the majority of people that are like that, but there is, there is a larger percentage of people here who will stare at the ground and just sort of, and then you, you, you try as one might, you know. And you could probably spend half an hour extra with that patient and get somewhere, but we...that’s resources we don’t have.”

From within the Inuit community, more educated Inuit point out differences in the interactions of those Inuit who haven’t finished high school. They are perceived to be more often quiet and non-confrontational and were often identified as not accessing the Health Centre. These research findings suggest that perhaps uptake of biomedical services and adherence to
pharmaceutical therapy are influenced by acculturation through formalized educational to promote self-advocacy and personal responsibility for health and partake in the biomedical patient role as biological citizens. As one becomes increasingly familiar, comfortable and competent in one colonial system (such as education), there may be a corresponding change with other colonial systems (such as health). Nunavummiut who have learned to question, object to and reject theories and concepts as part of formalized colonial education may be better equipped to continue these practices in biomedical encounters.

A further examination of those roles will discuss the discordance between biomedical and Inuit social interactions in health encounters.

3.5.2 Social Interactions

While ideologies such as those of biomedicine and Inuit wellness discussed earlier (Fig. 1) direct the formation, understandings, and structure of social systems, inevitably these ideologies are delivered by the people who are social actors in the systems. Interpersonal encounters are the mode of ideological transmission, and ideologies are themselves embedded in the places, structures, qualities and meanings of those encounters. Biomedicine in Nunavut is predominantly delivered by Qallunaat nurses generally disassociated with the community. The quality and extent of complex social relationships is foundational to Inuit values and beliefs, including wellness. The lack of permanency of health providers working in Nunavut on contracts and living more permanently elsewhere, negatively influences the ability to build relationships within the community and illuminates a significant dilemma in regards to delivering health care through a means that is in alignment with Inuit values.

Irrespective of permanence or transience of health providers within communities, the practice of biomedicine mandates that a respectable level of distance from personal involvement
with patients must be maintained through the dogma of professionalism. Although clinicians are encouraged to hold humanistic values and demonstrate caring, compassion and empathy, professionalism is regarded as a way to maintain public trust in the profession itself. The pressure to exercise a cool detachment with patients to demonstrate objectivity and maintain trust serves to deride clinicians for overly personal demonstrations of empathy (Cohen, 2006).

In comparison to the formality and medical professionalism that is required in biomedicine, Inuit values of Aajiiqatigiingniq (inclusive decision making) can impact patient adherence to biomedical and pharmaceutical therapy regimens. Several health provider informants discussed family and community influence on patient decisions to adhere to therapy or follow medical advice. Community views that were recognized to impact patient decisions were sometimes influenced by personal experience with negative or even tragic pharmaceutical experiences. In several interviews, knowledge of or involvement in local incidents of adverse drug events that resulted in hospitalization or even death were cited as reasons for no longer accessing the CHC or taking medications anymore. In the small Inuit communities of Nunavut where relationships and interconnectedness are key values, confidentiality is nearly impossible to maintain and health providers acknowledged, with both frustration and resignation, that for some patients, it seemed as though everyone in the community got a say in their treatment which ultimately impacted their adherence.

This chasm between biomedical and Inuit wellness social interactions is affected by the situational factors of place and resources and amplified by a misalignment in the conceptualization of how trust and authority are produced and maintained. This ultimately affects if or how biomedicine is accepted by the Inuit. Long term health outcomes will not improve through the pursuit of mere compliance with biomedicine. Without health care
relationships built on trust, interconnectedness and balance as defined by Inuit wellness models, patients could be expected to disregard the prescriptive advice of health care providers. Compliance may continue to look like a patient dutifully picking up their medications at the CHC when in fact the medications are discarded when they get home or become part of the clean-up program the following spring.

Attempts to decolonize institutions of governance and administration within Indigenous communities are a focus of the recently released Truth and Reconciliation Commission’s Calls to Action (Truth and Reconciliation Commission of Canada, 2015) however, the current and ongoing legacies of colonialism in health care cannot be overlooked. This research has revealed that some Inuit patients are unwilling or unable to participate equally in biomedical health encounters for fear of limitations on their access to future care. This demonstrates how the existing power differentials between providers and patients that are inherent in biomedicine are further amplified by an additional layer of persisting postcolonial inequality. This concept of the layering of vulnerabilities such as ethnicity, class, low educational achievement, unemployment and inter-generational trauma has been referred to as “double jeopardy” (National Urban League, 1964; Ferraro, 1987), but for Nunavummiut would more accurately be referred to as “multiple jeopardy” given the many layers of social inequality for Inuit in the territory. Within this postcolonial context, covert or passive noncompliance with prescribed pharmacotherapy is a reasonable strategic action on the part of patients to simultaneously maintain personal agency and ensure their future access to health care. It is the act of symbolic and public compliance that preserves functional social relationships with health providers, and in fact resistance to pharmacotherapy can only be successful insofar as the noncompliance goes undetected (Scott, 1985) as it is believed that if patients acquire a reputation as “noncompliant”
at the CHC, that their access and quality of future care may be negatively affected. These contested issues of agency and access continue to form the backdrop and intersect with discordant Inuit and biomedical health models and would both need to be explored further to achieve more equitable health encounters in the future.

### 3.5.3 Treatments

Pharmaceutical homogeneity was an emerging theme that describes when the use, purpose or effects of distinct pharmaceuticals are poorly differentiated. Antibiotics, antihypertensives or antihistamines are all lumped together and understood simply as medication that will make you feel better. These issues were more common in the past when understandings of the nature of biomedical treatments were less widespread (O'Neil, 1979), however they still exist in Nunavut today. This apparent belief by patients of the homogeneity of pharmaceuticals was suggested by health providers as an explanation for why drug-seeking patients were often satisfied with acetaminophen regardless of their presenting health concern. The negative effects of this issue however, result in a patient rejecting the use of all medications when expected health outcomes are not achieved or a negative side effect is experienced. In several interviews, this erosion of trust was extended to the health care provider who actually prescribed the medications. One informant, a health care administrator, discussed how incoming patients had specifically refused to be treated by particular nurses because the nurses had provided the patients with medications that were ineffective or had upset their stomachs in the past.

One of the most universal themes in the research findings included the close, almost fixed association of the CHC, and in fact, health care in general, with medications. While many participants clearly articulated (almost mantra-like) the importance of taking all medications
directed by clinicians, others were just as vocal in their dislike and non-acceptance of medications. As one Qallunaat Health Care Provider (ID#28) explained:

“I mean there is, there is a very big belief amongst Elders about taking medications and not taking them and a lot of them don’t want to take them. And some of them see them as poisonous, as dangerous, as something that a white person brought here. Something that you know “My uncle, he took, he took a white pill and he died”. You know? So a distrust of Qallunaat there, well not just of us but of the medications and of disease processes.”

An Inuit community member (ID#21) explained his reluctance to take medicine and questioning:

“To see if I even need those pills. Usually I don’t try to ask for any unless I really need them…I’m not really into pills. Umm just, I just believe that…try and do it as natural. I will try and get through it.”

These findings offer some insight into the diversity of perspectives and actions among Inuit in Nunavut towards pharmaceuticals. However, the determination of if or what relationship exists between an individual’s personal alignment with biomedical or Inuit wellness models and the impact this may have on their attitudes, beliefs or actions towards health care and/or pharmaceuticals require further research. It is perhaps important to be cautious in identifying behaviours as distinctively “Inuit” or “Northern”. Many of the themes explored in this research such as adherence, health literacy and personal advocacy are recognized as common issues in other jurisdictions, including southern populations with greater cultural heterogeneity.

3.5.4 Medical Pluralism

As demonstrated early in the attempts of colonial conquest to supplant pre-existing social systems, Indigenous health systems are never completely displaced by incoming dominant systems. Medical pluralism, the engagement and use of multiple medical systems, is often practiced to varying degrees and Nunavut is no exception. A single informant who asserted the importance of taking her medication regularly was the same individual who extolled the virtues
of caribou tongue’s restorative powers. Stories within single interviews wove freely between recollections of traditional treatments for boils (lemming skin) and lacerations (caribou fascia) to concerns over delayed medevac services and weather-delayed access to respiratory inhalers. Although this research has identified the discordance and distinctiveness of biomedical and Inuit wellness models, in everyday practice, there is great diversity in the degree, method and quality of how these systems are integrated. Participants do not appear to struggle with, or even recognize this integration in conversation. They pursue and maintain health through both systems to varying degrees and make health decisions without articulating a dedication to any particular health model.

While the term health literacy is commonly used to describe the pursuit of biomedicine, Inuit participants demonstrate dualistic health literacy for both health models. Health literacy is a set of cognitive and social skills that provides the capacity to an individual to pursue their own health through informed decision-making. While these skills include reading and numerical skills, they also include language proficiency and communication and cultural skills necessary to interact with information and health personnel as resources and health providers (Romain, 2013). While it is suggested that education, or rather the processes of westernized education in Nunavut may positively influence the degree of engagement with biomedical services, several factors could be influential in this observation and warrant further research. Conversely, it should be recognized that although traditional understandings of health literacy prioritize westernized skills and resources, Inuit values, beliefs and the focus on relationships can provide a valuable contribution towards problem solving and health decisions (Antone & Imai, 2006).

Medical pluralism can be beneficial in the empowerment of individuals (Waldram, Herring, & Young, 2006). In contemporary institutional contexts such as health care,
recognition of the existence of two competing systems has led to innovative work such as the National Aboriginal Health Organization’s (NAHO) report *Traditional Medicine in Contemporary Contexts*, which includes direction from Elders and Healers for ways to integrate health systems through decolonization, education of children and Elders on both traditional and biomedical practices and ongoing collaborations between biomedical and traditional medicine (Hill, 2003). In northern Ontario, Indigenous treatments were incorporated into biomedical settings at the Noojmowin Teg Health Centre on Manitoulin Island for the Anishinaabe-Ojibwe First Nations community. Strengths of the program were noted to include empowerment of the community and improved access to Healers and treatment, however some have noted that a closer integration between the two health systems could be of greater benefit (Manitowabi & Shawande, 2013). The earlier mentioned Nuka System of Care was developed through a complete redesign of previous biomedical practices. When given autonomy to develop their own system of care, Alaskan Natives elected to keep the “best of modern medicine” but to change the organizational principals to reflect Indigenous values and the traditional wisdom of Elders (Galbreath & Eby, n.d.). The success of this system is proven through customer satisfaction and improved health outcomes measures. As the biomedically dominant system in Nunavut is currently associated with some of the worst health outcome measures nationally, it is essential to look to other jurisdictions for successful integrated models that support the medical pluralism of biomedical and Indigenous wellness models.

### 3.6 Conclusions

Fundamental differences between biomedical and Inuit wellness models were identified that are acted out in the clinical spaces of CHC treatment rooms, infused into the conversations between individuals and ingrained into their beliefs and actions. Although the language
discordance of English health care delivery for Inuktitut-speaking patients is recognized as an obvious barrier to service, cultural discordance can mimic this effect through individuals on opposite sides of health encounters “speaking different cultures”. “Cultural safety” is a term developed by Indigenous groups in many countries including New Zealand and Canada, which is used to describe the development of approaches to health care and wellness that consider both the colonial historical experiences of Indigenous populations as well as contemporary circumstances (Williams, 1999). Cultural safety implies the application of a lens which would seek to address inequities in Indigenous populations through several outcomes, including “the express transfer of power in a culturally safe exchange from the professional to the Aboriginal client, where the success of the exchange is judged by the Aboriginal person, and not the professional” (Brascoupe & Waters, 2009, p. 28). The concept of cultural safety therefore, has a tight alignment with the concept of patient adherence in that adherence works towards a shift in patient-provider relations to transfer ownership of therapy decisions to the patient with the prescriber acting to best support the patient in their treatment needs. These approaches offer direction and promise to address issues of cultural discordance between patients and providers in Nunavut, as well as postcolonial power relations that influence patients to leverage feigned compliance for ongoing health care. The goal is to bring both parties into a sphere of collaboration working towards understandings of pharmaceutical adherence and improvements in patient care and health outcomes.

This is a goal that aligns tightly with the WHO recommendations for characteristics of optimal patient-provider relationships that support adherence to pharmaceutical therapy. As health providers become increasingly familiar with understandings of Inuit wellness, they can be expected to be able to have conversations that include holistic considerations of interpersonal
relationships and balance. As Inuit become increasingly familiar with biomedical concepts of illness and treatment, and perhaps as Inuit become more familiarized with the expectations associated with the role of biomedical citizenship through formalized education, they can be expected to continue to develop medically pluralistic health literacy to best pursue their wellness through whichever model they choose.

To be sure, there are significant challenges to address. Biomedical health care delivery is under increasing financial pressures which results in the prioritization of cost-effective, often cost-cutting care over patient-centred care. This serves to further threaten the quality of social interactions between clinicians and patients and directs these encounters further away from the relationship-focused care so fundamental to Inuit wellness and so essential to patient-provider conversations that enhance pharmaceutical adherence. Additionally, the pharmaceutical industry, through the ownership and control over knowledge and production of medications, further alienates patients from the active engagement in treatment that is central to Inuit wellness and reduces treatment involvement to mere compliance with medication protocols that even few Qallunaat understand. Improved discussions and patient understanding are consistent with the recommendations of the WHO to optimize pharmaceutical adherence through engagement and communication about the nature and purpose of therapy. Interests serving corporations in the business of health care must be balanced with the delivery of health services that best address the needs of the communities they serve. There is evidence that the integration of Indigenous wellness and biomedical models can positively impact health outcomes and reduce resource demands, both of which have positive long term implications for the sustainability of health care spending and quality of life.
We illuminated how the discordance between biomedicine and Inuit wellness models of health can adversely impact acceptance and adherence to pharmaceutical therapy among the Inuit in Nunavut, Canada. Implications for patient care include an increased bilateral understanding of both biomedical and Inuit wellness health models and their inherent ideologies, social interactions and treatments. An increased understanding, combined with the incorporation of cultural safety models and a jurisdictional review of successful pluralistic health system applications can serve to inform pharmaceutical health care frameworks that best support enhanced patient adherence to pharmaceutical therapies and ideally lead to better population health outcomes.
3.7 Figures

Figure 3-1. Comparative model of Biomedical and Inuit Wellness ideologies, social interactions and treatments.
This model demonstrates the discordance between biomedical and Inuit wellness models in their ideologies, social interactions and treatments. The nested relationship between ideologies and social interactions demonstrates how ideologies are reinforced through the embodied social interactions of individuals and their environment. Treatments further reflect the ideologies and social interactions of their respective models.

<table>
<thead>
<tr>
<th>Biomedicine</th>
<th>Inuit Wellness</th>
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<tbody>
<tr>
<td>Positivist</td>
<td>Oral &amp; Traditional Knowledge (<em>Pilimmaksarniq</em>)</td>
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<tr>
<td>Absence of Health</td>
<td>Being Well</td>
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<td>Reductionist</td>
<td>Holistic</td>
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<td>Individualist</td>
<td>Community Based</td>
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<td>Healthism/Biological Citizenship</td>
<td>Sharing &amp; Reciprocity</td>
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**IDEOLOGIES**

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<th>Inuit Wellness</th>
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<td>Medical Professionalism</td>
<td>Relationship-Focused</td>
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<td>Role based power differential</td>
<td>Balance</td>
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<td>Institutional Settings</td>
<td>Connection to the land</td>
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<td>Functional “Bedside Manner”</td>
<td>Collaboration</td>
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**SOCIAL INTERACTIONS**

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<th>Traditional Medicine</th>
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<td>Bioactive Properties</td>
<td>Connection to the land</td>
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<td>Randomized Controlled Trials</td>
<td>Traditional knowledge</td>
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<td>Governmental approvals</td>
<td>Family/Community participation</td>
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**TREATMENTS**
3.8 References

FINALFRAMEWORK.pdf


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Chapter 4:
Pharmacy Translations in Nunavut:
“We don’t have the words in Inuktitut”
4.1 Abstract

It is estimated that by the end of this century, one-half of the world’s 6,000 languages will be threatened or become extinct, resulting in the irreplaceable loss of cultural identity and knowledge. Given the history of residential schools in Canada, when Aboriginal children were removed and isolated from their cultural and linguistic heritage, the revitalization and preservation of Aboriginal languages is of particular importance. In response to these goals, recently introduced language legislation in Nunavut requires the availability of all essential services in Inuit languages. These legislative requirements are creating both challenges and opportunities for pharmaceutical health care in the Territory where the majority of inhabitants speak an Inuit language as their mother tongue but pharmaceutical health care is currently only available in English or French.

Some of these challenges are due to multiple dialects spoken across the Territory and the absence of any standardized Inuit terminology, but the most significant challenges are associated with the complete absence of any pharmacists or pharmacy technicians who speak an Inuit language to facilitate local or broadly applied translations. However, language concordant pharmacy health care supports patient understanding of dosing instructions, side effects and treatment rationale which reduce adverse drug events, increase patient adherence and maximize the benefits of pharmacotherapy. These benefits serve to improve health outcomes and optimize pharmaceutical expenditures. The process of negotiating the new Inuit pharmaceutical terminology further advances the goals of language revitalization through enhanced appreciation of the adaptability of Inuit languages, and the involvement of both Inuit and Qallunaat representatives builds cross-cultural understandings of biomedical and Inuit wellness ideologies and practices.
While the assistance of Nunavummiut will be essential to address challenges and to ensure that the full advantages of Inuit pharmacy health care can be realized, the benefits of Inuit language pharmaceutical health care offer an important contribution to the health and well-being of Nunavummiut.
“when I went to school, we got strapped with a yardstick for speaking our own language. From that time on, I was so mad that I would never speak my language. I was told to speak English, so, therefore, I will speak English, but then they turn around and say ‘Oh now you have to learn and know Inuktitut’. Whatever. Anyways, that’s my issue, but I think we’re pretty lucky we still have our own language.” ~ Inuit research participant (ID#26)

4.2 Introduction

Language is a tool that captures the essence of what it is to be human as it facilitates the crystallization and framing of human thought and enables our social construction of experiences through communication with others. Language can be used as a tool to represent belonging, both to build a sense of inclusion and membership within a community or to contribute to the exclusion or isolation of others through the construction and emphasis of difference. It is a repository of knowledge, a testimony and archive of human culture, knowledge and understanding. Language is also living, evolving and reflecting the social, cultural and cognitive changes happening within communities every day (Crystal, 2000). The death of a language, therefore, is an irreplaceable loss of cultural identity and knowledge (Crystal, 2000).

Language preservation and revitalization is an important global issue. It is estimated that one half of the world’s approximately 6,000 languages will be threatened or become extinct in this century (Crystal, 2000; Whaley, 2003). The factors that cause the death of a language are complex and affected by contextual issues such as the dominance and prestige of other competing language groups, and the isolation, dispersion and size of a population (Crystal, 2000). All of these factors apply to Inuit languages in the Canadian territory of Nunavut and the Inuit people who live there. The lengthy colonial dominance of English and French languages in the Arctic escalated in the 1950s when children were sent to day or residential schools where Inuit languages were forbidden and Inuit children were taught that their mother tongue was
primitive and dead (Legacy of Hope Foundation, 2010). Harsh punishments for speaking Inuit languages forced children to speak English or French and impacted their abilities to re-integrate into their communities upon return. Interviews with past students tell of community and cultural separation that developed over the educational years because returning youth “were talking too much English and they [Inuit community members] couldn’t understand them, and we couldn’t understand the Elders speaking in their language” (emphasis added) (Legacy of Hope Foundation, 2010, p. 55). The prohibition on Inuit languages in schools was part of an aggressive educational program intended to “remove and isolate children from the influence of their homes, families, traditions and culture, and to assimilate them into the dominant culture...Inuit [and other Indigenous] languages and cultural practices were prohibited in these schools” (Government of Canada, Indigenous and Northern Affairs, 2008). This history has had a lasting impact on the strength of Inuit language use in Nunavut. Canadian census data show that in Nunavut between 1996 and 2006, Inuit reporting Inuktitut as their mother tongue - referring to the first language used at home in childhood and still understood - declined 5% (from 88% to 83%), and Inuit reporting Inuktitut as the language used most frequently in the home, declined 12% (from 76% to 64%) (Statistics Canada, 2009). These trends have emphasized the need to preserve, strengthen and revitalize Inuit languages.

_The Truth and Reconciliation Report_ was federally commissioned to acknowledge and address the many long term, negative impacts of the Residential School system in Canada. Findings in the report stated that “Aboriginal languages are a fundamental and valued element of Canadian culture and society, and there is an urgency to preserve them” (Truth and Reconciliation Commission of Canada, 2015). This federal acknowledgement and commitment provides support for the mandate of the Nunavut _Official Languages Act_ (OLA) and the _Inuit_
Language Protection Act (ILPA), which legislate language rights protection for four official languages in Nunavut: Inuktitut and Inuinnaqtun (combined, referred to as Inuktut) as well as English and French (Government of Nunavut, Department of Justice, 2011; Government of Nunavut, Department of Justice, 2013). It is hoped that with the sustained and combined efforts, resources and focus of the federal and territorial governments that Inuit languages can continue to evolve and thrive in Nunavut.

To increase use of Inuit languages in the territory, the OLA and ILPA require that all public signage, services and documentation be available in all four of the territory’s official languages. Some social domains have been better represented by Inuit languages in the past than others. With its rich oral history, Inuit languages easily dominate conversations about the arctic landscape, animal harvesting, and community relationships as these are all fundamental components of Inuit culture. Other domains, such as those that were introduced with colonialism, have traditionally been delivered in European languages. These domains include formalized education, government services and biomedical health care. As per the OLA and ILPA, ultimately all domains, in particular those that are considered essential services, must become available for delivery in Inuit languages.

As an essential service, health care is an important focus for multilingualism in Nunavut given that the vast majority of health care is currently delivered by English or French speaking personnel due to an underrepresentation of Inuit health care providers (in 2005, only 3% of practicing nurses were Inuit) (Nunavut Tunngavik Inc., 2009). Pharmaceutical health care is even further impacted by this language dominance in that not a single Pharmacist or Pharmacy Technician in the territory is fluent in either of the two official Inuit languages and currently no uniform, standardized Inuktut translations are available for medication labeling. Patient-
provider language concordance aids patient understanding as to the purpose and dosing of their medications, which has been shown to increase adherence and success of therapeutic regimens (Westberg & Sorensen, 2005; Ascertaining Barriers for Compliance, 2012). Misunderstandings associated with language discordance, however, have been associated with adverse drug events including patient illness and death (Wilson, Chen, Grumback, Wang & Fernandez, 2005; Mitka, 2007; Sharif & Tse, 2010). Given the importance of language concordance, ensuring availability of pharmaceutical health care in both Inuit languages in Nunavut is a priority.

With the advent of modern translation software such as Google Translate and Babelfish, many people have become accustomed to entering phrases or words into an online text box to obtain presumably accurate translations in one of hundreds of available languages within seconds. Indeed, pharmacy software exists that makes patient instructions and prescription bottle labels available in many languages. But before any translation can happen, terminology, syntax and language structures have to be selected, validated and standardized to accurately reflect the meaning of the source language. This process of determining what constitutes an accurate translation is an active process involving cultural and linguistic negotiations to agree upon meanings and terminology. This can become further complicated when the original terms and concepts in the source language are foreign or disputed in meaning between cultures. Pharmaceutical health care in Nunavut was a colonial introduction; a biomedical domain previously unknown to Inuit and therefore rife with terminology and concepts lacking widely recognized Inuktut translations. Finding and identifying accurate Inuktut terminology for pharmaceutical communications is a daunting but crucial task that offers the potential to affect the quality of patient health care encounters and enhance patient understanding of how to take their medications properly, ultimately improving health outcomes in Nunavut.
4.2.1 The Social Landscape

Social change, such as the transition to a new territory with increased autonomous government is often met with questions, concerns and sometimes resistance. For those in Nunavut (called Nunavummiut) who have always received the vast majority of their pharmaceutical health care in English, the transition to the availability of standardized Inuktut services raises many issues and polarized opinions as well. However, these cultural and linguistic negotiations to translate pharmaceutical terminology into Inuktut do not occur in isolation. They are set within a wider social landscape that includes significant disparities in health and social indicators between Nunavut and the rest of Canada. Nunavut is a territory of 1.87 million square kilometers with a population of approximately 32,000 in 2011 (Statistics Canada, 2016a). This low population density, combined with isolated communities and weather-related access issues are contributing factors towards disparate health indicators.

Compared to Canadian national averages, Nunavut exhibits higher age-standardized mortality rates (4.9 versus 9.7 per 1,000 in 2012, respectively) (Statistics Canada, 2015a) and higher rates of many infectious diseases such as tuberculosis (400 times higher than the Canadian incidence rate in 2012) (Public Health Agency of Canada, 2014). Unemployment rates in Nunavut are more than double that of the national average (16.2% versus 7.2% in January 2016) (Statistics Canada, 2016 b and c) while Nunavut high school graduation rates are less than one-half of the Canadian averages (38.1% versus 78.3% in 2009/10) (Statistics, 2015b). These educational indicators are of particular importance as literacy and more specifically health literacy, defined as “the ability to understand (e.g. read, write and speak) health-related information” (Tkacz, Metzger & Pruchnicki, 2008, p.974) are restricted by low educational levels. This educational
profile is likely to interact with efforts to increase Inuit language use in many areas of health care including pharmacy services.

While there is ample literature to support that patients demonstrate a strong preference to receive their health care in their own language (Ngo-Metzger, et al., 2007; Carrasquillo, Orav, Brennan, & Burstin, 1999), there is little research considering patient preferences in such complex socio-linguistic landscapes as that currently in Nunavut. Nunavummiut have always received their pharmacy health care in English and many are familiar with and effectively use pharmacy terminology in English. The predominantly English terms that they are familiar with (to varying degrees) will now officially have Inuktitut terms. Will they choose this option as is hoped for by those wishing to preserve and revitalize the languages? Or will they continue to use the more familiar English terminology?

In light of this significant transitional event in Nunavut’s language journey, the purpose of this research is to examine the perceptions, beliefs and concerns of those in Nunavut regarding the forthcoming translation of pharmaceutical terminology into Inuit languages. Through the examination of these issues, a deeper understanding of the associated tensions and concerns may offer guidance towards supporting this language transition and encouraging acceptance of pharmacy services delivered in Inuit languages to serve the goals of language legislation in strengthening and revitalizing Inuit languages in Nunavut.

4.3 Methods

A postcolonial theoretical framework provides direction for the examination of language and culture, and how patterns of inclusion and exclusion continue to influence the use of language in health care settings long after the creation of Nunavut as a separate geo-political entity looking to move beyond its colonial past with Canada. Postcolonial theories consider
issues of how the history and legacy of colonialism continue to shape the social landscape of people’s lives (Young, 2001). A postcolonial framework is particularly useful for considering Indigenous issues as it provides an analytical lens to examine the embodied attitudes and power relations shaped by history, and that are shaping the context of current health care delivery (Browne, Smye, & Varcoe, 2005). In this research, a postcolonial perspective is used to examine how centuries of colonial practices in Nunavut affect efforts to preserve Inuit languages which have been historically suppressed by colonial powers.

Research methods included participant-observation, visual data analysis of photographs and in-depth semi-structured interviews with 35 participants in three Nunavut communities, and in the Canadian capital city of Ottawa between November 2012 and May 2014. Interview participants consisted of residents, health care providers, administrators, and key policy stakeholders. Some participants provided interview responses based on multiple roles (e.g. as both health care providers and community residents). Participants were recruited through signs posted in several public locations, local radio promotion, modified snowball sampling and targeted purposive sampling of key informants. This research project was community-driven, with the interview topics and questions originating from within the community through initial consultations, and with approval by the community prior to territorial Research License approval. Research protocols received institutional approval through the University of Toronto’s Office of Research Ethics (Protocol # 28248) and were licensed through the Nunavut Research Institute (License # 01 033 13N-M).

Informed consent documentation and interview guides were developed with community, territorial and institutional assistance to ensure they reflected common language terms for varying levels of language concordance. Participants were offered either English or Inuktitut
informed consent documentation that had been translated into the local community dialect of Inuktitut; all but one participant elected to use the English document. Private interviews were held in one of several participant-selected locations with translators available upon request, although no interview participants requested their interviews be conducted in Inuktitut.

The goal of this research was to gain a more complete understanding of the attitudes, beliefs and perceptions of individuals regarding pharmaceutical health care in Nunavut, specifically in relation to the forthcoming availability of pharmacy health services in Inuit languages. To support these goals, open-ended questions such as “Tell me about your experiences with medicine and languages” were used to elicit personal and professional (if applicable) information about pharmaceutical health care (see Appendix A - Interview Guide).

Throughout the interview process, iterative questioning and member checks were used for verification and clarification until internally consistent understandings were observed. Data triangulation was achieved through interviews with individuals on opposing sides of transactions (e.g. administrators and patients) while methodological triangulation was achieved through interviews, observation and photographs taken of blank stock translated pharmacy identification labels.

Each interview was audio recorded digitally and transcribed verbatim for analysis. Protocols to ensure transcription quality were informed by Poland (1995). The QSR-NVIVO v10.2 (QSR International Pty Ltd., 2014) software was used to code and analyze transcript data. The coding strategy developed for data analysis included using nodes to identify themes within the data and attributes to identify demographic information (i.e. gender, ethnicity, role and community affiliation) from participants. The conceptual framework for data analysis was informed by open coding, with emergent tree nodes outlining broad themes and child nodes
allowing for more in-depth interrogation of the data. Queries on key words and themes were used to analyze the data and saturation was established when supporting evidence for findings was collected from all participants within similar roles or with similar attributes.

4.4 Results and Discussion

4.4.1 Postcolonial language preferences and issues

The transition in Nunavut to self-governance through the creation of one of Canada’s territories in 1999 marked its shift into a postcolonial phase. While postcolonial transitions are often marked by a status change to sovereignty, in Nunavut, postcolonialism is more accurately defined by a continued geo-political inclusion within Canada, with a return to greater Indigenous autonomy in many social, political and cultural domains. While this era marks a new and perhaps unpredictable time for Nunavut, we can look to other jurisdictions for insight into how societies work through such postcolonial transitions. In particular, we can look to such territories to further examine how language transitions are impacted by postcolonial changes.

Some postcolonial states use language as a way to assert identities through the active promotion of local languages over colonial ones. For example, Tanzania replaced English with Swahili, Pakistan deemphasized English over Urdu, the Republic of Korea replaced Japanese with Korean, and the Malaysian government emphasized Malay over English (Bray & Ramsey, 2004). These historic examples provide a richer context for understanding Nunavut’s directive to strengthen and revitalize Inuit languages. Postcolonial transitions however, exist within a larger global arena where English-dominated opportunities can influence the prestige and cultural capital associated with English-language use, which can serve to create competition for the promotion of local languages.
In 1997, Hong Kong reverted back to Chinese sovereignty after 155 years as a British territory (Bray & Ramsey, 2004). Prior to 1997, services in public domains, including education, were delivered in both English and Cantonese. Both before and after 1997, governmental attempts were made to increase the level of Cantonese in education, but these attempts were met with sustained resistance both before and after 1997. Due to beliefs about the status of English as an international language, many parents demanded access to English education both before and after 1997. This desire for an English-medium education was less emphasized in lower levels of education, but more sought after at higher levels as “essential domains of scientific and technical knowledge could not all be translated into national languages” (Bray & Ramsey, 2004, p. 219). These findings are particularly relevant as Nunavut seeks to translate the highly technical and scientific terminology in pharmacy into Inuit languages where many of these words have never existed before.

Access to domains that are English-dominated, such as scientific and technical knowledge or broader domains that are predominantly delivered in English, such as the Internet, provide those that are English proficient with an enhanced level of cultural capital and prestige (Pasch, 2008). This cultural capital is demonstrated in greater success in higher levels of education that are delivered in English, expanded employment opportunities where bilingualism is required, and through these combined privileges, the ability to hold positions of greater status and authority due to a shortage of qualified Inuit in the territory. The prestige associated with English proficiency was offered by both Inuit and Qallunaat research participants as a possible explanation for the low number of requests for the use of a translator in medical encounters. Although many factors can affect the uptake of translation services including a desire to maintain confidentiality, health care provider participants serving Inuit patients with recognized
limited English proficiency who refused the services of a translator, more commonly speculated that this was due to the pride associated with being able to communicate in English. Several research informants suggested that this may also be the reason behind the lack of requests for the use of an Inuktut translator during interviews and few requests for translated study documentation (i.e. Informed Consent document). Within this context, proficiency in English may be considered a symbol of status and prestige which may serve to influence the future uptake of Inuit language pharmacy health care among the Inuit.

Some social domains, such as medical sciences (and by extension, pharmaceutical sciences), are internationally recognized as English domains. English has increasingly become the dominant language in medicine to facilitate the common understanding of international medical science research (Huttner-Koros, 2015). The lingua franca of Medicine is referred to as Medical English, acknowledging this English subcategory of discipline-specific, anglicized terminology derived from Latin and Greek origins (Wulff, 2004). English is the most common language of instruction in medical schools globally; in international medical schools outside of the U.S. and Canada, 37.5% of instruction is delivered in English, even though only 22% of the countries where these schools are located recognize English as an official language (Boulet, Bede, McKinley, & Norcini, 2007). English is the language of choice for most medical conferences, and all of the leading medical journals are published in English, with the ratio of published English-language articles increasing annually (van Weijen, 2012; Huttner-Koros, 2015). These global trends towards the use of English as a common language for medical sciences provide a sharp contrast with Nunavut’s efforts to translate the domain of medicine, and by extension pharmacy services, from English into Inuit languages. During interviews, participants frequently and openly questioned the rationale for translating pharmaceutical
terminology into Inuit languages. When the goals of the OLA and ILPA were explained (because participants were widely unaware of the existence or implications of this legislation), reactions ranged from indifference to strong opinions that these language translations were unnecessary due to predicted lack of uptake. These reactions highlight the tensions that exist in the attitudes and beliefs of Nunavummiut regarding language preservation contrasting with a social domain currently recognized and accepted as being English. Is there usefulness in subjecting a social domain that has becoming increasingly English-dominated on an international scale to the processes of language translation and integration on a local scale? Is Indigenous language preservation threatened by the homogenizing use of English as a standard in the pharmaceutical domain? While these questions reveal broader political, social, and cultural complexities, given that these language transitions are already in motion and soon to be implemented, questioning the pros and cons of such transitions are only useful insofar as to increase understanding of the social landscape that newly developed Inuit language pharmacy terminology will exist in. These attitudes and beliefs of Nunavummiut could be expected to provide resistance to the uptake of Inuit language pharmacy services in Nunavut and will need addressing if the language preservation and revitalization goals of the legislation are to be realized.

4.4.2 Profile of Nunavut Pharmacy Health Services

In Nunavut, health care is delivered in Community Health Centres (CHCs) predominantly by Community Health Nurses (CHNs). Administratively, the Territory is divided into three regions: the Kivalliq in the southwest, the Kitikmeot in the northwest and the Qikiqtaaluk in the east. The two western regions are each served by a Regional Health Centre with some limited in-patient capacity and expanded diagnostic services, while the east is also served by Qikiqtani
General Hospital in the capital city of Iqaluit. In the remaining 22 communities in the territory, health care is delivered in CHCs.

Access to quality pharmaceutical health care has significant effects on health care outcomes (Mojtabai & Olfson, 2003; Piette, Wagner, Potter, & Schillinger, 2004). While in many jurisdictions access to medications is affected by financial considerations and it is estimated that one-third of individuals in the developing world do not have access to essential medicines (World Health Organization, 2016), Inuit in Canada are provided with no-cost pharmaceuticals through the federally funded Non-Insured Health Benefits (NIHB) Program. Most medications, including over-the-counter (OTC) drugs such as antihistamines and pain/fever reducers are included in this program, thereby reducing financial barriers to access.

The Qikiqtani General Hospital and Regional Health Centres act as ordering and distribution hubs for pharmaceuticals that are dispensed in the CHCs. Bulk containers of pharmaceuticals are shipped to the CHCs for local dispensing to patients by health care providers. For medications that are not dispensed within the CHCs, prescriptions are filled at one of the five retail pharmacies in the territory; two in Iqaluit, two in Rankin Inlet and one in Cambridge Bay. In communities without a retail pharmacy, prescriptions are faxed to retail pharmacies, dispensed and then flown into the remote communities and distributed through the CHCs. Previous research (Romain, Kohler, & Young, 2015) has highlighted these procedures as impediments to patient access to Pharmacists and pharmaceutical counseling, both of which can affect patient understanding of the dosing, purpose and side effects of their medications. These impediments may be exacerbated by cultural and linguistic discordance between Inuit languages and culture and the biomedical practices of pharmacy health care. This resulting diminished understanding can influence patient adherence to pharmacotherapy and increase risk
for adverse drug events (Romain, 2013). Working to reduce these barriers to access and service discordance in Nunavut may serve to improve pharmacy health care and patient health outcomes.

4.4.3 Current pharmacy language in Nunavut

All of the Inuit participants in this study expressed their current familiarity with and preference to receive their pharmacy services either entirely or predominantly in English. A middle-aged Inuit participant (ID#19) explained this preference as follows:

"Because there, I can understand it more than Inuktitut. I can understand Inuktitut, I'm a full-time Inuktitut speaker, but ah like medications, everything, ingredients.... It's really hard to translate."

The often highly scientific terminology used in pharmacy health care does not currently have recognized Inuktut translations and therefore English terms are generally used. These English words include generic or brand names of medicines (e.g. ibuprofen or Advil®) as well as classes of medication, such as antibiotics or antacids.

In CHCs and retail pharmacies, Inuktut translated labels are currently available to varying degrees when dispensing medications to Inuit patients. Interviews with retail pharmacy and administrative participants indicate that the original Inuktut translations were made by local community members and then either: a) printed onto pre-fabricated labels, b) photocopied onto blank paper for affixing as a label or inserting into clear bottles for commonly dispensed medications or dosages (Figs. 4-1, 4-2 and 4-3), or c) handwritten onto labels by translators employed in the retail pharmacies and CHCs. Retail pharmacists have expressed concern over this practice as they lack the ability to validate the accuracy of the translations and recognize liability issues that may result if inaccurate translations were to result in adverse drug events.
and/or patient harm (Romain, 2013). However, they have implemented this practice in the absence of any superior alternative and no publicized issues have arisen to date.

Figures 4-1 and 4-2. Generic blank labels used for translation of dosing instructions into Inuktut for medications dispensed in Community Health Centres.

Figure 4-3 Label used for translation of identification and dosing instructions into Inuktut for Acetaminophen dispensed in Community Health Centres.

While challenges in translating technical terminology are somewhat understandable and expected, the translation of dosing information, such as that on the label of a medication bottle (e.g. take one pill two times per day) might be expected to be more straightforward. However, research provides anecdotal evidence in other jurisdictions of inaccurately translated prescription labels resulting in patient illness and death (Mitka, 2007; Sharif & Tse, 2010).
Multiple studies (Bekirane, et al., 2009; Kopp, Erstad, Allen, Theodorou, & Priestley, 2006) have shown that improper dosing causes approximately 20-25% of all preventable adverse drug events. Several bilingual participants recounted experiences with, and shared concern regarding translations that they did not feel accurately reflected the transfer of instructions from one language to another. As explained by a senior-aged Inuit participant (ID#11),

"Some of the words are not translated right. So we have to be careful...if you have to take the pills once a day or take one pill a day twice a week, in Inuktitut it would switch to take two pills a day for one day...So they have to be very careful cause some people just give instead of reading, like give you a pill [and say] ‘You should take these’...And they think that we already know but sometimes we don’t ask."

The accurate dosing of medications is essential for patient safety. Although some participants lacked confidence in the accuracy of translations, in the review of several translated pharmacy labels (Figs. 4-1, 4-2 and 4-3) by an Inuit nurse with extensive experience working in many Nunavut communities, the clarity and accuracy of these particular labels were verified, although these are but a tiny sample of the medication labels provided in Nunavut. Therefore, it is unclear what factors are influencing some patients to mistrust the translations on their medications or the extent of the problem. Further investigation into these issues is warranted as it could be assumed reasonably that a single experience with an incorrectly translated label could be both directly detrimental to patient health through an adverse drug event, or indirectly detrimental through the erosion of trust in the health care system.

The multiple dialects of Inuktut across the territory make the translation of pharmacy labels a significant challenge. When Inuit research participants were asked about these dialect differences, all acknowledged that there were challenges with different words, pronunciations and understandings between communities. One Inuit community member from the Kivalliq
stated that they had significant difficulty even understanding conversations in the capital city of Iqaluit.

The dialect differences within Nunavut are not just causing challenges within Nunavut, but have expanded to include Inuit living in other jurisdictions: Inuvialuit in the Northwest Territories, Nunavik in Quebec, and Nunatsiavut in Newfoundland. Among the 60,000 Inuit living across all of these areas including Nunavut, no less than 9 different writing forms, and at least that many dialects are spoken (Weber, 2016). National meetings are underway to seek an agreement on a standardized language, but it is not expected that a consensus will be easy to obtain. As discussed previously, language can be used to signify inclusion and identity and interviews with Nunavummiut confirmed these applications of language in Nunavut through distinctive dialects being used to symbolize community membership. For example, educational materials (i.e. textbooks) that are written in a dialect common in the Qikiqtaaluk region, the location of the territorial capital where most materials are translated, are not universally accepted across the territory. As explained by one interview participant (ID#8) involved in education,

“the people here won’t read them in the Baffin dialect to their kids because they don’t make sense to them, they’re not the right dialects, they’re not their language so they just put them aside. Even in the classrooms here, even Inukttitit teachers here. They come in boxes, big boxes of them all very well meaning, it’s not their language.”

Dialects are maintained and protected within some communities as a means for signaling membership and identity. These practices and beliefs are likely to interfere with the ability to reach a consensus on a common Inuit language that will delay any agreement upon a standardized pharmaceutical terminology for use across the territory. These dialect differences currently have the potential to make a serious impact on translations done in local CHCs and
retail pharmacies, with translations reflecting the dialect of the translator and not necessarily that of the community or the patient.

Recognizing the challenges in translating English pharmaceutical terminology into Inuktut languages and dialects, Inuit translators resort to providing translated instructions conceptually as opposed to verbatim. This practice serves to reach a deeper understanding with the patient that may be more reflective of culture and/or individualized patient-specific levels of education or familiarity with medicines. An Inuit health provider (ID#23) explained how they translated medication instructions for patients,

“I don’t have a lot of troubles with that [medications] because I deal with the patients directly and I give them the directions in Inuktitut so...I explain not by naming them, but the process they work. So it’s sorta the same generalized instruction.”

Culture is an important consideration when translating pharmaceutical information as cultural discordance can have a significant effect on the quality of health care encounters (Brown, 2007; Kagawa-Singer & Kassim-Lakha, 2003) and patient understandings of the purpose of, and adherence to pharmacotherapy (World Health Organization, 2003). Previous research (Romain, 2016) has highlighted the discordance between Inuit wellness and biomedical health models, specifically between traditional medicine and pharmaceuticals. These differences make translations from English to Inuit languages more than merely word exchanges but also include issues of conceptual switching between biomedical and Inuit wellness health models. Given that Inuit have been exposed to and/or have been recipients of biomedicine for many generations, Nunavummiut are quite adept practitioners of medical pluralism. Evidence of routine acceptance of elements from both biomedicine (e.g. taking pain relievers or antibiotics) and Inuit wellness models (e.g. community feasts and time on the land) are commonplace. Inuit interview participants explain that pharmaceuticals are understood to be
Qallunaat (European/outsider) medicine and distinctive from treatment with Inuit traditional medicine. This may be attributable to the fact that pharmacy health care has been an overwhelmingly English domain in Nunavut. Translating pharmaceutical language from the biomedical health model to Inuit languages will not necessarily be easily represented by Inuit conceptualization of health and illness and may cause disruption to the current negotiation of pluralistic health care by Nunavummiut. It would be beneficial to take these complex issues into consideration when working to establish standardized translations for pharmaceutical terminology as they may impact the conceptualization of meaning behind the Inuktut terms selected and influence the uptake of Inuktut terminology once it becomes a widely available choice in pharmacy health care.

4.4.4 Future pharmacy language in Nunavut

Given the recent and extensive changes required by the new legislative policies such as ensuring all posted signage, take-home documentation and in-person service is available in four languages, compliance with multilingual language requirements within the pharmacy sector has encountered several challenges. Without a territorial Pharmacy Association and standardized translations required for multiple sectors of pharmacy health services, including dispensing in both the retail pharmacies and CHCs, no clear plan has yet been established. Several key challenges will need to be addressed in order to advance the availability of Inuit language pharmacy services. These challenges include: the development, negotiation and acceptance of standardized terminology, a commonly agreed upon dialect, and then the dissemination of materials in such a way as to best ensure their successful uptake in health and pharmacy sectors.

Given the fact that much of pharmaceutical terminology is grounded in English-dominated scientific and medical knowledge, in many situations Inuktut linguistic terms need to be found
and/or created to translate terms and concepts that have been historically only spoken in English or French. This situation was recognized by an Inuit participant (ID#4) as a reason for her current preference of English-delivered pharmacy health care,

“I prefer it [pharmacy health care] in English cause of the terminology. Cause the terminology if it was translated it’s very new and I didn’t learn about it so I would have trouble understanding what they’re meaning…faster for me to read it in English.”

The Inuktut terminology eventually selected to be the standardized pharmaceutical terms can have a significant impact on patient care. For example, the historical Inuktitut term for cancer (annia aaqijuajunnangituq) means “incurable ailment”, which might have been more accurate decades ago when cancer treatment was limited, but now has been found to interfere with patient adherence to current treatment plans given the fatalistic Inuktitut diagnostic term. New Inuktitut terminology was sought to mediate this conceptual discordance and more accurately reflect the current realities of cancer treatment. The newly accepted Inuktitut term kagguti means “knocked out of natural order”, and is hoped to positively impact patient understandings of cancer and current treatments (Pauktuutit, 2013; Rogers, 2014). It is essential that the new standardized pharmacy terminology is reviewed thoroughly by multiple sources to ensure that both the linguistic and conceptual meanings of the selected terms best support positive understandings of pharmacotherapy.

The incorporation of English-dominated pharmaceutical terminology into Inuit languages may go against the current global trends in medical language homogenization however, there are several important advantages that can be gained through this transition. Previous research (Romain, 2016) has highlighted several issues in pharmacy health care in Nunavut resulting from a discordance between biomedical and Inuit health models that may benefit from standardized translations in Inuit languages. First, given the current limited availability of
Inuktut terminology for pharmacy, challenges have arisen in providing clear differentiation between the classes and purposes of medications. Inuktut words exist for “pill” (iijagaq), and Tylenol® (tailinaa), as published in a glossary for health providers in Iqaluit (south Baffin/Qikiqtaaluk dialect) (Department of Health and Social Services, 2011), but other Inuktut terms for different medications are not commonly known. This limits patient-provider conversations and understandings when many medications are lumped together into undifferentiated categories. Examples of how this issue manifests are when a previously experienced side effect from one class of medication prevents a patient from adherence to a completely different medication due to unrecognized differences between the medications.

With the development of standardized pharmaceutical terms that differentiate classes of medications, it is hoped that health providers and Inuit patients can have more constructive and informed conversations about medications to address patient concerns about their treatments.

Second, Inuit lifestyle factors specific to medication instructions have been discussed as an impediment to pharmacotherapy adherence. For example, Inuit dining patterns do not always include three meals per day as indicated by dosing instructions, and wake/sleep patterns can be affected by the long days of sunlight or darkness in the Arctic. This cultural discordance can create confusion if meals are missed, or there are misunderstandings regarding the necessity to take some medications with food to increase absorption or minimize unpleasant side effects.

The recognition of this discordance by health providers and pharmacists may serve to inform a closer alignment of pharmaceutical regimens with Inuit cultural practices. It is hoped that culturally concordant medication dosing instructions will more accurately reflect patient-related practices and act to support adherence to pharmacotherapy.

Third, characteristics of biomedical and Inuit wellness models, and treatments in particular, significantly differ in ways which would
benefit from greater mutual understandings. While Inuit often consider “time on the land” spent in camps with family and friends engaging in traditional activities, and traditional foods such as marine mammals and caribou, to be restorative for many health issues, biomedicine focuses on pharmacotherapy. These differences may impact the quality of patient-provider relationships and patient adherence to medication regimens if patients believe that healing is best obtained through alternative methods. Through the informed discussions required to accurately translate pharmaceutical terminology, it is important that a heightened appreciation for both systems of treatment can be achieved and misunderstandings can be clarified to positively affect therapeutic relationships and support patient adherence.

The development of Inuktut pharmaceutical terminology is both one of the most challenging and the most exciting tasks prescribed by the OLA and the ILPA. The evolution of Inuit languages which produce Inuktut terminology for words and concepts that have until now, predominantly been spoken in English, is a demonstration that Inuktitut is a living language that is dynamic and vibrant and offers much hope for its continued vitality. Importantly, the active involvement of the wider Inuit community, including other jurisdictions in Canada, and even Greenland where linguistic and cultural similarities exist, to develop Inuktut terminology also provides opportunities for empowerment through negotiation of meaning and enhanced cultural appreciation. This process could involve the examination of historical sources for Inuktut terminology. Inuit research participants (ID#s 15 and 16) involved in Inuit language promotion and preservation discussed this process in relation to the newly accepted Inuktitut term for cancer (Pauktuutit, 2013),

“II: [the new term] might not be in everyday language, but once you put the word out there that you’re looking for certain terminology [a new term in Inuktitut to translate an English term], then it’s probably out there”
I2: *And language is such a living thing, like it’s not a matter of just sitting down and saying let’s come up with these words… sometimes you have to go back and talk to people and say ‘Hey this is what we’re thinking’ and someone might say ‘Oh well this makes real sense, we should use this word’.*

I1: *they went through a process of discussing with elders and it [the new term for cancer] was a term an elder in Northern Quebec had recommended."

These negotiations and conversations serve to strengthen links within Inuit communities and demonstrate the ability to bridge historically embedded traditional knowledge, even if not widely known, with modern scientific and medical concepts. Inuktut words are not “created” to translate terminology, but rather are “found”, building a cultural appreciation for the versatility and relevance of Inuit languages. This language and cultural appreciation will be instrumental in the continued preservation and revitalization of Inuit languages in Nunavut.

The practice of direct involvement in developing translations can also be mutually beneficial in that these activities offer insight for English or French speakers to understand the conceptual exchanges that occur in the translation of terminology from one cultural set of meanings to another. Through the practice of negotiating terminology, it is possible for biomedical practitioners to gain greater insight into Inuit health models. Enhanced cultural understandings can serve to inform and improve culturally concordant practices which positively affect the quality of patient-provider relationships (Romain, 2016; Brown, 2007; Kagawa-Singer & Kassim-Lakha, 2003).

Given the dominance of English in contemporary pharmacy health care in Nunavut, even when standardized Inuktut terminology is available, it will take some time and strategic consideration to facilitate the introduction and familiarization of Nunavummiut to the new terminology. This future uptake of Inuktut pharmacy services will depend on patient familiarity and comfort with the terminology over English terminology. This roll out will not merely need
to occur in health care and pharmacy settings but also be introduced through educational curricula. As explained by a research participant (ID#8) involved in the education system,

“My stance as an educator is that all of that standardized pharmaceutical language would then have to be handed over to the science curriculum teachers and it would have to be incorporated into a science curriculum at some point because what is the point if nobody ever learns it? Because [right now] we don’t have concepts in, we don’t have the words in Inuktitut. I’m just saying that if you’re moving down the line into the future to a pharmaceutical bilingual, in the future Inuktitut will be the language of instruction in the education system in the North.”

These considerations reflect but one aspect of many that will require careful planning to ensure that the new terminology saturates all areas of influence and receives the maximum exposure and support to become well received. Long standing familiarity and preferences for pharmacy services in English will need to be unseated by targeted interventions that will maximize success. This planning will be best informed by broad consultations within communities in all sectors to discuss the many ways that the new Inuktitut pharmacy terminology will affect Nunavummiut. In addition to the expected input from health and pharmacy representatives, these consultations should also include input from representatives from law enforcement, justice, education and social service sectors.

The introduction of Inuit language legislation in Nunavut provides many opportunities to improve on existing challenges in pharmacy services. The original intent of the legislation – to preserve and revitalize Inuit languages, is well served by the conversations surrounding the application of the legislation. As stated by a research informant (ID#15) involved in language protection:

“it’s created an expectation and also dialogue on what we should expect as a society in order to protect our language and to have our language be present in our lives.”
These growing conversations regarding sourcing of Inuktut words and the value of more immersive use of Inuit languages in Nunavut are connecting Inuit with their cultural and linguistic heritage and demonstrating the depth and breadth of Inuit languages as living entities. The examinations of the capacity of Inuit languages to adapt to contemporary Inuit life, serve to build cultural pride which contributes to social cohesion and a renewed appreciation for Inuit languages that was threatened by the colonial education systems of the last century. As discussed by an Inuit research participant (ID#15),

"[One] aspect with creating terminology is often the words that we have that describe outsiders have been very, without us realizing, have been very oppressive in a way because they’re authority figures...like I mean we’ve grown up in a society where if you are a non-Inuk, you have a good job, if you are non-Inuk, you’re in a position of power, what you say is the way things happen right? I mean I think we’re, we’ve come to a situation in our society where we recognize that’s not reality, but our words still describe it in that way. For instance, the [term for the] Auditor, Office of the Auditor General, [means] ‘they’re looking for mistakes’. So every time you say that...every time you hear that in Inuktitut you think oh we’re making mistakes, were probably making mistakes, they must be looking for our mistakes, you know. So even though, we’re not talking to each other in a panicked way about it, just the words that we’re using and the way we’re describing it already has that oppressive feeling to it right? Without us realizing it...So I think it’s very important the role of the IUT to develop words that also at the same time affirm and strengthen us as a people.”

The ILPA is responsible for the creation and support of an Inuit language authority known as the Inuit Uqausinginnik Taiguusiliuqtiiit (IUT). One of the priorities of the IUT is “to develop, through consideration of the oral traditions and usage, diversity and modern needs of the Inuit Language, standardized terminology or expressions in the Inuit Language” (Inuit Uqausinginnik Taiguusiliuqtiiit, 2013, p. 8). The IUT works collaboratively with Inuit members from across the territory and with members from within various fields (e.g. pharmacists, health providers and educators) to develop standardized Inuktut terminology. This public agency is poised to assist with the development of standardized pharmaceutical terminology that supports language preservation in Nunavut and may also serve to improve the health of Nunavummiut.
Full realization of the OLA and the ILPA will result in a complete multilingual society that embraces Inuit languages in all social domains in Nunavut.

4.5 Conclusions

The current focus in Nunavut towards the widespread availability of standardized pharmacy service to include pharmaceutical terminology, medication labelling such as dosing instructions, and pharmaceutical counselling in Inuit languages provides a unique opportunity to address some of the existing issues shown through this research to impact patient care. This study finds that current issues of linguistic discordance between Inuit patients and English-delivered pharmacy services may affect adherence to pharmacotherapy and patient safety. Informants discuss how patient confidence and dispensing liability can be affected by current variations in translations and dialect issues which demonstrates a clear need for standardization of Inuktitut pharmacy terminology.

This standardization faces many challenges, including the current controversies regarding the determination of a common Inuit language and orthography. Not until this issue has been settled will it be possible to develop a standardized pharmacy terminology to be used across the entire territory. Additionally, once the terminology has been developed, it will be necessary to ensure that it is available and applied across a broad spectrum of institutions to ensure maximum potential for uptake. This initiative will require input and cooperation from representatives from multiple sectors with high level support for implementation.

The multi-stage processes of finding, developing and negotiating Inuktitut terminology serves to strengthen Inuit languages, build cultural pride and explore broader Inuit relationships both within and outside of Nunavut to include other Inuit territories. The inclusion of both *Qallunaat* and Inuit in the translation processes serves to build cross-cultural appreciation and
understandings for both biomedical and Inuit wellness ideologies and practices. These new understandings may serve to inform cultural competencies in health services and improve the quality of patient-provider relationships.

Ultimately, although there are many challenges to address in this transition, the resulting availability of Inuit pharmacy services provides many advantages for the health and well-being of Nunavummiut and is an important contribution to the continued health of Inuit languages in Nunavut. The experiences here may serve to illuminate similar challenges globally in other contexts particularly when there are cultural and literacy issues that may affect pharmacy health care.
4.6 Figures

Figure 4-1 Generic blank label used for translation of dosing instructions into Inuktitut for medications dispensed in Community Health Centres.
Figure 4-2 Generic blank label used for translation of dosing instructions into Inuktitut for medications dispensed in Community Health Centres.
Figure 4-3 Label used for translation of identification and dosing instructions into Inuktitut for Acetaminophen dispensed in Community Health Centres.
4.7 References


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Chapter 5:
Pharmacy Health Care in Nunavut
Concluding Remarks
5.1 Introduction

The stinging of minus 40-degree winds on my face were barely noticed against the shocking realization that I was a failure as an anthropologist. I was standing outside of a pharmacy in Nunavut where I had just been abruptly asked to leave without explanation. I had travelled to Nunavut to explore potential topics for my doctoral research in medical anthropology. This was my first travel to northern Canada and nothing could have prepared me for the experiences that I would have there. Courses on ethnographic fieldwork, extensive reading on Inuit culture and endless Internet searches for snippets of content paled in comparison to the landscape, the people and the way life works in Nunavut. But that day I had walked from my hotel to the pharmacy and learned the first of many lessons specific to Nunavut – just because someplace is close enough that you can see it, does NOT mean that you can safely walk to it without your skin freezing. I had entered the pharmacy with the goal to explore how local pharmacies serve the needs of unilingual Inuit residents. I was the only person in the pharmacy besides the pharmacist and I fake-browsed the shelves while the pharmacist finished some phone calls. The pharmacist and I started up a casual conversation regarding where we were from (a frequent topic of conversation among Qallunaat as I was to later learn), identifying some commonalities and sharing a few laughs. It was a comfortable beginning. However, as I explained who I was, my reason for coming to Nunavut and why I was in the pharmacy, the pharmacist became increasingly defensive and guarded. The answers became curt and were ultimately cut short when I was abruptly asked to leave. I was so shocked and confused by the sudden shift of tone in the conversation that I didn’t immediately react, causing the pharmacist to come out from behind the counter, walk across the pharmacy, open the door to the biting wind, and motion for me to leave. Nothing in any of my life experiences or preparations for the
field through courses or readings prepared me for this dismal failure. Ethnographic fieldwork is
grounded in the building of trust and rapport within your research community. I had just
managed to offend a key informant in this potential (although looking increasingly unlikely)
research community within minutes and I had no idea why. I walked back to my hotel in a daze
(ignoring lesson #1 with the resultant repercussions of wind burn), replaying the encounter over
and over in my mind to see what I had done wrong. Upon return to my hotel, I emailed an
experienced colleague to explain that it didn’t look like I would be a good ethnographer after all.
Her advice was less than appreciated at the time, but I would have no idea how valuable in the
future. “Write everything down. This is gold. You just don’t know it yet”, she responded. I
somewhat reluctantly took her advice without really buying into her confidence in the value of
this experience beyond identifying my key shortcomings and inexperience in this research
method.

Over the course of the next few days, I kept the many interview appointments that had
been made with other key informants in the community. Upon the completion of a particularly
successful interview with an approachable informant, I confided my previous experience in
being evicted from the pharmacy. The explanation was immediate and clearly explained to me
by my informant that while pharmacies had been muttering through with some patchwork
methods of serving their unilingual Inuit customers in the past, that recent language legislation
had been passed in Nunavut requiring the standardization of this language service. It had made
pharmacists very anxious and concerned about how they were going to comply with the
legislation because the standardized Inuit language terminology didn’t exist and they did not
have the resources or know the way to move forward to be in compliance with the legislation. It
had caused many a heated discussion in the pharmacy community in Nunavut and my informant
hypothesized that the pharmacist who had asked me to leave was nervous that I was there in some way to enforce this legislation. The words of my colleague rang true - This was gold. These tensions between the new legislative requirements to provide all essential services in Inuit languages, and the inability for pharmaceutical providers to comply with the legislation had resulted in sufficient anxiety in a pharmacist to evict me from the pharmacy for simply asking questions. I was relieved to learn that the offence was not directly attributable to my inexperience in ethnographic field methods, and intrigued to learn more about how the future of pharmacy health care in Nunavut would take shape during these transitional times.

In the years to come as my research unfolded, I attended international conferences on circumpolar health, Inuit wellness, and health systems. Each time I eagerly anticipated being able to connect with other pharmacy health care researchers in these respected domains. Each time I was shocked to learn that I was the sole representative of pharmacy health care at these conferences. This issue was so pronounced that organizers often had difficulties deciding into which subgroup of topics to place my oral presentations. This paucity of research is surprising and alarming given the importance of pharmaceuticals for optimal health outcomes and the financial value of pharmaceuticals in health systems.

Pharmaceutical expenditures are a significant health expenditure globally with sales of US$300 billion annually (World Health Organization, 2016). Current trends predict continued increases due to new treatment developments, improved patient uptake and growing patient needs associated with increasing levels of chronic and age-related diseases. Maximizing the efficiency of pharmaceutical health systems is essential in controlling these costs as budgets are stretched ever tighter. Ensuring a thorough understanding of the factors affecting patient adherence is an essential contribution to optimizing the therapeutic effects of pharmaceuticals.
At the time, I had no idea how eviction from a pharmacy in Nunavut would change the focus of my doctoral research, but during a subsequent visit to Nunavut I returned to the pharmacy armed with greater appreciation of the complex landscape the pharmacist was working in. I was surprised that I was still remembered years later and I apologized for the concern that I had caused. It was a much better conversation and I left feeling more confident that we understood each other. Furthermore, this belief was confirmed for me several days later. I was in the airport preparing to leave Nunavut when I ran into the pharmacist (another Nunavut lesson – you meet a lot of people you know in the airport) who came over to me and gave me a big hug and thanked me for coming back to talk and explain what I was doing. He then thanked me for working towards helping him to better serve his patients. Ultimately what I found in Nunavut was just that; people working extraordinarily hard in often challenging situations, to do the best they can for their patients. They are doing the very best with what they have, but research, resources and direction would help them to do better.

This research examines issues where policy could better support patient-centered care, where patients and providers would benefit from better cross-cultural understandings of respective health models and where the language revitalization efforts directed towards the translations of pharmaceutical terminology could lead to enhanced patient safety, cultural pride and connection with Inuit languages. These findings offer the potential to improve the health and well-being of Nunavumiut in the years to come.

5.2 Summary of Findings

5.2.1 Policy and Practice

This research examined how the specific challenges of remote locations, such as supply chain and weather-related access issues shape the policies and practices of prescribing.
dispensing and distribution to affect patient access to pharmaceutical health care and pharmaceutical expenditures. Many of these issues are common globally and this research highlights some of these challenges. These influences begin as prescriber decisions regarding where to source patient prescriptions (either from within the Community Health Centre (CHC) dispensary or from a pharmacy located in another community) are affected by the timeliness of the patient’s need, anticipated weather-related travel delays, and the desire to optimize Non-Insured Health Benefit (NIHB) payment over Government of Nunavut (GN) CHC budgets for NIHB Program beneficiaries. It is important to note that sourcing prescription pharmaceuticals from retail pharmacies that invoice the NIHB directly is the recommended and legitimate policy, but conditions in remote communities often result in CHCs being unable to comply without sacrificing patient-centered care. When medications which should be sourced from retail pharmacies and expensed to the NIHB cannot be procured this way due to weather-related delays and/or urgent patient need, they are dispensed from the CHC directly. This then drives up the CHC pharmacy budgets disproportionately in comparison to CHCs in communities with a retail pharmacy and may result in suboptimal inventory transfer practices to recoup these losses.

The practice of distributing prescription pharmaceuticals through CHCs has been found to severely limit patient access to pharmaceutical counselling and result in significant resource demands within the CHC. Patients who are unable to access pharmaceutical counselling may be at greater risk for adverse drug events (ADEs) and have lower adherence rates, both of which directly influence health outcomes. Patients in the community are also frustrated at the inability to acquire their prescription medications that have arrived at the CHC due to the deprioritization of pharmacy distribution when weighed against direct patient care. The human resources
required to receive, sort and distribute incoming medications and the facilities to organize and store medications take away from already stretched resources in remote communities.

Current pharmaceutical distribution practices result in significant waste through unclaimed medications and overestimation of drug needs. The boxes of unclaimed medications observed in the CHC awaiting packing and shipping to be returned to the Regional Health Center (RHC) for incineration were blatant evidence of low adherence rates in the community and a frequently mentioned source of frustration for health providers in the CHC who are angry with the wastage of tax-payer funded medications and the time required that is taken away from patient care, to repackage and return valuable medications for incineration.

The absence of clear policies for implementation and the lack of resulting oversight of practices for proper pharmaceutical waste management results in health, criminal and environmental concerns. Research findings identified various disposal methods of expired, unused and unclaimed medications. Concerns over the environmental impacts of improper medication disposal are especially significant given the environmental sensitivity of arctic ecosystems and the heavy reliance of subsistence hunting of both land and sea mammals. The potential for the recreational and criminal misuse of pharmaceuticals, in particular controlled substances such as narcotics, were cause for significant concern among health providers and were under review by the GN during the time of this research.

This research demonstrates the distinct challenges that remote communities encounter in delivering pharmaceutical health care. Policy that does not take these specific considerations into account may contribute to misaligned decision making by health providers choosing to prioritize patient-centered care over policy compliance. Addressing the distinctive challenges of remote pharmaceutical health care is required to improve distribution practices, reduce and
ensure the proper disposal of pharmaceutical wastage, and improve health outcomes through reduced ADEs and improved adherence.

5.2.2 Discordance in Health Care Models

My research also examines how the discordance between biomedical and Inuit wellness models affect adherence to pharmaceutical treatment through differences in provider and patient beliefs, attitudes and understandings. Adherence to pharmacotherapy is a complex phenomenon affected by many factors including: beliefs, attitudes, education, income, side effects, therapeutic relationships, and systems of care (DiMatteo, 2004; Chesney, 2000). Poor adherence to medication regimens restricts and prevents the control and management of acute and chronic diseases and can result in individual and population-level drug resistance, reduced quality of life and wasted health resources (World Health Organization, 2003). Poor adherence to medication regimens has been recognized in Nunavut through multiple data sources including: unclaimed medications in the CHCs that are eventually incinerated in Regional Health Centres, anecdotal consensus among both health provider and patient research participants of low adherence rates and high-volume medication community “clean-up” programs within the community. This research focuses primarily on the discordance between biomedical and Inuit wellness models that is ultimately enacted in patient-provider encounters, and can negatively impact the quality of therapeutic relationships. Key areas of discordance between biomedical and Inuit wellness models include: ideologies, social interactions and treatments.

Biomedical ideologies are often based on positivist, reductionist and individualist concepts while Inuit wellness models are grounded in traditional knowledge and holistic, community-based approaches. Biomedicine relies on the scientific method and evidence-based practices to
inform knowledge and focuses on a malfunctioning process or part of the human body seen to be the source of illness of disease. The individualistic quality of biomedical health models requires that each person is responsible for their own health and wellness while macro-level social factors are often dismissed or minimized in their influence. Conversely, Inuit wellness models incorporate a relational and holistic perspective stressing the interconnectedness of all aspects of life and place (Barnhardt, 2005). The acquisition of knowledge is felt or revealed through experiential learning and observation and the transfer of knowledge is through oral and traditional sources. Environmental, social and cultural wellbeing are all essential components for individual and collective physical, mental, emotional and spiritual wellbeing. In Inuit worldviews, being well is not merely the absence of illness of disease but rather a product of and supported by the balance of life.

Social interactions in biomedicine are enacted in institutionalized settings incorporating a power-imbalanced, professional “bedside manner”, while Inuit wellness models are collaborative and relationship-centered with a focus on balance. To maintain professionalism in biomedicine, patient-provider encounters are limited to institutional settings and require a level of professional distance which aims to demonstrate objectivity and ensures patients that practitioners are able to put aside their personal values, feelings and judgments to provide evidence-based medical practices. The building of rapport with patients is primarily for the purposes of soliciting diagnostic information and these relationships are augmented by the authority and respect in biomedicine that is accrued via formalized credentials. Conversely, social relationships are the foundation of Inuit wellness models. Given the focus on interconnectedness and balance, Inuit wellness is determined by reciprocal and collaborative relationships within the community and beyond to include the environment, land and animals.
Wellness practices are situated outside of institutional spaces to include essential “time on the land” where family and friends connect with each other, cultural traditions, acquire and consume traditional foods and share traditional knowledge and practices. Respect and authority in Inuit wellness models is earned through the wisdom of experience gained through age and the quality of community interactions such as harmonious relationships with others. This focus on social interactions reflects the holistic nature of Inuit wellness models. Unfortunately, the high levels of transient health workers in Nunavut negatively impact the ability of Inuit to develop familiarity or relationships with health providers. With approximately 40% of all nursing positions being filled by contract workers, 45% vacancy rates and less than 50% of all nurses considering Nunavut to be their permanent home (Nunavut Tunngavik Inc., 2009), building therapeutic or collaborative relationships is a challenge to delivering quality, culturally concordant care in Nunavut.

Treatment options in biomedicine are based on pharmaceuticals with bioactive properties that have been approved through randomized control trials, while Inuit wellness treatments include time on the land with family and friends, eating traditional foods, and traditional medicines that have been informed by oral traditional knowledge. Pharmaceuticals are the physical embodiment of biomedicine in that their existence is grounded in the scientific method and evidence-based practice (i.e. randomized-controlled trials) and their prescription is intended to be an extension of the objective direction of a biomedical practitioner. Like biomedicine’s pervasive domination of local alternative wellness models, pharmaceuticals have become the “gold standard” of treatment. The complexity of their development and method of action are rarely understood by patients as pharmaceutical knowledge is created and controlled at the highest levels of scientific and governmental institutions. Conversely, Inuit treatments reflect
the holistic, collaborative and interconnected features of Inuit wellness models as they incorporate multiple spheres of involvement, including: traditional medicine, connection to the land and community engagements. Elder knowledge, specific products only available through a connectedness to the land and family/community involvement are all essential components of Inuit treatments. Knowledge is produced and retained within communities through cultural connectedness and traditional practices and is passed down to generations through Elders. The discordance in treatments may serve to influence patient adherence rates as patients opt for more holistic treatments dismissing the seemingly disconnected and singular focus of pharmaceuticals.

These combined levels of discordance are enacted in patient-provider encounters that negatively impact the quality of these therapeutic relationships and in the treatment decisions of Inuit patients. Collaborative and concordant relationships that work to identify patient-centered, acceptable pharmaceutical regimens are optimal for supporting patient adherence and positive health outcomes.

5.2.3 Language Translation of Pharmacy Terminology

This research examines the language of pharmaceutical health care delivery and how Aboriginal language preservation and revitalization efforts to translate pharmacy terminology into local languages affect patient care. Addressing language barriers to patient understanding has been shown to reduce adverse drug events and patient adherence, while the preservation of Aboriginal languages serves to enhance cultural pride and cohesion. Given the historical efforts of past governmental policies to eliminate Aboriginal languages through the residential school system, revitalization efforts are essential to protect Aboriginal languages and reestablish the social and cultural heritage embedded in Inuit language use.
Several key challenges are associated with these efforts. The most significant may come from Inuit community members themselves, as research indicates a strong preference for pharmacy health care delivered in English which is likely to impact support and uptake for Inuit language pharmacy services when they become available. The current non-existence of Inuit language terminology results in an unfamiliarity and resistance to change. However, language preferences are also undoubtedly influenced by the global trend towards the use of English in business, science and media (i.e. internet). These factors contribute towards language preferences which are understood to increase competitiveness in international business opportunities and which are required for higher levels of education, particularly in science and medicine. Some scientific and medical domains are internationally recognized to be “English” domains and efforts to buck that trend and translate pharmaceutical terminology into Inuit languages will be faced with the significant challenges including opposing opinions as to the value of undertaking such a daunting task.

The previously identified discordance between biomedical and Inuit wellness models is also reflected in language differences between English and Inuit languages. As is common for most language translations, some of the concepts embedded in the respective languages do not easily translate. Understanding and translating these conceptual differences will also be an essential component of the processes of finding Inuit words to translate pharmaceutical terminology. While these processes will add to the complexity and resource requirements for this task, some key benefits can be realized through these processes. The labeling of prescription pharmaceuticals in Inuit languages more accurately reflects the linguistic landscape in Nunavut. With 85% of the inhabitants of Nunavut being Inuit and the majority speaking an Inuit language in the home, Inuit language medication labels would seem to be more reflective
of the languages spoken in Nunavut. The value of patients clearly understanding the dosing information on their prescription medications cannot be overstated. The most obvious benefit is the reduction of ADEs, which can result from inadvertent overdoses, but correct therapeutic dosing also minimizes the potential for drug resistance and maximizes optimal therapeutic outcomes. Given that Inuit pharmaceutical terminology currently doesn’t exist, this has led to some specific challenges in patient-provider encounters with the understandings of pharmaceuticals. Previously identified issues in Inuit misunderstandings of the differences between classes of medications that have previously been identified to negatively influence patient adherence to pharmacotherapy may be clarified when specific Inuit terminology is available. The processes undertaken in Nunavut currently to negotiate new terminology in itself may help to increase cultural appreciation of the dynamic nature of Inuit languages and serve to reconnect some Inuit to their linguistic and cultural heritage. These negotiations and discussions can also further improve cross-cultural understandings as they may serve to inform health providers of the key areas of discordance between biomedicine and Inuit health models and help to improve patient-provider relationships and ultimately patient adherence to therapy regimens.

It will be essential to address these substantial challenges to ensure that the full benefits of Inuit language pharmacy services can be realized. Without support and acceptance (i.e. uptake) from Nunavummiut towards Inuit language pharmacy health care, the full goals of language translations – the preservation and revitalization of Inuit languages – will not be achieved within the pharmacy sector.

5.3 Research Limitations

This research is subject to several limitations which may influence the study results and which offer suggestions for potential improvements in future research. First, the sample size of
35 research participants may have been too small to make generalizations to other communities of smaller sizes as participants were all from some of the largest communities in Nunavut. While it is difficult at the start of a qualitative study to determine a sufficient sample size for interviews, key research findings identified through qualitative data analysis were focused on interview findings that were consistent and repetitive across many interviews and saturation in these key findings was obtained. However, experiences in smaller communities may result in different findings, and future research would benefit from a wider diversity in data collection from among communities of different sizes. Second, the gender and ethnic background (female and Qallunaat) of the interviewer may have influenced participant comfort levels and resulting responses. Although it was revealed by an informant that a Qallunaat is often afforded more tolerance to ask questions in Inuit communities because it is considered that they “don’t know better” (a reference to Inuit cultural norms of learning through observation rather than questioning), the lack of familiarity with Inuit culture originating from an etic perspective was likely to influence the course of interviews and resulting data collection. Third, twelve of the thirty-five interview participants involved in this research (~34%) were Inuit. Due to the low representation of Inuit in health care settings, the recruitment of Inuit participants is challenging. Given the low sample size of Inuit participants, it is possible that their views do not accurately represent Nunavummiut generally and further research would be beneficial to consider a larger sample size of Inuit participants. Fourth, semi-structured interviews are prone to forms of bias including exaggeration, social desirability, and recall bias. Some participants suggested that Inuit cultural values of passivity and non-confrontation might result in exaggerated agreeability during interviews. These factors may influence findings in systematic ways to produce results that are non-representative of true experiences. Efforts to conduct member checks and validate
results across multiple interviews and participant roles sought to minimize these influences. Finally, although more that 61% of Inuit speak an Inuit language in the home, none of the research participants chose to use the offered services of a translator for their interview. Only one participant chose to use the Inuktitut language Informed Consent documentation, and this may have been influenced by their role as an English-Inuktitut translator. It is possible that bilingualism affords Inuit sufficient familiarity in both languages to allow them to be comfortable with an English interview and documentation, and it is also possible that the aforementioned issues of the prestige associated with English competence influenced their decisions regarding language choice for their participation in this research. Although there was no direct indication of participants struggling with the English language, it may be possible that lack of English familiarity combined with Inuit agreeability resulted in unrecognized misunderstandings. These limitations offer suggestions for future research that may serve to provide greater detail and legitimacy to the issues and concerns of pharmaceutical health care in Nunavut.

5.4 Future Directions

My research explores several key issues in pharmacy health care in Nunavut, and the findings from my work can be used to inform future research and policy recommendations to affect positive changes for Nunavummiut.

Significant financial savings and improved patient care may be realized through addressing policy and practice issues that affect hundreds of remote Aboriginal communities across the country. Future research will need to investigate potential solutions to minimize the financial losses associated with thousands of unclaimed and ultimately incinerated prescription medications that are paid for by the NIHB. Addressing supply chain management issues through
the examination of other tried and tested models for their applicability in Nunavut will be beneficial towards optimizing pharmaceutical expenditures. Through potential collaborations with Health Canada, Aboriginal groups, pharmaceutical associations, and industry, future investigation would explore technological and human-driven solutions to optimize patient adherence and minimize pharmaceutical waste. Addressing these issues will serve to have a direct influence on health outcomes in Aboriginal populations and could result in the realization of significant financial savings given the substantial costs of these pharmaceutical expenditures.

Pharmacotherapy adherence and therefore health outcomes would benefit from the development of cross-cultural educational programs that incorporate Aboriginal wellness models, and build patient-centered, collaborative relationships. These practices of enhanced cultural understandings would not only benefit Aboriginal Canadians in remote locations, but also the 50% of Aboriginal Canadians living in urban centers. Future research would serve to contribute to the development of curricula and key competencies to enhance cross-cultural understandings and improve the quality of patient-provider encounters across Aboriginal populations. Through potential collaborations with Health Canada, Aboriginal groups, and the professional Colleges and Associations of health providers, materials could be developed to educate existing and future health providers as to how cultural discordance specifically affects patient adherence to pharmacotherapy. Additionally, given the low levels of educational attainment that currently exist in many Aboriginal populations, it would be beneficial to develop curricula to support improvements in health literacy to help Aboriginal populations better understand their medications. These cross-cultural educational materials can help to support better patient-provider relationships and increase adherence to pharmacotherapy, improving health outcomes.
Future research would continue to investigate the challenges and benefits that could be realized through pharmaceutical terminology translations. These issues are very complex and require extensive collaboration with Health Canada, Aboriginal groups, pharmacy associations, and industry to ensure that patient safety is prioritized and cultural safety is adequately supported. While language revitalization efforts will ultimately be directed by Aboriginal groups, significant resources and consideration will be required to ensure that patient safety is not jeopardized.

There are many benefits to be gained through the integration of these research findings into policy recommendations and implementations. Significant financial savings, increased patient safety and adherence resulting in improved health outcomes, and enhanced support and understanding for Aboriginal culture may all be realized through these efforts. These very issues are included in the Final Report of the Truth and Reconciliation Commission of Canada in its “Calls to Action” asking all levels of government to work together to: close the gaps between Aboriginal and non-Aboriginal health disparities, provide greater recognition and funding for Aboriginal healing practices, provide cultural competency training for all health care professionals, and promote the preservation and revitalization of Aboriginal languages (Truth and Reconciliation Commission of Canada, 2015).

5.5 Conclusions

Following the publication of part of this research last fall in the Journal of Pharmaceutical Policy and Practice, I was approached by CBC News North for an interview to bring attention to suboptimal pharmaceutical health care in Nunavut (see Appendix B – Media coverage). I was also informed that my research had been circulating within the Health Department in Nunavut, and that significant changes are in motion in one of the communities where my field work was
conducted to change distribution practices in ways that promise to have a significant impact on patient access to pharmaceutical health care. Although I cannot directly connect my publication with these events, I do believe that this work has raised awareness of some key issues that were struggling to be noticed. Although the completion and defence of my doctoral thesis and publishing my research provides a platform with which to give legitimacy to existing issues, it does not in itself enact change. It is only in the use of this information to move towards addressing these issues can the full benefit of this research be realized. Policy development that directly involves Nunavummiut offers the greatest potential to address the distinctive needs of these vibrant and complex communities. Future research will continue to benefit from the engagement and ideas of those Nunavummiut most apt to reap the rewards of Inuit-centred policy development.
5.6 References


Appendices
Appendix A- Interview Guide

Interview Questions for Patient Participants

1. What language(s) do you speak at home?
2. What language(s) can you speak well enough to carry on a conversation?
3. If English is not the language you speak at home, do you ever have any problems with language when you come to the Health Centre? Do you bring someone with you when you come?
4. If English is not the language you speak at home, have you ever had any problems understanding what your medicine is for, how to take it, or what to do if you have a side effect?
5. What language do you receive or have you received instructions about your medicine in?
6. What language would you prefer to receive your medical care in?
7. What language would you prefer to have your medicine labels and/or instructions in?
8. Have you ever been prescribed medicine? For how long?
9. Did the nurse or doctor explain to you how to take your medicine? Was this easy to understand? Did you remember when it came time to take your medicine?
10. Did the nurse or doctor explain to you what to expect when taking the medicine? What some of the side effects of the medicine could possibly be, what was normal or when to let them know if there was a problem?
11. If your medicine was ordered from (other community with retail pharmacy), when it arrived, did the nurse remind you how to take your medicine or about side effects? Did you remember what was said from when it was ordered?
12. When you got home, did you feel that you understood what to expect and how to take your medicine? If not, why not?
13. Are there any questions about your medicine that you wished to ask and didn’t?
14. If you had the opportunity to speak with a pharmacist, would you find that helpful?
15. Do you understand your medicine labels? Do you always take your medicine (in the dose and at the time and for as long) as the label instructs you to?
16. Have you ever taken medicine prescribed for you, and felt it might be making you sick? What did you do? Did you tell someone at the Health Centre? Did you stop taking it?
17. Do you know of any other medicines or treatments recommended in your community, maybe from an Inuit healer, for your illness? Have you heard how effective they might be?

Interview Questions for Nurse/Nurse Practitioner Participants

1. Are there any language issues with communication with your patients?
2. What are the causes of these issues? (Language, education, cultural, hearing/speech)
3. What methods do you or the patients use to overcome these issues?
4. What percentage of patients attending the Health Centre require pharmaceuticals?
5. Do you know of your patients having adverse drug reactions? Details.
6. Do you believe patients take medications completely and in accordance with instructions? Details.
7. Do patients receive information on how to take medications and side effects from nurses? Physicians? If prescriptions from (other community with retail pharmacy) describe what happens when Rx arrives. Instructions repeated?
8. For chronic conditions, is Rx automatically renewed or are follow-up appointments booked with patients before next Rx is provided? Describe this process.
9. Do you ever speak with pharmacist in (other community with retail pharmacy)?
10. Describe the process if a patient presents with an adverse reaction to the Rx.
11. Do you know of any challenges for patients taking their Rxs as prescribed? (food, timing, understanding, travel, etc.)

**Interview Questions for Clinician Participants**

1. Are there issues with communication with your patients?
2. What are the causes of these issues? (Language, education, cultural, hearing/speech)
3. What methods do you or the patients use to overcome these issues?
4. What percentage of patients attending the Health Centre require pharmaceuticals?
5. Do you know of your patients having adverse drug reactions? Details.
6. Do patients take medications completely and in accordance with instructions? Details.
7. Do patients receive information on how to take medications and side effects from nurses? Physicians? If prescriptions from (other community with retail pharmacy), describe what happens when Rx arrives. Instructions repeated?
8. For chronic conditions, is Rx automatically renewed or are follow-up appointments booked with patients before next Rx is provided? Describe this process.
9. Do you ever speak with pharmacist in (other community with retail pharmacy)?
10. Describe the process if a patient presents with an adverse reaction to the Rx.
11. Do you know of any challenges for patients taking their prescription medications as prescribed? (food, timing, understanding, travel, etc.)

**Interview Questions for Pharmacy/Pharmacy Technician Participants**

1. Do you ever experience challenges in communication with your customers? What do you consider to be the causes? (language, education, hearing/speech)
2. If so, how do you overcome these challenges?
3. Do you believe that any of these “in-store” challenges continue to affect compliance? How so?
4. The new language legislation requires you to provide service to customers in native languages. How do you do this? Do you believe this is satisfactory? Or could there be improvements?

5. What challenges exist to providing service in native languages? (Liability, personnel, etc.)

6. What are some of the ways that customers have overcome these challenges in the past and are they the same today?

7. What is your understanding of the legislation and what you are required to do?

8. What percentage of your customers request/require service in native languages?

9. Do you serve remote communities? Which ones? # of Rxs/month or year?

10. How does serving these communities differ in your service? Details.

11. Do you ever speak with nurse or physician regarding an Rx for a patient in remote community? Why?

12. Are there any challenges unique to serving remote communities in regards to Rx needs?

13. Are you aware of any adverse drug events in Iqaluit or remote communities? Details.

14. Do you know if this information is collected, and if so, by whom?

15. What was/were the cause/s of ADEs? How were they handled? What was the outcome?

16. Do you feel that the level/type of communication with remote communities is adequate?

17. What is the process for Rx renewal in remote communities?

18. How does your service differ from customers in Iqaluit vs. remote community customers?

**Interview Questions for Retail Pharmacy Management Participants**

1. Scope of business.

2. Has the introduction of language legislation changed business practices?

3. How is the service of patients in remote communities different than local patients?

4. What challenges are associated with providing service in native languages?

5. Are there cultural challenges associated with providing pharmaceutical services that are perceived to be unique to Nunavut?

**Interview Questions for Director of Pharmacy**

1. Describe the introduction of language legislation and what that means for pharmacy services in Nunavut.

2. What challenges are associated with providing these services in multiple languages?

3. Describe how pharmaceutical services are affected by remote communities. What does this mean for patients, health care providers and pharmacists.

4. With more allophones in remote communities, what administrative issues are there to providing service in native languages in these communities?

5. What changes might be useful to improve pharmaceutical services in Nunavut?

6. Describe how the recently introduced Tele-Pharmacists services in Ottawa might fit into Health services in Nunavut. Pros and cons?

7. Very high dispensing fees, however many pharmacists never see patients. Thoughts?
Interview Questions for Language Commissioner

1. How has language legislation been received broadly?
2. How is legislation enforced?
3. What challenges were identified before introduction? How were they addressed?
4. Human resources are often a challenge in Nunavut. Do you feel that there are adequate qualified human resources to provide multilingual pharmacy services in Nunavut?
5. If not, how might this challenge be addressed?
Appendix B – Media Coverage

Unclaimed medications are costing Nunavut, says report on pharmacy services Study finds some patients have never met or spoken to their pharmacist

By Sima Sahar Zerehi, CBC News Posted: Dec 10, 2015 4:30 AM CT Last Updated: Dec 10, 2015 7:13 AM CT

Nunavut faces major problems in the way that pharmaceuticals are distributed, managed and dispensed, according to a new study published in the Journal of Pharmaceutical Policy and Practice.

The study looked at how pharmacy services are delivered in a territory that grapples with problems including a shortage of pharmacists, weather-related delays, and language and cultural barriers between health care providers and the people they serve.

In Nunavut, 85 per cent of the population are Inuit beneficiaries who receive their pharmaceuticals at no charge through federal or territorial funding. But medications are often not getting into the hands of patients.

"There's an issue regarding a number of unclaimed medications that are not being picked up at the community health centres," said one of the study's authors Sandra Romain, an anthropology graduate student with the University of Toronto.

She said there are many reasons why medication isn't being picked up, including "not being aware of the reasoning for the medication, difficulties trying to contact the patient, not having a current address and a patient not coming back."

Not only does that compromise patients' well-being, unclaimed medications are also costly. "Ultimately they're returned and destroyed, which is a huge loss," said Romain.

No one to talk to about side effects

Geographically, Nunavut is Canada's largest territory or province, yet there are only five pharmacies in the region: two in Iqaluit, two in Rankin Inlet and one in Cambridge Bay. Many people Romain spoke to said they would like to have access to a local pharmacist.

"Some participants I had spoken to had never met their pharmacist, had never spoken to their pharmacist," she said.

"They really would like to have a qualified individual residing in the community that they have discussions with about pharmacy issues, side effects, adverse drug events."
In the hamlets that don’t have a resident pharmacist, most people rely on health centre staff for pharmaceutical services — often nurses from outside the territory who do not speak Inuktitut. Romain said it’s difficult for patients to learn about their medication when the information is not in a language they understand.

Plans are underway to try and translate "everything from labels on prescription bottles, up to information on side effects" into Inuit languages, said Romain.

She said more study is needed to investigate why the pharmaceutical system is failing to meet patient needs in Nunavut and to find out how Nunavummiut feel about the industry.

**Communication barrier**

"Definitely there is a communication barrier," said Donna Mulvey, a pharmacist for Nunavut’s Department of Health.

Mulvey said the department is working on ensuring that pharmacies print prescription labels in Inuit languages — something for which Nunavut’s language commissioner recently called.

Many people in Nunavut can only communicate directly with a pharmacist by phone, and Mulvey said health centre staff have been instructed to provide access to a phone for any patient who wants to speak to a pharmacist.

"We’re basically open to ideas and we’re always looking at ways to improve our communication and our care of patients in any way that we can," said Mulvey.

Mulvey, who has only been on the job for three months, recognizes the staff shortage as well. "At the moment I’m the only pharmacist on staff with the Government of Nunavut," she said. "There is a shortage of pharmacists and that’s nationwide." She’s trying to fix that by recruiting at least one other pharmacist to work in the territory.

Mulvey also said, to address weather-related delays, the territory maintains a higher inventory level than other jurisdictions in Canada, with each health centre being stocked with a two-week supply of essential medication.

"Pain medication, antibiotics — there’s a whole variety of medications — it’s very difficult to predict what the demand would be, so those are usually the ones that we’re scrambling," said Mulvey.

But stockpiling medication also results in a higher volume of expired medication, which comes at a financial cost.

"We do the best that we can to get what these patients need out to them as soon as possible."
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